

THE Drift

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REFLECTIONS from Pa Xiong

Hi! I'm Pa Xiong, and I graduated from the Mississippi River Green Team (MRGT) a little over a year ago. I am now working as a student intern at the MWMO. The MRGT is a two-year internship full of adventures and excitement. I was out on the beautiful prairies with the horizon stretched out ahead of me. Sweating under the hot sun with the cool air running against my skin, it was hard work removing invasive plants, yet fun.

Being on the MRGT made me feel more at home in my city and with a more diverse "family"—pretty cool. Most of my co-workers and I attended the same high school, yet we knew little about each other. Discovering the great spirits within each personality helped fill the hours working as part of this wonderful group. I liked working on the MRGT and at the MWMO because it's fun and has given me great experience and opportunities that I would not have found anywhere else, plus I got to earn money.

Even though being on the MRGT was a tough job, I got used to it. I was committed to this job because it helps the world we live in everyday, much more than I ever thought it would when I first signed up. Helping the communities and the earth itself, is good. I helped create better soil for the land, healthier water, and restored habitat for the insects. I learned that solving one



The MRGT works on many kinds of environmental projects.

ABOVE: Team members move piles of mulch as part of planting raingardens in the Powderhorn Neighborhood.

LEFT: Removing invasive plants from natural areas and native plant gardens is a never-ending job. (Note the bags filled with weeds from a few hours of work.) Photographs by J. Winkelman, MWMO.



ABOVE: The Mississippi River Green Team.

environmental problem would connect to solving another, and doing this makes the world more peaceful and a healthier place to live. I highly recommend MRGT to any youth who are looking for a summer job and are committed to improving the Mississippi River and the environment. We only have one world, let's take care of it.

Read more about the MRGT on page 2

MANY THANKS ...

Many thanks to

ALYSSA HAWKINS

for serving as a Citizen Advisor to the MWMO since 2003.



Protect it. Pass it on.

**MISSISSIPPI
WATERSHED
MANAGEMENT
ORGANIZATION**

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**MARK YOUR CALENDARS!
NEW DEADLINES FOR
STEWARDSHIP FUND
GRANTS**

The MWMO's Stewardship Fund makes up to \$250,000 in grants to community-initiated projects that improve water quality. Three kinds of grants are offered throughout the year—with new deadlines in 2011.

Mini Grants provide up to \$2,000. Short applications are due on Feb. 1, June 1 & Oct. 1.

Planning Grants provide up to \$10,000. Applications are due on Feb. 1.

Action Grants provide up to \$50,000. Letters of Interest are due on Oct. 1.

See if your organization or school qualifies and view examples of past projects, at www.mwmo.org/stewardshipfund.html or contact Nancy (ndilts@mwmo.org, 612-465-8780 ext. 208)



ABOVE: Planting a raingarden—part of a Youth Farm and Market Project funded by a Mini Grant from the MWMO.

WATER ELEMENTS ... TURBIDITY

Turbidity is one way of measuring how clear or pollution-free water is. The more cloudy, muddy, or murky water is, the higher its turbidity. When particles are suspended or dissolved in water, they decrease the ability of light to pass through it, increasing turbidity. In the Mississippi River, turbidity may be caused by sand, silt, clay, and organic particles, such as algae and leaves.

When clear water becomes dark, cloudy or green with algae, tourism, real estate values, swimming and boating uses may be affected. Turbidity prevents plants from growing and degrades habitat for fish and other animals. Drinking water is also more expensive to treat when it is turbid.

Many of the most common causes of turbidity are preventable. Sediment that erodes—or is washed away—from construction sites, agricultural fields, residential lawns and unstable stream banks increase turbidity. Nutrients (phosphorous, nitrogen) entering the water from grass clippings, leaves, and agricultural and suburban runoff, cause algae to grow excessively.

When it rains and snow melts, the water running off the land flows into stormdrains, then pipes and directly into our rivers and lakes. Since stormwater is not treated, this means that any loose soil, sand from winter, crabapples, grass clippings, fertilizer pellets, leaves, litter, etc., is also washed off directly into the receiving waters. Dirt and nutrients in stormwater are significant sources of turbidity.

Prevention is the most effective and least expensive way to reduce water pollution, including turbidity. Sweeping the streets is one way that cities reduce pollution. If you see dirt from a construction site being tracked onto the road or reaching an unprotected stormdrain, call your city to report it. Other ways you can help are to sweep up fertilizer, grass clippings and dirt from your sidewalks and driveways. Individual actions matter and are needed to help keep our waters clear, especially in an urban environment where turbidity comes from many sources.

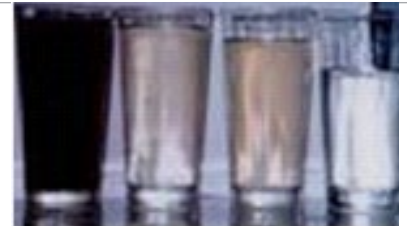
MORE ABOUT THE MISSISSIPPI RIVER GREEN TEAM

The Mississippi River Green Team (MRGT) is a conservation-focused youth development and employment program for 14-17 year old students from North and Northeast Minneapolis. Crews work daily during summer and meet monthly during the school year. The MRGT's conservation work focuses on and near the Mississippi River, restoring natural places and protecting water quality. Education about water resources, learning new skills, and exposure to a wide variety of environmental careers is deliberately integrated into their experience.

After graduating from the MRGT, we help youth find another paid internship. Our goal is to train and provide each student with the opportunity to have two paid work experiences in the environmental field before graduating high school.

The MRGT is a partnership of the MWMO and the Minneapolis Park & Recreation Board.

To hire the MRGT to help with your project or recruit a MRGT graduate for an internship, contact Jenny (jwinkelman@mwmo.org).



ABOVE: Turbidity reduces water clarity by preventing light from passing through it. The glass of water on the far left has the highest turbidity; the glass on the left has the lowest. Photograph credit: Proctor & Gamble.

PROTECT IT, PASS IT ON ... LEADING BY EXAMPLE

A year from now, the MWMO will be headquartered in a new building located just north of the intersection of Lowry Avenue and Marshall Street in Northeast Minneapolis (2522 Marshall Street NE). In addition to offices and a garage, the new facility will house a small laboratory, classroom and public meeting spaces, and interpretive exhibits. Principles of energy and water efficiency, community, education and demonstration underlie every aspect of planning, constructing and ultimately using the new building and grounds.

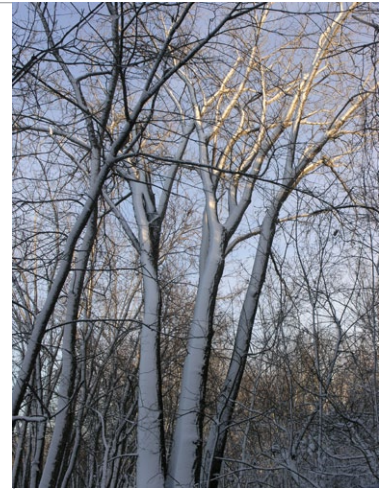
As a water management organization, the MWMO is very concerned with water conservation, which is closely tied to energy production. For example, coal-generated electricity, a real “waterhog,” uses more than 530 quarts of water to generate 1000 kilowatt-hours (kWh) of electricity; natural gas uses much less water, about 38 quarts for the same 1000 kWh.

To reduce energy and thus, water use, the building will be powered entirely by renewable energies—geothermal and solar. One of the most significant, and least expensive, decisions for energy efficiency was to orient the building with a southern exposure in order to maximize solar energy potential and passive heating in the winter. During the warmer months, window shades outside the building can be lowered to prevent heat from building up inside and reducing the need to cool the interior.

Choosing to invest in insulation and windows that create a tight “envelope” or exterior shell of the building will also reduce heating and cooling needs throughout the year. The payback horizon for investing in these energy efficient materials and technologies is 20 years.

The landscape will transition from urban influences near Marshall Street to a more naturalized riverfront, with examples of stormwater practices scaled to each. As part of the Mississippi River Corridor Critical Area (see page 5), plantings and riverbanks will be restored to reinforce the values for which this protection exists. Public use will be enhanced by the presence of a small amphitheater and wheel-chair accessible canoe launch.

Through upfront planning and a vision for leading by example, the MWMO headquarters will be a welcoming and sustainable place to enrich the experience and knowledge of all visitors.



**STEWARDSHIP IN ACTION:
MWMO'S NEW BUILDING**

■ **Stormwater is a resource**
The landscape is designed to capture and treat all of the runoff from the MWMO site, a section of Marshall Street, the neighboring parking lot and rooftops for a 100-year or 6 inch rainfall event.

■ **Reuse**
Demolition costs were subsidized by selling the metal as scrap; all 4” by 8” pavers will be reused. Whenever possible, excavated fill will be crushed and reused on site.

■ **Remediation**
Limited contamination by petroleum products from previous land uses will be remediated and unstable fill removed.

■ **Restoration**
Eroding riverbanks will be stabilized with native plants and trees.



LEFT: Front and back views of the new MWMO building design.

Offices will be located on the second floor. The lower level, skyway-like bridge and landscape will be used as public meeting and interpretive spaces. Notice how the building design visually and physically connects the city landscape to the Mississippi River.

Rear (view from the Mississippi River)



WHAT DOES SUSTAINABLE MEAN?

Sustainable refers to the set of solutions and behaviors that do not borrow from the future to meet the needs of today

PROTECT IT, PASS IT ON ... MAKING CHOICES WHEREVER YOU GO

We know that good design and the right materials can greatly reduce energy and water demands in new, as well as retrofitted older buildings. More often than not, we find ourselves in places, like work, stores or in apartments, where we are not able to make structural changes. Nonetheless, some types of sustainable choices are still within our power.

One approach to sustainable living is what Architect Sarah Nettleton has coined “Participatory Green” (*The Simple Home: the Luxury of Enough* by Sarah Nettleton and Frank Edgerton). Participatory Green speaks to the different roles each of us has in implementing solutions and behaviors that are sustainable. Participatory Green is a mindset, a way of



ABOVE: Visitors spend time in the lobby learning about the relationship between human and natural resources in the urban environment and monitoring energy and water use by the new building. Source: MWMO Education and Interpretive Concept Plan, 2010.



ABOVE: The location of the new MWMO headquarters in Northeast Minneapolis is shown in blue. This was the former location of the International Brotherhood of Electrical Workers (IBEW) where nearly 75% of the 1.29 acre site was covered with hard surfaces (roof and parking lot). Hard surfaces do not absorb water, which means that all the rain and snowmelt wash off directly into the adjacent river.

The MWMO's new landscape will intercept and treat all of the stormwater that falls on the site, as well as that flowing from neighbors and a portion of Marshall Street.

paying attention and changing how we use our spaces. To quote a wise person, “The most energy efficient light is one that is turned off.” Some examples of Participatory Green are:

- Rearranging the living room, so reading light comes from a window, instead of a lamp—and using compact fluorescent bulbs in your light fixtures
- Turning off the water while you brush your teeth—and putting aerators on the faucet to use less water
- Opening windows in temperate weather for natural ventilation and closing them when the outdoor temperature is no longer comfortable
- Setting printer defaults to duplex automatically will cut your paper use by half and take up less space for storage
- Turning off computers—if your office requires computers to stay on overnight for network updates, at least start by turning off the monitor
- Adjusting the thermostat to save energy when you are not at home—or installing a programmable thermostat
- Collecting rainwater in a barrel or cistern so you can use it later
- Taking the stairs instead of an elevator

In the MWMO's new home, visitors and staff will be able to see how their choices help reduce energy and water usage.



ABOVE: MWMO Commissioner Scott Vreeland canoes down a street in the Seward Neighborhood to show that “our streets are our streams.” Dirt, litter, oil, leaves, etc. wash off of the streets and into our Mississippi River through the stormdrain system.

THE MWMO BOARD ... MEET COMMISSIONER VREELAND

Scott Vreeland represents the Phillips-Longfellow Neighborhood on the Minneapolis Park and Recreation Board (MPRB) and, since 2008, has represented the MPRB on the MWMO’s Board of Commissioners. He also serves on the Tree Advisory Committee and the Minneapolis Riverfront Corporation for the MPRB.

Scott grew up on Long Island, NY where water, the ocean, was his playground. He graduated with degrees in Education and Theatre from the State University of New York and nearly forty years ago, moved to Minnesota for graduate school. His involvement in theatre and passion for clean water and the Mississippi River was galvanized in 1984 during the production of the “Circle of Water”— a giant puppet circus that performed in 23 cities along the Mississippi River, from Alma, WI to New Orleans.

Upon returning to Minneapolis, Scott immersed himself in community organizing and the school of “practical politics.” He was one of the MWMO’s original Citizen Advisors, providing citizen review and helping raise the visibility of the MWMO at the community level. He effectively advocated for MWMO support of community-initiated projects, which evolved into the Stewardship Fund Grant Program.

Scott continues to advocate for clean water, recognizing that the solutions to existing problems are complex. Scott believes that a clean river, vibrant city and community participation are critical to improving quality of life. Thoughtful, deliberate processes can transform areas such as the riverfront north of Saint Anthony Falls into successful, sustainable developments that enhance both the environment and the surrounding community.

PUBLIC ACTION ... MISSISSIPPI RIVER CORRIDOR CRITICAL AREA RULEMAKING

In 1976, Governor Anderson first designated the Mississippi River Corridor Critical Area (MRCCA) to protect the riverfront from “unregulated development and uncoordinated planning.” This designation has been the backbone of protection for the area adjacent to the Mississippi River, extending 72 miles from Dayton, MN south to Hastings, MN.

In order to maintain and enhance the area, local units of government created standards and guidelines to manage the MRCCA as a multipurpose resource that preserves the natural, aesthetic, cultural and historical values for public use and protects its environmentally sensitive areas. In 1988, the federal government reaffirmed the natural, historic, ecological and economic values of the MRCCA by making it a unit of the National Park Service called the Mississippi National River Recreation Area (MNRRA).

New rules for how the MRCCA is developed and protected are being written now. While the Department of Natural Resources considers all comments received while developing draft rules, only those submitted during the public hearing process will be considered “officially on the record.” [To learn more, participate and track this important process, visit \[www.dnr.state.mn.us/waters/watermgmt_section/critical_area/rulemaking.html\]\(http://www.dnr.state.mn.us/waters/watermgmt_section/critical_area/rulemaking.html\) and \[www.fmr.org/news/current/rulemaking_update-2010-12\]\(http://www.fmr.org/news/current/rulemaking_update-2010-12\)](http://www.dnr.state.mn.us/waters/watermgmt_section/critical_area/rulemaking.html)

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Protect it. Pass it on.

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RIGHT, TOP: Ice chunks on the Mississippi River. Ice floats because it is less dense than liquid water. Photograph by B. Jastram.

RIGHT, BOTTOM: Some aquatic animals, such as otters, depend on homes below the ice. Photograph by J. Winkelman.

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INTERESTED IN LEARNING MORE ABOUT THE WATERSHED?

Consider becoming a Citizen Advisor. To find out more visit www.mwmo.org/cac.html

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WATER ALMANAC: WHY DOES ICE FLOAT?

The simple answer is that ice is less dense than liquid water. One way to think about density is to compare marshmallows and marbles. For the same amount of material, marshmallows are lighter. Likewise, if you weigh a gallon of ice and a gallon of liquid water, ice is lighter.

Have you ever put a water bottle in the freezer and noticed that the water expands when

it freezes, sometimes cracking the bottle? Water is unusual because when it freezes, it takes up more room as a solid than as a liquid. The shape of a water molecule is the secret to ice floating. A water molecule is shaped like a boomerang, with an oxygen atom attached to two hydrogen atoms that droop down on either side. When water molecules are liquid, the

molecules are pulled together, and when they freeze, they are held apart as a rigid crystal with gaps that take up 10% more space.

If ice did not float, Minnesota's lakes and rivers would fill up with ice; their top layers would freeze and sink to the bottom, over and over again until all the water was frozen. Fish survive because ice floats; they live in the water beneath the ice where it is still cold, but not solid. Ice forms at 32 °F (0 °C), and water is most dense at 40 °F (4 °C). Because denser water sinks, in winter, most water is 40 °F; the coldest liquid layer is found just below the ice.