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Cleanup Review

News and information for participants in the Minnesota Adopt-a-River Program.

The Plastic Bottle: The Good, The Bad, The Ugly

by Ami Thompson MCC/AmeriCorps Member

According to the International Coastal Cleanup's 2001 findings, the plastic bottle was the fourth most common trash item in our public waters (after cigarette butts, wrappers, and plastic caps). Anyone who has participated in a cleanup has become a plastic bottle expert. They can rattle off all the many shapes, colors, sizes, and functions of plastic bottles. The ubiquity of plastic in our waterways reflects the central role of plastic in our culture. Plastic is draped on our bodies as clothes, protects our food from decay, and is part of the vehicles that transport us. We can't make it through one hour of our lives without encountering plastic.

The name "plastic" was derived from the word "plasticity." It refers to being easily manipulated and capable of maintaining a dictated shape. For centuries, natural plastics, such as wax and rubber, were in widespread use. Modern-day plastics evolved from people trying to improve natural materials to better meet their needs. For example, in 1839 Charles Goodyear discovered that adding sulfur and heat to natural rubber made it stronger and more easily manipulated.

Plant cellulose was used as a structural base for the first commercial plastics. In 1863, a plastic aptly named *Celluloid* was put into production. It was first made into dentures, but was problematic because it would become soft and melt when in contact with hot food or beverages. It was also used to make intricate plastic trinkets and movie film. Unfortunately, *Celluloid* turned yellow and brittle as it aged and it was also violently flammable. One of the few remaining *Celluloid* products still in use is the ping-pong ball. A couple other common cellulose plastics include the fabric *Rayon* (first distributed in 1905) and cellophane plastic wrap.

The chemical advances of WWI led to a surge in the developmet of totally synthetic plastics. One of the first plastics developed after WWI was polystyrene (PS). Most notably, polystyrene is used to make a styrene foam known as *Styrofoam*. Foamed styrene is valued for its properties of flotation and superior insulation. Non-foamed PS is clear and hard and is often used to make disposable dinnerware.

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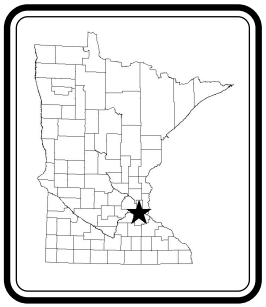
By Paul E. Nordell, Coordinator, Adopt-a-River Program



A Rail Network Competes with the Riverboat

In 1865, the Minnesota Central Railroad became the first railroad to serve the Minneapolis West Side Mill District along the Mississippi River. By 1867, the Mendota-Fort Snelling rail bridge would provide continuous rail service for year-around shipping and receiving to the East, via LeRoy, Minnesota and a river crossing on the Mississippi River at McGregor, Iowa. It was the first railroad in the state to complete such an all-rail route, thus totally avoiding the steamboat as the gateway to Minnesota.

Planning a Bridge to the Fair

By September 4th, the Minnesota Central Railroad announced its commitment to completing the bridge which would deliver visitors to the 7th Annual Minnesota State Fair in Minneapolis. The fair was to be held from Wednesday, September 27 through Friday, September 29, and the bridge was to be completed by **September 26**. Trains would be able to cross the Minnesota River at its confluence with the Mississippi, immediately west of Pike Island and immediately down stream from Franklin Steele's ferry (operating from 1839 to 1920). On the Fort Snelling side, the grade ascended the steep bluff, towards Minnehaha Creek and across an edge of prairie all the way to Minneapolis, where this same railroad was building its depot, extensive rail yards, shop complex and roundhouse.

River-borne Frustrations

Construction of a railroad through the river gorge presented difficult problems from the start. The original company (organized in 1856), had completed nearly 70 miles of grading, but it was bankrupt by 1860 (a low-water year on the Mississippi). A new company was organized in 1862, but construction was blocked by the war. In 1863 the Mississippi River in Saint Paul was so low that no iron rails could be barged upstream to Minnesota, and no logs could be rafted down to Minneapolis mills to be sawed into railroad ties. In 1864 (another low-water year), vigorous re-grading and some bridge construction was completed, but only seven miles of Minnesota Central track was laid, and it extended south from Mendota. The crucial (and expensive) Minnesota River crossing to Minneapolis thus remained unfinished by the end of the Civil War.

River-borne Good Fortune

Frustration turned to good fortune in 1865. The Civil War had ended, and high water returned to the Mississippi River in Minnesota. On May 20th, the season's first two barges of iron rails were delivered to Saint Paul by the steamboat *G.H.Wilson*. The high water in the spring of 1865 allowed a sufficient stockpile of supplies so as to make rapid

progress on the Minnesota Central Railroad during the summer and fall. By September 4, the Minnesota Central was open from Mendota as far south as Northfield, and energy was shifted to completing the bridge to the north, which would connect this railroad to the West Side Milling District in Minneapolis, a district producing 400,000 board feet of lumber daily.

Looking East from the Minnesota River Ferry to Mendota, with the Chicago, Milwaukee and Saint Paul Railway bridge in the background, circa 1890. The bridge was built in 1865 by the Minnesota Central R.R. (from Minnesota Historical Society).

Just-in-Time Completion of the Bridge

The goal was to "complete the track laying…before the State Fair, which was done, and the first train from Minneapolis to Dundas [on the south end of the line] went through on **September 26**." The fair was held at the Hennepin County Agricultural Society grounds in Minneapolis, just a 5-minute walk from the track. The bridge completed the route was an imposing structure. It had four limestone piers and an abutment in the center for the 250-foot turntable structure. The two spans adjoining the center turntable span were 120 feet and 150 feet in length, all constructed of Howe's patented wood trusses. An observer of the day described the scene:

> Crossing the Minnesota River on a turntable bridge, which, for its strength and ingenuity of construction, merits more than passing notice – we reach the ancient town of Mendota.

The "state fair special" was advertised for September 27 through 29. The ad included the following explanation:

> …in view of present limited facilities of the company for passenger transport (consisting of box and platform cars), persons going to and from the Fair will be taken at half the usual price.

The state fair train brought riders from as far away as Dundas, and picked up Saint Paul passengers at Mendota from the special state fair steamer *Mollie Mohler.* The state fair was a celebration of agriculture, and with the new railroad passing directly past the state fair in 1865, it marked an exciting new beginning for the marketing of farm products and movement of farm supplies.

Primary Sources: *First Annual Report of the President and Directors of the Minnesota Central Railroad, 1866*; Fort Snelling State Park files; *Minnesota Archeologist*, 1989, "Archeology of the Central Minneapolis Riverfront", *Saint Paul Pioneer* 5-23-1865; 5-26-1865; *Weekly Pioneer and Democrat(Saint Paul)*, 6-16-1865; 9-8-1865; 9-15-1865; 10-6-1865; 11-10-1865.

"Plastic" continued from page 1

Another newcomer after WWI was polyvinyl chloride (PVC) or *Vinyl*. A hard form of PVC is used today for plumbing, electrical casings, and gutters. It is ideal for these applications because PVC is extremely weather and temperature resistant. Another unique property of PVC is that, in a softer, pliable form, it allows oxygen exchange and is puncture resistant. Therefore, softer PVC is often used to make cling wrap and rain gear.

In 1939, the Du Pont Corporation developed the first synthetic fiber called *Nylon*. At first, *Nylon* was used as toothbrush bristles, but its true calling was to replace silk stockings. The *Nylon* stocking fad swept through America until World War II. During the war, *Nylon* factories manufactured parachutes. Riots broke out after the war when women scrambled to get the re-introduced "nylons." *Nylon* is also molded into mechanical parts because of its resistance to wear.

Neoprene, developed in 1931, was one of the first synthetic rubbers. It is very resistant to heat and chemical degradation. Therefore, it was used as fuel-hose material and insulation for machinery. Synthetic rubber was manufactured in the United States in great quantities during World War II for truck and airplane tires, because Japan controlled most of the world's natural rubber. By the end of the war, U. S. factories were producing twice as much synthetic rubber as the whole world production of natural rubber before the war.

The rapid development of plastic continued after WWII. Polymethylmethacrylate (PMMA), or *Acrylic*, was created in 1936. *Acrylic* is used to make paint, fake furs, and *Plexiglas*. In 1939, *Epoxy*, or polyepoxide, was developed. *Epoxy* is used as superglue and as the matrix component in fiberglass. *Teflon*, or polytetrafluoroethylene(PTFE), was top secret during WWII but, by the 1960's, it was in wide use as a non-stick agent on frying pans. Today, *Teflon* is also used to make dental floss. PTFE lead to the development of *Gortex*, a breathable plastic used for rain gear and surgical implants. In the 1970's, the Du Pont Corporation discovered *Kevlar*, a remarkably strong synthetic fiber used in bulletproof vests and helmets. This new material was so unbelievable that Du Pont released a statement promising they did not receive *Kevlar* from extraterrestrials.

The revolutionary influx of plastic brought with it tragedy and challenge. The first indication of this was in the mid 1950's when children and animals started getting caught in filmed plastic and suffocating. Soon after, disposable plastic packaging leftovers started piling up in landfills at significantly higher rates. In 1960, only one percent (by weight) of generated solid waste was plastic. That statistic jumped to 10.7 percent of generated waste in 2000. Plastic is not the largest component of landfills; paper products are the most abundant, making up more than 40 percent of solid waste by weight. However, the increase of plastic in our trash is noteworthy. Furthermore, the disposable nature of plastic encourages dumping and littering. Adopt-a-River participants are well aware of the magnitude of the plastic litter challenge.

In 2000, Minnesotans burned 13% of thier waste to produce energy. Having some plastic mixed in with the burned rubbish slightly increases the energy output. At Xcel Energy's Redwing Plant, metal and gravel materials are removed before burning, leaving wood, paper, and plastic to be incinerated. Burning wood alone generates about 4,000 to 5,000 BTUs per pound. Redwing's trash mixture, including plastic, creates slightly more energy

at about 5,500 to 6,000 BTUs per pound. For comparison, the energy from lighting one match is roughly equal to one BTU and burning one pound of western coal releases about 8,800 BTUs. Burning trash and plastic does reduce the volume of rubbish deposited in landfills and creates energy, but it also releases air pollutants. These acidic pollutants are mostly neutralized in the plant, but are an additional expense associated with this kind of plastic disposal.

One method to reduce plastic waste is to recycle. However, recycling of plastic is difficult. When many types of plastic are mixed together they have unpredictable properties. So, to efficiently recycle plastic, it needs to be meticulously sorted by type. Therefore, in 1988, The Society of the Plastics Industry (SPI) resin code was developed (see page 8). This seven-part code allows recyclers to identify and separate types of plastic. The code number is located on the bottom of most plastic containers inside a triangle of chasing arrows. Only code numbers one and two are readily recycled, because they have the strongest market support. In fact, many recycling centers will only accept plastics coded one or two. Only 5.4 percent (1.3 million tons) of the 24.7 million tons of discarded plastic in the United States was recycled in 2000. The SPI resin code is the most commonly used, but its not the only resin code. Other codes include more numbers, and more plastics. Most states require resin codes be imprinted on plastic containers.

Another method of reducing plastic landfill volume and litter is to increase and support the market demand for all types of recycled plastic. Almost all plastic can be recycled but it won't be done unless it is profitable. We can help build a market by buying recycled plastic products, encouraging local recycle centers to accept more types of plastics, and separating and cleaning plastics before recycling them. Furthermore, we can support local businesses that buy and sell recycled plastics.

Throughout recent history, plastic has enabled us to achieve great success in battle and business. We've created a powerful monster and, in turn, a responsibility to appropriately dispose of its waste. By participating in the Adopt-a-River Program, volunteers accept this responsibility and correct others' poor disposal decisions. They round up the plastic fugitives and earn the reward of 92,000 miles of clean flowing water. Picking up littered plastic not only improves our public water, but it allows plastic to better fulfill the intentions of the chemists who first developed it.

Editors Note: *This article is part of a* Cleanup Review *series disecting the cleanup trash bag. Previous featured rubbish items include, cigarette butts, tires, and* Styrofoam*. For more information about plastic, check out www.packagingtoday.com and www.plasticsindustry.org .*

Storm Troopers Care For Minnesota's Rivers

By Nelly Nehring MCC/AmeriCorps Member

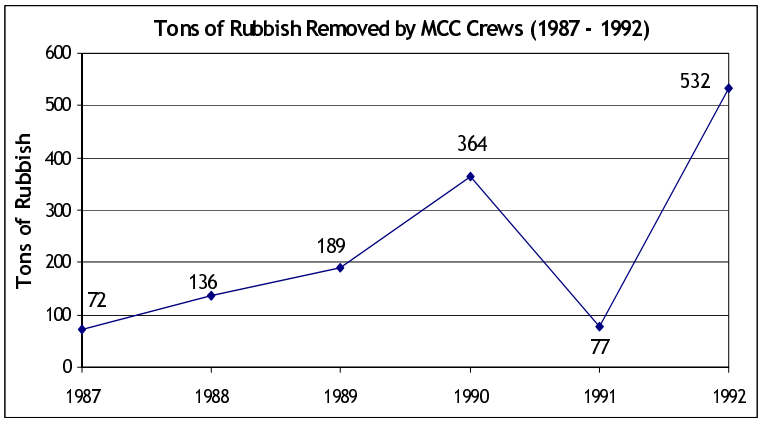
The Department of Natural Resources' (DNR) Minnesota Conservation Corps (MCC) began its pilot cleanup for the Minnesota Clean Rivers initiative in June of 1987. Governor Rudy Perpich began the river cleanup campaign because he was distressed that dumped trash had been floating down the Mississippi River. The Governor looked to the DNR to take action with a work force from MCC, the river storm troopers.

The Clean Rivers project, which preceded the 1989 Adopt-a-River Program by two years, was part of a national movement to save rivers that had been abused for many years as dumping grounds. As Paul Swenson, of the DNR Waters Division, said in a 1992 *Cleanup Quarterly*, "We now realize that everyone cannot live upstream and what we do to our own land affects other people." The MCC Clean Rivers project started in the southeastern part of the state, with rivers like the Cannon and Zumbro. The first project was on the Cannon River in Northfield. Twenty-six miles of river between Faribault and Cannon Falls were cleansed of 50 tons of debris. Steve Kirch of DNR Trails and Waterways said, "We wanted to assess the costs of a complete cleanup," in the May/June 1988 *Minnesota Volunteer*. Peg Sveum, MCC Regional Coordinator at the time said, "As we get a feel for this effort, the project will be expanded statewide, which is a goal of Governor Rudy Perpich."

To begin the cleanup work, MCC crews canoed 1,500 miles of river, surveying for dumpsites. "Our biggest problem in locating and getting permission to clean up sites on private land is fear on the part of landowners that they'll be charged for clean-up costs if they admit they have an old dump site on their property," said Mark Robbins, MCC Project Coordinator, in the 1991 *Affirmative Action/ MCC extra*, "but that isn't how it works. This is strictly a cleanup project for the public good. We do not assess blame or bring charges against anyone. And there is no cost to the landowner."

Once the crews achieved the goodwill of the landowners, they needed to work with local solid-waste authorities to properly dispose of or recycle the retrieved dumpsite refuse. In one case an agreement was established with local metal recyclers to haul car bodies from the stream bank in exchange for the profits from the scrap metal. Finding landfill space was an additional hurdle. However, valuable dump truck transport and landfill space was graciously donated.

Dumpers argued that dumping riverbank rubbish was an inexpensive way to keep the stream bank from eroding. Unfortunately, this assertion contained some truth. Up to this time, depositing rip-rap was the dominant method of preventing shoreline erosion. This expensive and ugly technique consisted of placing a tarp or blanket along the shore



and covering it with large rocks and boulders. MCC blazed a new trail by initiating a vegetation-based stream bank stabilization process. The technique involved planting willow shrubs along the shoreline. The willows hold the soil in place and provide habitat for wildlife. Not only was this ecologically better and visually more appealing, it saved a lot of money. In one stabilization experiment, it would have cost $100,000 to install rip-rap, whereas the willow planting only cost $4,000. These types of projects involving bioengineering brought the MCC to the forefront of the Conservation Corps nationwide. When the National Association of Service and Conservation Corps was promoting stream bank stabilization in the early 1990s, MCC crews were already experts.

The Clean Rivers project lasted into the Govener Carlson administration, but lost its inertia in the early 1990's. Before its end, the project received national acclaim in the form of a prestigious *Take Pride in America* award. Minnesota was one of 103 winners out of 530 nominations. The MCC's Clean Rivers initiative is one example of how a focused, committed crew can accomplish astounding results. Between 1987 and 1992, MCC removed 1,370 tons of rubbish from 17 different rivers and hundreds of sites. Through the systematic, focused approach of the MCC initiative, they were able to stem the tide of household dumping. Although much yet remains to fully clean up Minnesota's waters, it can confidently be said that the years of 1987-1992 marked the beginning of a major turn-about in the treatment of public waters. Increasingly, the general public is backing away from the illegal practice of dumping in the floodplain.

MCC, an AmeriCorps affiliate, gives young Minnesotans the opportunity to demonstrate citizenship and to earn experience in the field of natural resources. MCC crews donate at least a year of their lives to building trails and boardwalks, providing local children with environmental education opportunities, and protecting our native areas from invasive species. Historically, MCC has been paid for by state funds through the DNR, and has provided a tremendous value for the state. All MCC crew members work for the reward of being good citizens, not for the minimal monetary stipend. Unfortunately, because of Minnesota's present budget crisis, MCC will no longer be state-funded. The leadership of the Minnesota Conservation Corps and its non-profit support, the Friends of the MCC, are presently working on a transition from a state to a non-profit organization. With the help of many friends and supporters, Minnesota will hopefully still be able to claim one of the best conservation corps in the country.

Plastic Resin Recycle Code

On the bottom of most plastic containers there is a number inside a triangle of chasing arrows. This is a plastic resin code that was created to help recyclers sort the different plastic types The most common code, SPI, is explained below.

1 PETE

Polyethylene Terephthalate (PETE or PET) – This is the famous pop bottle plastic. PETE is well suited for this purpose because it is relatively impervious to gas and keeps carbonation in. PETE is also very resistant to heat and is often used for oven-safe food trays or peanut butter jars. Recycled PETE supports a strong manufacturing market of new bottles and Polyester clothing and carpet. This carpet is often composed of 100 percent recycled PETE.

2 HDPE

High Density Polyethylene (HDPE) – This plastic is very resistant to chemicals and acids. It is used to contain milk, juice, laundry detergent, bleach, oil, and yogurt. Recycled HDPE is often used to make new containers, floor tiles, and picnic tables.

3 V

Polyvinyl Chloride (Vinyl or PVC) – PVC is known for its strength and durability as well as its versatility. It is used for packaging products and construction materials.

4 LDPE

Low Density Polyethylene (LDPE) – This flexible and easily sealed plastic is dominantly manufactured into grocery, bread, frozen food, or dry cleaning bags. It is also used for shrink-wrap and squeezable bottles.

5 PP

Polypropylene (PP) – PP has a high melting point making it ideal for products that are packaged hot, such as ketchup. PP is also used in a wide variety of products such as car parts, brooms, bicycle racks, and auto battery cases.

6 PS

Polystyrene (PS) – This type of plastic is versatile and easily foamed. Un-foamed, it is used for VCR and tape cassettes, wide mouthed containers (such as yogurt tubs), and vitamin bottles. As foam it is well known as *Styrofoam* and is used to make egg cartons, carryout containers, and hot beverage cups.

7 OTHER

Other – The first six codes encompass the most commonly used plastics. Many states mandate that all plastic containers harbor a code. So, code number seven was developed to include the different types or mixtures of plastic that don't fit into the first six categories. This code of plastic has little recycling potential. Some common items in this group include snack bags, some squeezable bottles, and microwave safe materials.

Creature Feature:

Belted Kingfisher: *Ceryle alcyon*

This compact bird is a staple of the river community. With a spiky feathered mohawk and proportionally large head and beak, the belted kingfisher is easy to recognize. In addition to a large gray head, this robin-sized bird has a gray body with a white chest. Unlike most Minnesota birds, the female kingfisher boasts the more colorful plumage. She has an additional strip of chestnut-colored plumage below the gray band of feathers around her chest and shoulders. The male only has the one upper belt of gray feathers on his chest and shoulders. (The drawing on this page is a female kingfisher.)

The belted kingfisher is solitary and territorial. If you encounter one during a river cleanup, it will likely scold you with its mechanical-sounding chatter. Sometimes it appears that the kingfisher leads people down the river, always staying a branch ahead. In fact, the bird is trying to lure you away from its hunting territory.

The kingfisher hunts from a favorite perch or hovering above clear bodies of water. When it catches a glimpse of a tasty morsel it dives head first into the water. If the attack is successful, the kingfisher returns to its perch and smashes the prey's head against a branch. Once sufficiently stunned, the kingfisher throws his meal into the air and swallows it headfirst. The kingfisher's diet consists almost entirely of small fish. However, in tough times, a kingfisher will eat crayfish, frogs, small mammals, and even berries. If you look closely, you may discover the local kingfisher's favorite perch during your cleanup. After a meal, kingfishers regurgitate and spit out bones and scales. Often a telltale pile of bones and other indigestibles acumulates under its perch.

Kingfishers share the job of parenting. Both genders help build a nest that is dug into a sandstone or clay cliff. Suitable nesting cliffs are often not river cliffs, but man-made structures such as road cuts, gravel pits, or landfills. The nest can be a few miles from water and the burrow may be between three to six feet deep. At the end of the burrow, the birds create a cozy nest of regurgitated fish bones. Belted kingfishers have therefore mastered the art of recycling.

Six to eight glossy white eggs are laid and hatch after about 24 days of incubation. After four weeks of pre-digested meals from mom and dad, the young birds are ready to fly and hunt on their own. It is suspected that kingfishers teach their offspring to hunt by dropping dead fish in the water for the young to practice catching. Eventually, the parents leave the young to fend for themselves and then return to their solitary lives.

Editors Note: *The belted kingfisher is twelfth in our series of creature features or plant pages. The previous features have been: the stonefly, green frog, beaver, bald eagle, muskrat, great blue heron, clam, crayfish, snapping turtle, raccoon, and eastern cottonwood. If you would like a copy of any or all of these features please contact the editor.*

Adopt-a-River Notes & News

Perpetual Calendar of Events

Did you know that we keep a constant calendar of events here at Adopt-a-River? The calendar is sent to individuals who would like to volunteer with an already organized cleanup. If you would like a few more volunteers at your next cleanup, let us know your cleanup date, location, and contact information and we'll put it on the calendar. Likewise, if you'd like a copy of the calendar, give us a call: 651-297-5474

Taking Another Step

The shorelines and streambanks of Minnesota's waters often need more help than trash removal. Contact us for introductory information about water quality monitoring, erosion control, stormdrain stenciling, and invasive species management.

Send In Those Purple Cards!

Now is the time, if you haven't already done so, to turn in your purple reporting cards with the results of your latest cleanups. The purple card is our only means of collecting cleanup information and keeping in contact with you! So far for 2002, it has been reported that over 4,000 volunteers have donated over 14,000 hours and removed about 325,000 lbs. of trash. Has your cleanup been included in our database? Be sure your hard work gets recognized. Send in your purple card! If you've lost your purple card, just call and ask for another: (651) 297-5474.

Adopt-a-Mania

Bob Erickson and the St. Cloud Sunrise Kiwanis Club are crazy about picking up rubbish. Erickson and the Kiwanis have adopted a section of the Mississippi, but last year the water was too high and too dangerous for them to do a cleanup. So instead, they participated in the Adopt-a-Highway program. Erickson says, "These programs make them and their scout leaders more aware of our pollution problems."

The 2003 Adopt-a-River Calendar of Events.

Call to verify times and locations.

April 12th: City of St. Paul Parks and Recreation City-wide Spring Parks Cleanup
Bags, gloves, and food will be provided. Call (651) 266-6458 for more information.

April 14th: Annual Normandale-Hylands UMC River Cleanup
Help cleanup Normadale Lake with the Normandale-Hylands UMC. For more information contact Jack Hauser at (952) 831-8132

April 19th: Wargo Nature Center Earth Day Celebration
From 11:00 a.m. to 2:00 p.m. sponsored by the Wargo Nature Center. For more information please call Wargo Nature Center at (651)-429-8007.

April 19th: 9th Annual Earth day Watershed Cleanup
Join hundreds of people who will gather to clean up Minneapolis watersheds. Gloves, trash bags, refreshments, music and educational activities provided. For more information, call the Earth Day Hotline at (612)-313-7722. Event Schedule: 9:30 - 10am arrive and register at distribution sites. 11 am - Noon celebrate.

April 19th-25th: Annual MULES River Cleanup
Help cleanup the Mississippi River with the MULES in Minneapolis. For more information contact Lance or Debbie Krych at (612)-529-3463

April 22nd: **Annual Greater Lafayette Park Cleanup and Celebration** joint cleanup effort by state agencies and local businesses in the Lafayette Park area in downtown St. Paul. For more information, call Paul Nordell (651)297-5476.

April 26th (tentative date): **Green Team Cleanup**
From 9:00 a.m. to noon, meet in St. Paul at a tent near the intersection of Summit and East River Boulevard to get directions and pick up supplies. Call Maggie (651) 644-4238.

May 3rd: Wild River Audubon Society's Annual Cleanup and Celebration
Come and join the fun with the Audubon Society as they clean the Sunrise River. Meet at Sunrise City Park. Bags, gloves, waste disposal, food and T-shirt provided. For more information contact Gary Noren at (651)-583-2843

May 17th: 10th Annual Mississippi Corridor Neighborhood Coalition Cleanup
Contact Randy Kouri 612-788-0249 mcnc@2z.net for more information

June 14th-21st: Big River Relief
This multi-agency sponsored cleanup includes river from upper St. Anthony Falls to Hastings. Contact Anne Hunt at (651)225-1901 for more information.

June19th: 11th Annual Mississippi Riverboat Clean-Up
Volunteer groups clean up between downtown St. Paul and Ft. Snelling from a riverboat. Hosted by the DNR and Padelford Packet Boat Company. Call Paul Nordell, DNR (651) 297-5476 for details.

Cleanup Review is published by the Minnesota Department of Natural Resources for the Adopt-a-River Program in the Trails & Waterways Division.

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Please direct your comments, questions, and suggestions to the editor of *Cleanup Review* at (651) 297-5474 or to the Adopt-a-River Coordinator, Paul Nordell at (651) 297-5476; MN Toll Free 1-888-646-6367; FAX (651) 297-5475; **e-mail: paul.nordell@dnr.state.mn.us** or write to: MN DNR, Trails & Waterways Division, 500 Lafayette Road, St. Paul MN 55155-4052.
See our web site at **www.dnr.state.mn.us**
Search " Adopt a River".

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