G.R.E.A.T.

Grand River Environmental Action Team

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Record Numbers of Volunteers "Scrub" Six Miles of Grand River Bottom

From the Micor Industrial Park area on the south east side of Jackson, to well beyond Parnall Road on the north, 116 volunteers cleared many cubic yards of trash from the Grand River. As far as GREAT's records go, this was the largest annual river clean-up in the twenty-year history of the organization in at least two respects: the number of volunteers, and the number of river miles cleaned. It stands to reason that such a large number of volunteers would have also picked up a record quantity of trash, however a relatively new phenomenon occurred this year, and GREAT has photos to prove it. Rivermaster Kathy Kulchinski said, "Scavengers came by in trucks and picked up the metal objects we hauled out of the river as quickly as we left it by the city's bridges." Don Nelson, GREAT coordinator of the annual river clean-up for the past three years expressed gratitude for the scavengers doing their part to recycle some of the river trash, but wished we could have had an opportunity to at least estimate the volume of metal cleared from the river.

JROTC members proudly show off a traffic sign they pulled from the Grand River.

The largest contingency of clean-up volunteers was supplied by the Jackson Career Center JROTC. Sixty cadets, both male and female swelled the numbers of volunteers for the second consecutive year. Several of the area's newspapers reported immediately following the event the extraordinary level of community involvement demonstrated by this group. The balance of volunteers was made up of adults and youth including students from the Jackson High science programs. Don Nelson expressed his gratitude for the large turnout. "All the volunteers really made this a success." Because GREAT never knows exactly how many volunteers will show up for the annual river clean-up, the organization must designate many additional sections of the river for volunteer teams to work, and this year all those extra

A resourceful metal scavenger gleans trash hauled from the river by clean-up volunteers.

sections were needed. "We don't want to have a situation in which we have to tell willing volunteers 'Sorry we are out of river to clean', Nelson explains.

Some participants paddled canoes down the river and loaded trash into the boats, while others, especially the youngest, helped by walking the river banks where possible, filling plastic garbage bags. Still others were part of the "full immersion" groups that actually walked in the water pulling up man-made trash to be deposited alongside the roadway of the nearest bridge. Allison Bryan, a JHS student said, "I enjoyed bonding with everyone there, and making jokes with each other." Marsha Kozoil agreed with Allison, "Even though I kept tripping over rocks, it was fun to clean up the environment, at least a part of it." "The best part was seeing all the trash we cleaned up, although it was sad to see there was so much stuff in the river, "said Nicholas Walker.

The ubiquitous tires are stacked by the dozens every time GREAT cleans the river.

This year mother nature smiled upon GREAT's efforts, with clear skies, low water, and moderate temperatures. Last year, participants had to terminate their clean-up efforts early as torrential rains, rising water levels, and cool temperatures chased them from the river.

The Best Clean-up Yet

The following letter to the editor appeared in the Jackson Citizen Patriot in September

G.R.E.A.T.'s annual clean-up was an unqualified success this year and the Board issues a heart-felt thank you to all of those who helped out on Saturday, Sept. 12th. Well over 100 volunteers took part, including 65 Junior ROTC cadets and nine JHS Biology Students, led by their teacher, Mrs. Emily Curry. A record amount of trash was removed from a longer stretch of the river than ever before, both by people on foot, walking the river, and others paddling canoes. The river was cleaned all the way from the Losey Street Bridge to a stretch north of the Elks Lodge on Lansing Ave. A picnic lunch was held afterward at the Elks Lodge.

The Board of the Grand River Environmental Action Team would like to thank the following for their valuable support:

- City of Jackson
- Elks Lodge
- Northwest Refuse
- Virginia Coney Island
- Marino's Pizza
- CiCi's Pizza
- Mat's Cafe
- RolyPoly
- Jackson Coffee
- Bigby's Coffee
- Hinckley Bakery
- Lenny's Sub Shop
- Taylor Rental

It is very gratifying to find so many Jackson residents and businesses who were happy to support the stewardship of the Grand River, a precious and local natural resource.

Jon Hoover
Vice President, GREAT

The Annual GREAT Membership Meeting is mid-March. Watch our website for further details: www.great-mi.org

At left, Carol Scott loads river trash into a dumpster using a tractor provided by Taylor Rental.

Local Vigilance Leads to Mini-Clean-up of Vandercook Mill Run

Ray Masters walks Hinckley Boulevard in Vandercook Lake almost daily. Each day as he crossed the bridge over the old mill run, he saw trash accumulating in the water below. Having a degree of pride in his neighborhood, he asked the Summit

Bryon Ennis, Jim Seitz, Eric Walton and Jon Hoover wrestle a 55 gallon drum from the Vandercook Mill Run.

Township board if they could remove the trash. Though the township sometimes removes accumulations of illegal dumping on public land, in this case their authority stopped at the water's edge, because the land under the mill run is privately owned. However, Mike Trudell, a Summit Township trustee believed, private land or not, this was an unacceptable eyesore for the Village of Vandercook Lake, and he intended to do something about it.

Mike was referred to GREAT by a township employee, and when he called the GREAT number, it was answered by president, Jim Seitz. At first Jim says, he was reluctant to schedule another river clean-up while the Annual River Clean-up in Jackson was soon to take place. Though upon further consideration, Seitz felt he needed to bring this request for a mini river clean-up to the GREAT board. Factors influencing his decision were: Summit Township had been generously providing GREAT with a comfortable meeting location for several years; in addition, GREAT had owned a parcel of land along this very stretch of the mill run and had previously discussed the need to clean it; finally, this project would qualify as one of GREAT's three required river clean-up's in its agreement with the Upper Grand River Implementation Plan (UGRIP).

The GREAT board ultimately agreed with Seitz, that a special Fall 2009, mini clean-up in Vandercook Lake should be held. Since the segment of the mill run to be cleaned was rather short, Seitz felt that only a dozen or so participants would be required. Still, the typical river clean-up details needed to be addressed. Who would supply a truck to haul away the trash? Where could we haul the estimated twenty tires, and who would pay the dumping fees? As it turned out, Mike Trudell, the Summit Township trustee who initiated the clean up effort, came up with most of the answers. He would supply the truck and an additional trailer for hauling. Huco Environmental Services would accept the tires without charge against the value of the metal refuse hauled in, and the non-

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Part of the crew who helped with the mini-cleanup discuss a successful cleanup. Mike Trudell who initiated the effort is on the far right.

GREAT Members Part of a Growing

By Bryon Ennis

Recently in a biology laboratory at Jackson Community College, about a dozen "Citizen Scientists" examined specimens of bugs collected from the bottom of the Grand River and its tributaries. The purpose was to identify which families of benthic (bottom dwelling) macro (large enough to see without a microscope) invertebrates (without backbones) were present in designated locations in our river system.

The collection and identification of benthic macroinvertibrates is part of a program named Adopt-A-Stream, sponsored by Dahlem and the Upper Grand River Implementation Project, better known as UGRIP. When the aquatic specimens had been identified and sorted according to the section of river they were taken from and their animal families, a snapshot began to emerge of the relative health of our river system. It is known that some types of macroinvertebrates can only exist where the presence of polluting substances is low, and the presence of dissolved oxygen is high. Data from two consecutive years of Adopt-A-Stream surveys has been encouraging, showing that there is an absence of persistent pollution of the Grand River, and that levels of dissolved oxygen have remained high enough to support sensitive macroinvertebrates.

An Adopt-a-Stream volunteer holds two specimens of benthic macroinvertibrates taken from the Grand River.

The Crucial Role of "Citizen Scientists"

Even when the financial condition of the State of Michigan was strong, the Michigan Department of Environmental Quality (MDEQ) was only able to monitor the Grand River every five years and the number of sites sampled was limited. Surveys conducted by the MDEQ had broadly indicated where the Grand River and its major tributaries were unhealthy (the Portage Drain) and quite healthy (Sandstone Creek). With the addition of surveys conducted yearly and in many more locations (depending on the number of volunteers), a more precise determination can be made of various stretches of the Grand River, and yearly variations can be detected. Already the success of Adopt-A-Stream has been recognized by MiCorps (Michigan Clean Water Corps Program) and has awarded funding for further data

Adopt-a-Stream volunteers identify various families of the aquatic insects collected from the Grand River.

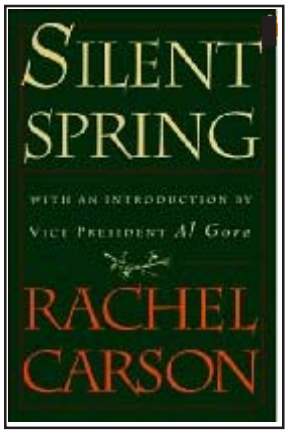
collection and analysis. According to Paul Rentschler, head of the Upper Grand River Watershed Alliance, "We already have sites in Jackson and Ingham Counties, we plan to add sites at both the upstream and downstream ends of the river in Hillsdale and Eaton Counties."

Origins of "Citizen Scientist" Movement

The Audubon Society has recognized the importance of scientific data gathered by ordinary citizens for over a hundred years, but even they stumbled upon this practice almost by accident. In 1900 ornithologist Frank Chapman organized the first Christmas Bird Count in

Army of "Citizen Scientists"

opposition to the popularity of the Christmas Bird Hunt during which thousands of birds were shot in one day. Instead of killing birds, Chapman asked participants to record all the birds and all the species they saw in one day. Today Christmas Bird Counts, by thousands of citzen scientists across the nation, have contributed immensely to our understanding of the relative health of bird species, and of the environment in general. For example, although Rachel Carson (author of *Silent Spring*) may have observed that *springs* in the late 1950's were more *silent* than they had been in previous years, her observations were certainly confirmed by hard data citizen scientists in the Audubon Society and others had collected since the early 1900's. Bird numbers were indeed declining, especially predatory birds such as eagles and hawks. Something lethal had been introduced to the environment at large, and the culprit was found to be DDT.



A Nation of "Citizen Scientists"is Needed

The term citizen scientist refers to anyone who helps to gather data for a scientific research effort. Citizen scientists are not paid for their work, nor are they necessarily even scientists, although some may be scientists or science teachers and their students. Most, however, are amateurs who volunteer to assist ecological research because they love the outdoors, are concerned about the environment, and want to do something to help.

"Using volunteers is a really neat way to help people learn about science and wildlife, says Pete Marra, ornithologist and research scientist at the Smithsonian Migratory Bird Center. "There is no way I could ever afford to hire enough field technicians or recruit enough students to cover such a large area." Ricki Ferrence, of Front Royal, Virginia says, "I love hiking in the wild. I love being out in the woods. It's a good excuse to get me out of the office and into Shenandoah National Park and on the Appalachian Trail. I love it that someone is taking my data and making use of it."

The USA-National Phenology(science of climate's effect on plants and animals) Network uses observations made by volunteers about seasonal events, like the flowering of plants and when trees fruit, to track the effects of climate change. "This program is designed for people interested in participating in climate change science, not just reading about it," said USA-NPN Jake Weltzin. "We encourage everyone to visit the USA National Phenology Network web site, and then go outside and observe the marvelous cycles of plant and animal life." The data collected will be important in understanding how climate change is affecting seasonal cycles and therefore human life. Using volunteers from all over the place will greatly increase how much data comes in to be analyzed.

If the idea of being a "citzen scientist" sounds interesting to you, the Dahlem Center has many programs in addition to Adopt-A-Stream that seek volunteers to collect data on birds, insects and flowers. Dahlem's People for Wildlife coordinator Gary Seigrist is looking for participants in the Feeder and Nest Watch Program, the Great Backyard Bird Count, Monarch Butterfly Tagging, and the Purple Martin Recovery Project. "Finding any species of animal or plant that is special helps preserve the area around its habitat, says Gary.

Jackson High School students organize samples collected from the river in downtown Jackson.

Linda Hutchinson Has a Different Perspective on Rivers

Most people know rivers from the perspective of the river's banks. Those of us in GREAT have the added perspective of knowing a river from a kayak or canoe. GREAT member Linda Hutchinson knows the area's rivers from yet another perspective—the air. Flying out of Napoleon Airport, Linda takes her Cessna 150 named "Betty" over the area's rivers "Mostly to see where they go." And if they look interesting she marks the location on one of her maps and comes back with her kayak to get a close-up view. Sometimes, however, it is just the opposite. For instance, Linda went with GREAT for the May trip on the River Raisin from Sharon Hollow to the Manchester Dam in her kayak. But she was curious about the course of the river beyond Manchester, so a short time later, Linda picked up the Raisin in Manchester and flew over it toward Clinton and Tecumseh on its journey to Lake Erie.

Linda Hutchinson sits at the controls of her Cessna 150.

Linda credits her father, Lewis Lockwood, for familiarizing her with flying as he frequently took her along in his Aeronca Champ which he kept at their centennial farm in Leoni Township. As a youth, Linda loved flying as a passenger with her dad, but it never occurred to her that she could fly an airplane herself. She remembers that her father often landed on the frozen local lakes to chat with the ice fishermen and sometimes take them up in his two seat airplane. This meant Linda was left behind in their ice shanties until they returned. She still has memories of being alone in a darkened ice shanty staring down at fish through water illuminated by the sunlight.

The urge to pilot her own airplane did not arise until the mid nineties when her children were mostly grown. She began taking flying lessons through Jackson Community College on a sporadic basis as she could save enough money for another class. In an unusual but fortunate twist of events, Linda became the owner of the 1969 Cessna 150 before she had completed her pilot's license. It seems a close friend, who knew Linda would eventually be in the market for an inexpensive airplane, happened to fly into the Fowlerville Airport and noticed the Cessna 150 with a *For Sale* sign on it. As it turned out, the market for small airplanes must have been rather weak at the time, because Linda was the only person to express an interest. As a result, she was able to purchase it for about the cost of a compact car. Once she owned the airplane, friends who were certified flight instructors helped her complete the required lessons with minimal cost, and she received her private pilot's license in 1997.

Linda and "Betty" have explored many area rivers together.

Besides scouting the area's rivers, Linda occasionally joins her fellow pilots as they fly to other rural airports like Napoleon where there is restaurant within walking distance for a "pilot's breakfast." Her father, now 97, will sometimes accompany her, but he no longer flies his

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own airplane. Linda says she rarely flies any appreciable distance, although she has landed in airports in Ohio and Indiana. When asked if she has ever flown her airplane over one of the Great Lakes she says few of

Linda points out the mandatory pilot communication zone around Jackson County Airport.

the single-engine airplane pilots she knows ever fly over big water. "If a small airplane encounters problems during flight they can land almost anywhere, but if you are over big water there is no chance to land."

Asked if she ever encountered an emergency situation while flying, she said no, but she recalled one scary episode as a youth when she was flying as a passenger with her father. "We were coming back home from someplace up north when a huge black storm appeared on the horizon to the south. So my father turned around and headed back north, only to confront another storm headed south. We were stranded between two huge fronts. My father found the small airport at Owosso and landed. The folks there recognized our predicament and helped us tie the plane down. We sat out the storm, and when it passed, we took off again and made it home safely."

We feel fortunate to have Linda Hutchinson among the membership of GREAT. Her continuing enthusiasm and concern for the area's rivers and lakes is typical of many of GREAT's supporters. It is especially gratifying to know that as we keep watch over these resources from ground level, Linda will be watching them from the air.

Local Officials Study Storm Water Diversions

By Bryon Ennis and Paul Rentschler

In the urban and sometimes the suburban areas of Jackson, we channel water from rain and snow directly into the Grand River and its tributaries. In the past months, officials from area water departments, waste water departments and the drain commissioner's office have been studying ways to keep storm water on the land and therefore out of the river. Information has been available in the form of web casts arraigned by Paul Rentschler an environmental scientist from ASTI Environmental, assigned to the Upper Grand River Watershed Alliance.

One particularly useful web cast demonstrated how communities around the country have employed storm water retrofits to divert a portion of the sediment and pollution away from river systems. Storm water retrofits are treatment or storage practices installed in areas that are already developed, where either no treatment practices existed previously or where an existing practice is ineffective. Because they are employed within the built environment, where there may be little room for construction, storm water retrofits tend to be small and treat smaller drainage areas. Their purpose is to remove pollutants, better mimic the natural hydrology, and/or minimize stream erosion.

A retrofit essentially disrupts, rather than entirely replacing, the old storm water systems (usually large pipes buried underground) that communities such as Jackson have in place. Some methods shown in the web cast were as simple as disconnecting roof drains from the storm water system, and constructing holding ponds in order to allow storm water time to evaporate into the air and seep into the ground. A bit more expensive and complex measure, where there was no room for holding ponds, was to remove some of the impervious surfaces (streets and parking lots) and replace them with crushed rock, or paving stones in order to allow storm water to stay in place and return to the earth.

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Mini-Cleanup, Continued from page 3

recyclable trash would be hauled to the Liberty Landfill. In addition, Mike recruited a dozen local residents, primarily from the Lions Club, to help with the clean-up.

The Vandercook mini river clean-up was a very positive and rewarding project in several respects. It was now apparent that citizens beyond the membership of GREAT are in some ways monitoring the river, and reporting the presence of unsightly debris. Local citizens were also willing to help remove trash from their portions of the river, and it is becoming apparent that many citizens have recognized the value of the river as a natural resource to preserve, protect and promote.

Local Officials, Continued from page 7

A yet more expensive and complex method (but still not as expensive as replacing an entire storm water system) was to break into the existing system and bury a series of oversized water tanks designed like septic tanks which would allow much of the sediment and polluting elements to settle out and be filtered out. The cleaner storm water would then flow back into the existing system. These ingenious systems used gravity to move the water and thus required no electricity.

Communities like Jackson have come a long way since they considered a river passing through town as merely a convenient sewer. The Grand River usually runs clear now, but after a precipitation event, we have seen our river grow opaque. This is the sediment and pollution from the land that will one day have to be checked, because we must respect those who live downstream from us, and because all our rivers empty into the Great Lakes.

Paul Rentschler invites all interested citizens to attend the next webcast on soil and erosion on December 15 at 2 p.m. on the second floor of the Water Department building at 215 Water Street in Jackson.

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Jon Boat Needed

After nineteen years conducting river clearings and clean-ups, the GREAT board has decided to seek a Jon boat for future river work. A Jon boat is a flat-bottomed row boat with a square bow. It is very stable on the water and provides more carrying capacity (for tools and trash) than canoes. If you know of a Jon boat in good condition, or would like to make a contribution of money for this purpose, please contact GREAT at 517-416-4234 or grand@great-mi.org . GREAT is a registered 501 c 3, tax exempt organization.

Thanks, Dahlem!

Another paddling season is over and the GREAT boats are sheltered from the storms of winter under a solid roof. GREAT would like to thank the Dahlem Nature Center for allowing us to park our boats in their farm barn. GREAT looks forward to another boating season with you on the area's lakes and streams in 2010.