Ecological Gardens

Designing sustainable plant communities

Spring Newsletter 2008

"Those who contemplate the beauty of the earth find reserves of strength that will endure as long as life lasts. There is something infinitely healing in the repeated refrains of nature -- the assurance that dawn comes after night, and spring after winter."
- Rachel Carson

Warm greetings to new and old Ecological Gardens community members! Ecological Gardens has been very busy over the winter months and we are excited to share our thoughts and ideas. In this newsletter please look forward to:

- What's New at Ecological Gardens
- Spring Gardening and Landscaping Tips
- Addressing Climate Change
- Our favorite plant companion
- Upcoming Events

As the temperatures rise, snow is melting, animals are waking from the winter slumber and we human animals are also starting to be outdoors more often. Early spring is the best time of year for observing your property for water flow patterns, warm micro-climates, animal nesting areas, and damaged trees and shrubs. This unique time of year, provides visual cues of the landscape enabling us to take that knowledge into our upcoming growing season for increased productivity. Have you noticed that melted circle on the south side of your evergreen tree? Maybe there is an opportunity for a new patch of blueberries to be planted there! Spring welcomes in a rebirth of life to the landscape and hope for what's to come this year.

"Carbon Capture" Gardens and Carbon Sequestration Research

Ecological Gardens has designed a series of "carbon capture" gardens for different conditions to help citizens offset carbon emissions and mitigate the effects of climate change on their own land. The gardens are polycultures of plants with different root types, root depths, and growth rates designed to optimize carbon sequestration throughout the soil profile. We installed these gardens successfully at residential sites during 2007 and will continue to offer these gardens in 2008.

We have an amazing opportunity with the "carbon capture" gardens to achieve many objectives. In our northern temperate climate, storing carbon in soil is particularly important. Carbon capture gardens help reverse the historic decline in natural carbon sequestration, create habitat for native wildlife, improve soil organic matter, increase water quality, and add beauty and diversity to the urban/suburban landscape. They also provide citizens a tangible way to increase natural wealth in addition to reducing their ecological footprint.

How the Capture Gardens Work

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

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 millennium. 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 varying 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.

Developing Work with LEED Certified Projects

Ecological Gardens continues to take new jobs as the landscape designer for LEED certified sites. Last year Ecological Gardens had the opportunity to work with a client who was remodeling a LEED certified home in Minnetonka. The 1948 rambler was transformed into a state of the art energy efficient home and landscape. We implemented a landscape design for beauty, self sufficiency and food, with the use of native plants as the foundation. We also made sure the design maximized water cycling with water efficient landscaping to qualify for LEED certification. For more info on LEED certification, go to US Green Building Council. The Minnetonka site serves as a learning place for green design, called LiveGreen Live Smart. It was awarded with the rare highest rating possible platinum LEED. Several news stories highlighted the work of Ecological Gardens at this LEED site:

WCCO, "Project Energy: Making Homes Green Even Outside"

WCCO, "Project Little Green House Wins National Award"

Q: What does LEED stand for?

A: Leader in Energy & Environmental Design

For more info on LEED certification, go to US Green Building Council

In 2008 we are working with another client who is building a LEED certified house in Circle Pines. This time it is a new home being built in an established neighborhood. The project will be a more down to earth approach to environmental, economic and social sustainability. We hope to learn even more from this opportunity and expand our knowledge of LEED certification. If you are working on a LEED site and are interested in an ecologically friendly landscape design, contact us at paula@ecologicalgardens.com

Spring Landscaping Tips

- **Clean up from Fall and Winter**. Check out MN Garden Works for seasonal clean up tips.
- **Avoid soil compaction**. During the slushy, rainy months of spring the ground can be easily compacted by walking on it and plant roots and shoots damaged. Try to use designated paths, especially avoiding walking on garden beds. Avoid walking on bare areas, seed any bare area with a groundcover and cover with straw. Do not use any heavy equipment on gardens during the wet season.
- **Fertilize bulbs with organic liquid fertilizer**. Two favorites are Fish Emulsion and Kelp (seaweed).
- **Keep spring run off clean.** Check out tips from Minnesota Department of Agriculture to keep our rivers clean.
- **Spring Pruning**. For complete information on what plants to prune in the spring, check out U of MN Extension.
- **Salt damage remediation**. Areas near roads and driveways may need corrective measures after winter. Place one to two cups of Gypsum on affected areas. Gypsum improves soil structure, increases water and air movement, increases plant growth and is a good supplier of calcium and sulfur.

Spring Gardening Tips

First a howling blizzard
woke us, Then the rain
came down to soak us,
And now before the eye
can focus - Crocus.
- Lilja Rogers

• **Seed Starting.** If you herald in spring by starting new seeds or if you've never tried before, here are a few tips to get started. Plant seeds in a south facing location, on a radiator or heating mat to speed up germination. Keep seeds covered with a plastic bag or glass dome until they germinate to retain moisture. Mist with a spray bottle or set trays in water to feed from the bottom up. Keep light on seeds 12-16 hrs/day. Be sure to gently pet your

seedlings daily to keep them strong.

• **Season Extension.** Get a head start on the season by planting in hoop houses, cold frames or high tunnels. You will be eating your harvest 4-8 weeks earlier.

• **Spruce up the Compost Pile.** As your compost pile thaws, it may be necessary to mix it up with new carbon material (leaves, straw, hay, paper, etc.) to ensure proper decomposition. An ideal compost pile is 75% carbon and 25% nitrogen (food scraps, manure, etc.).

Developing Local Food Systems

Edible Gardens you can choose from:

- Fruit Tree Guilds
- Keyhole Companion Gardens
- Herb & Edible Flower Spiral
- Urban Berry Bed

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, co-ops, 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 1500 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 than your own yard. There are many resources to use in getting started. Our "Edible Gardens" are one easy way to get a successful garden running in a short amount of time. At Ecological Gardens, we love adding edibles to our landscape designs but if you have a space in mind just for edibles, this is a good option for you.

If you want to learn more about nutrient-dense foods and "growing your own", one way is to become engaged with your local Permaculture community. Ecological Gardens is looking for people interested in alternative systems for local food production. Especially in an urban area, there are many people and many hands to do the local foods work we need. If you are interested in resource sharing (plot sharing, time exchanges, harvesting, planting and more) in order to create more local food sources please contact us at paula@ecologicalgardens.com

One of Our Favorite Plant Companions

Asparagus and Sweet Alyssum
Asparagus officinalis and Alyssum saxatilis

This perennial vegetable pairs beautifully with the herbaceous annual sweet alyssum,

providing an attractive, edible and weed free garden bed.

Ecological Functions:

Insecticide: Asparagus contains asparagusic acid, which has nematocidal properties.

Insectory: Sweet alyssum attracts ladybugs and hoverflies. Bloom time early spring. Good groundcover for vegetables and fruit trees.

Human Uses:

Culinary Uses: Young, tender shoots of asparagus are delicious raw in salads or with a dip. Most aficionados favor the simple approach to cooking asparagus; they like the stalks steamed or boiled until just tender and served with salt, pepper, lemon and a touch of olive oil. The young leaves, stems and flowers of sweet alyssum are sometimes used as a flavoring in salads and other dishes where pungency is required.

Medicinal Uses: Asparagus has been cultivated for over 2,000 years as a vegetable and medicinal herb. Both the roots and the shoots can be used medicinally, they have a restorative and cleansing effect on the bowels, kidneys and liver. The plant is antispasmodic, aperient, cardiac, demulcent, diaphoretic, diuretic, sedative and tonic.

View a planted asparagus and sweet alyssum berm

Our hopes for this coming season are to increase the diversity, stability and resilience of natural ecosystems here in the Twin Cities. Through implementation of our urban and suburban landscape design we are providing feasible, personal solutions to local pollution, food sourcing and climate change.

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. We wish you too would become interested in perpetuating hope in the form of a garden.

Upcoming Events (not to miss):

- **April 12th Introduction to Permaculture class and Film Festival**. Intro to Permaculture Workshop 9-5:00pm, 2104 Stevens Av S, Mpls, MN. Registration required; $50 for Collaborative members and $60 for non-members. To Register for the Workshop email workshops@permacultureresearch.us or call 651.451.1716

- **April 19th MacGroveland Home Improvement Fair**. Find home improvement resources, eco-friendly and sustainable vendors, and green workshops. Saturday event 10-3pm at Cretin-Derham Hall Auxilary Gym.
- **May 3rd and 4th, Living Green Expo**. Over 200 Green exhibitors, 100 workshops, food, cooking demonstrations and music at the Minnesota State Fair Grounds in St. Paul. Free event, 10:00am - 5:00pm www.livinggreen.org
- **May 9th-11th, Friends School Plant Sale**. The largest plant sale in the Midwest is a fundraiser for Friends School in St. Paul. Sunday is half-price. Located at the Minnesota State Fair Grounds. www.friendsschoolplantsale.com

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 questions or ideas to paula@ecologicalgardens.com

- **Check out our latest gardens Image Gallery**

~Happy Spring~