

Spring, 2003  
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# Sweetwater

A Newsletter of the Sweetwater Alliance

## Living Water Garden Approved for Duluth's Waterfront



Stormwater pipe entering Slip 2 at the Bayfront Living Water Garden site.

On October 28, 2002 the Duluth City Council unanimously approved the Living Water Garden portion of the proposed Bayfront Master Plan (see graphic below).

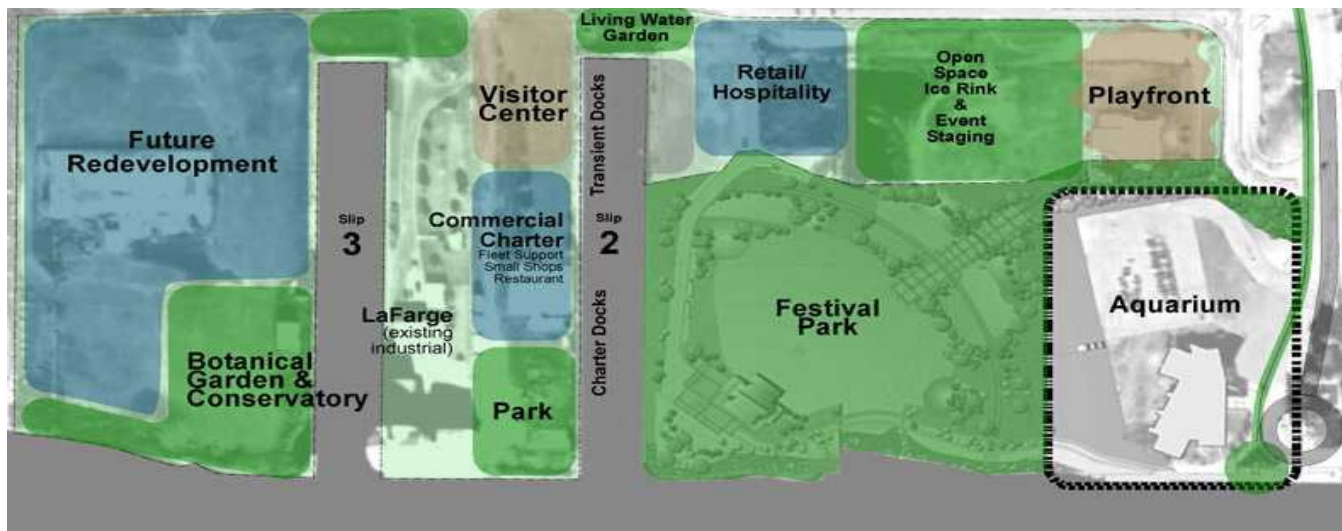
The City Council's action provided the momentum for Sweetwater Alliance to move forward with this project. Several grant proposals are pending which would provide funds for the design stage of the Living Water Garden.

This project will occur at the Bayfront area in Duluth, Minnesota, a prime tourist area. At the site of Slip 2 on the Bayfront property there is a storm water pipe that drains Interstate 35 and the downtown area. Slip 2 is located on the St. Louis River, the second largest tributary to Lake Superior and a designated Area of Concern (pollution hot spot) in the Great Lakes Basin. The land surrounding Slip 2 is a vacant Brownfield that has not been utilized or accessible

to the public since its industrial heritage. It is this site that Sweetwater Alliance proposes to construct a Living Water Garden.

A Living Water Garden includes three stages of water cleansing. The first stage includes a settling pond. Sediment that has been carried from the streets will settle to the bottom of this pond, and this simple step will improve the clarity and quality of the water. Next, the water will travel through a series of wetland ponds planted with native species that take up (or breakdown) various pollutants. The third step of water cleansing comes from sculptures called flowforms. These are interconnected basins that move water in a swirling motion to oxygenate it.

Pending funding, design could begin by Fall 2003.



## Life in a Pond: Tales from the Rehbein Demonstration Project

By Jill Jacoby, Executive Director



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*Monarch caterpillar  
on marsh milkweed  
plant (above) and  
frog tadpoles (below)  
found at the Rehbein  
demonstration Living  
Water Garden*

Throughout the spring and summer of 2001 I constructed a demonstration Living Water Garden in my back yard. I wanted a visible, small-scale model of what Sweetwater Alliance is proposing for the Bayfront site.

Since I began this project in the spring, it wasn't until early fall that I actually planted the aquatic, wetland and upland plants (all native to our region). Most of the plants were dormant or nearly so when I planted them, so it wasn't until the summer of 2002 that I had my first sighting of life in and around my pond.

What has been the most fun for me is that in some of the aquatic plants that I purchased were hitchhiking aquatic insects and tadpoles of several frog species. At first there were just a few water striders, predacious diving beetles and snails. But after a full breeding season my pond is full of insect life and that makes me smile!

Towards mid-summer I noticed a monarch caterpillar munching the leaves of my marsh milkweed plants. At first I felt a panic and was sure they would kill my plants. But then I

remembered that one purpose of a Living Water Garden was to create habitat. My water garden is providing food and habitat for the monarch butterflies that are in peril in parts of North and South America because of habitat destruction.

The other surprise is how the birds are attracted to the ponds. In my lower pond I have a small solar powered fountain that sends a stream of water about three feet into the air. The splashing sights and sounds seem to especially attract the robins that come frequently in the morning to bathe.

Then there are the dragonflies (my favorites). I have several different species that hunt for mosquitoes (and other insects) over the ponds.

I am reminded of the saying "if you build it, they will come" as I witness that truth with the life coming to my water garden! And all of this is just a small scale of the transformation that will occur on the Bayfront site. I can't wait!



## A Word About Sweetwater Alliance

Sweetwater Alliance was created in 2002 as a fusion between ecological restoration and art and as a vehicle to creatively restore aquatic habitats. Currently, our major emphasis is to fund, design and build a Living Water Garden on Duluth's Lake Superior waterfront. We hope that this first project in Duluth will inspire other communities to join in collaboration with Sweetwater Alliance to undertake similar projects around the world.

Our mission includes:

To promote, develop and fund ecological restoration, which combines art, science and educational community projects that improve water quality both domestically and internationally.

To assist communities, domestically and internationally, in restoring and remediating water quality through water quality monitoring projects and water restoration projects.

To educate the public about water quality through the use of a web site, newsletters and speaking engagements.

To conduct research on constructed wetlands, biological and physical treatments that improve water quality.

## Support Sweetwater Alliance and The Bayfront Living Water Garden

Sweetwater Alliance is a nonprofit, 501 (c) (3) organization, and all contributions are tax deductible.

### Double your Contribution

Many companies match their employees' tax-deductible contributions. Ask your personal office if your employer will match your donation! Fill out and include your companies matching gift form along with your contribution to Sweetwater Alliance.

Please use the enclosed envelop to mail your contribution today.  
Thanks!



*Top pond and flowforms from the Rehbein demonstration Living Water Garden.*

*Sweetwater*

A NEWSLETTER OF  
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*Communities*  
*restoring water through*  
*art & science*

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We're on the Web!  
See us at:  
**sweetwateralliance.org**

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## Who We Are – Board of Directors

### **Candice Richards - President**

Having a father in the Coast Guard gave me the opportunity to live on several of the Great Lakes as I grew up, and an expectation that the lakes would always be a part of my life worth protecting. When I became aware of the Living Water Garden concept several years ago I was instantly fascinated. The artful aspects of the water garden alone were intriguing, but the integration of environmental education with recreation by naturally cleansing stormwater made this concept extraordinary!

### **Tiss Underdahl – Vice President**

I have a strong interest in the arts, as well as in conservation and environmental education. To me, the public installation of a Living Water Garden is the perfect demonstration of how all of these ideals can be pulled together, creating an educational tool, a functioning solution to water-runoff purification, designed as a public work of art. What a great combination!

### **Xia Ji – Secretary**

There are several reasons I joined the Sweetwater Alliance Board. First, for about three years I worked with the Keepers of the Waters projects in Chengdu, Sichuan, China and assisted with the development of the Chengdu Living Water Garden. That experience brought home to me the power that art and science can create when working hand in hand. I have a vision that this should work here in the United States and extend to even more places around the world. The Bayfront Living Water Garden is ideal for the proposed area, and it is a seed, if allowed to be planted there, will grow and enhance life of the city of Duluth.

### **Ellen Lindgren - Treasurer**

I have always enjoyed the arts and nature and believe strongly in Environmental Education. I believe the Living Water Garden is a unique and interactive way to combine these three ideas. I am excited for the project and look forward to it coming to fruition.

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