Aquatic Invertebrates
by Jennifer Maigret

Starting this spring, NAP and the staff of the Leslie Science Center (along with the help of some very enthusiastic children) rolled up our sleeves and dove into a project to quantitatively survey the invertebrates teeming in Black Pond’s waters. Every spring and summer the Leslie Science Center focuses many of its environmental education programs around Black Pond’s rich glacial history, water ecology, and plant and animal biodiversity. When all is said and done each year, hundreds of children have visited the pond and had a chance to glimpse a fairy shrimp or scoop up a cup full of Daphnia!

Although the science center has established rules regulating the proper handling and return (to Black Pond) of the critters the children see, there had been little data collected about the various invertebrates found in the pond each year. With so many sharp eyes and quick hands visiting the pond, it was clear that this was a terrific opportunity to involve the children in some “scientific research.” The data the children collect will be used to guide management decisions and to preserve Black Pond Woods’ diverse ecosystem. So roll up your sleeves, grab a small container and come along for a quick tour of what you, too, might discover in a single scoop of water from Black Pond.

In early spring, just as the ephemeral wildflowers begin their show, the pond is already bustling with life. During the dark hours this is painfully obvious as the calls of the spring peepers become so loud that your ears ring with each peep. After the sun rises and the pond quiets down (audibly), you can begin to observe the visual wonders. Fairy shrimp are one of the most spectacular of the invertebrates found in Black Pond. The first thing you might notice about these delicate little creatures is that they swim upside-down! They measure about an inch long and propel themselves through the water by using eleven feathery appendages that also function for respiration and food manipulation. Fairy shrimp have no carapace (a hard, shell-like
Coordinator’s Corner: Eyes and Ears

Take a look at nearly any city, county, township, or utility company truck driving around town and you’re likely to see the orange “eyes and ears” logo. This logo informs Ann Arborites that they can go to the driver of that vehicle if they want to report an emergency situation to the police. The police cannot possibly see everything that goes on around town, and they rely on us to help be their eyes and ears.

Staff of the Parks and Recreation Department have a similar need. With 142 city parks scattered around town, we can’t keep as close an eye on each park as we’d like. Those involved with NAP—both staff and volunteers—are often the best eyes and ears for the department’s natural areas, especially the more remote corners of our 1000 acres of natural parkland. These are areas where many people don’t roam unless they are surveying for breeding birds, butterflies, frogs or plants; conducting a burn; doing photo-monitoring; pulling garlic mustard; or engaging in some other NAP-related activity.

As guardians of the city’s natural areas, we in NAP are very interested in knowing if you see something that doesn’t look quite right in a park. This includes encroachment on park property by neighbors, dumping of yard waste in a park, establishment of new trails, illegal cutting of trees, or any other suspicious activity. While we are not set up to issue tickets for such offenses, we can investigate them and notify the appropriate parties.

Of course, we’re not just looking for negative comments. It’s certainly a lot more fun to hear about a great wildflower display that you stumbled upon, a rare butterfly you spotted, or other interesting sightings. These are your parks. Enjoy them. And please, share your concerns and your highlights with us.

Dave Borneman, Natural Area Preservation Coordinator

NAP-penings

You may have noticed some new bluebird houses in Ann Arbor’s parks this spring. These were constructed by Boy Scouts, and many of the houses were erected by volunteers from Greenhills School Outdoor Leadership Club. The houses will provide important breeding habitat for these beautiful birds.

One of our most dedicated volunteers, Brian Glass, is in the process of creating a brochure for Cedar Bend Nature Area, his neighborhood park. We appreciate his long hours of researching, writing, and designing and look forward to sharing the completed product with the public! (See “Park Focus: Cedar Bend Nature Area” on page 7.)

Beverly Shepard and Pat Falconer are NAP’s first ever photo-monitoring volunteers. They’ll be taking pictures in Ann Arbor’s natural areas to help document the effects of NAP’s restoration work.

Anita Erskine has taken on the formidable challenge of maintaining the native plant exhibit garden at Furstenberg Nature Area this summer. It is a large garden, so any additional help would be much appreciated. Call the NAP office if you’re interested!

A.C. Tanner, veteran purple loosestrife control volunteer, joined NAP’s Garlic Mustard Watch this spring. He has logged many hours monitoring and pulling the invasive garlic mustard in several of Ann Arbor’s wooded natural areas.

Steve Bean is NAP’s newest park steward. He’ll be caring for Fritz and Hansen Parks. With NAP’s guidance he’ll engage in restoration projects such as invasive plant control, gypsy moth monitoring, and removing yard waste and litter from these parks. Call the NAP office if you’d like to become a steward for one of Ann Arbor’s natural areas!

Two Eagle Scout projects are underway in our natural areas this summer. Eagle Scout candidate Stewart Hedberg will coordinate the construction of a deer exclosure. The exclosure will keep deer out of a 10 m x 10 m area, allowing us to see the impact deer have on local vegetation. Eagle Scout candidate Devin Riker will coordinate the construction of a new footbridge at Dolph Park.

NAP is thrilled to welcome back a group of Missionaries from the Church of Jesus Christ of Latter Day Saints this season. They will be volunteering one morning a week with NAP. So far this year they have pulled massive amounts of garlic mustard and have been clearing non-native shrubs from the future site of a trail connecting Bandemer and Argo Parks.
Goose Control Update
by Kirsten Condict

You may have read in the spring newsletter that NAP has been researching Canada goose control techniques to reduce human-goose conflicts in Ann Arbor's parks and golf courses. Studies conducted by the Michigan Department of Natural Resources (DNR) and other agencies indicate that the most effective means for deterring geese from an area incorporate a combination of techniques, rather than relying on a single method. Methods we are currently investigating include vegetative barriers, exclusion fence, use of border collies, and egg replacement.

In order to carry out an egg replacement program, the City must first undergo a banding and collaring study by the DNR. The study will help experts determine what percentage of Canada geese in this area are migrants and which are residents. The study's outcome will determine if the City is eligible for the egg replacement program. So, if you see geese with bands and collars around Ann Arbor this summer, rest assured they are not making an ill-fated fashion statement. More than likely they are helping researchers determine their breeding and migratory patterns. The City will use this information to adopt the most effective, humane program to discourage Canada geese from nesting and foraging in City parks. Please call (734) 996-3266 for more information.

Friends of Traver Creek
by Kirsten Condict

As NAP grows, so does our involvement with community groups. This winter the Huron River Watershed Council invited NAP to participate in the formation of Friends of Traver Creek—a citizen group dedicated to protecting and improving the health of Traver Creek. Traver Creek is a tributary of the Huron River. With a basin of seven square miles in northwest Ann Arbor and Ann Arbor Township, the creek begins in farmland and meanders through increasingly urbanized areas before joining the Huron River at Island Park.

NAP’s offices at the Leslie Science Center situate us in the heart of the Traver Creek Watershed. Thus, we feel a special responsibility to help protect and improve the quality of this valuable resource. Our activities, like those of all other community members in the watershed, impact this delicate stream. When it rains, for example, rainwater carries fertilizers, other chemicals, dirt, and debris from nearby lawns, parking lots, and streets into Traver Creek. These contaminants can have grave impacts on a small stream like Traver.

Fortunately, Traver Creek is in good condition relative to other streams in the Huron River Watershed. However, increased development and residential growth within Traver’s basin during the last decade have still taken their toll. The reduction of woodlands, wetlands, and meadows has impacted the watershed greatly, resulting in a creek that suffers from eroding banks, increased siltation, fallen trees, and decreased diversity of wildlife living in and around the stream.

With new developments underway and even more slated for the upper creekshed, Traver faces increasing pressures. However, with your help we can protect and restore this valuable stream. Come join us June 5 for an Invasive Species Removal Workday along Traver Creek in celebration of Southeast Michigan River Day. We will gather at 11:00 am at the Leslie Science Center, 1831 Traver Road. For more information about Friends of Traver Creek, please contact the Huron River Watershed Council at (734) 769-5123 or travercreek@yahoo.com.
Staff Updates

My name is Michelle Barnwell, and I am one of the new conservation workers. I graduated from Eastern Michigan University this past December with a B.S. in Earth Science and Coastal Environments. It has been an exciting spring working with NAP. I’ve learned so much about the native and non-native flora in the Ann Arbor parks. With all their diversity, I still have much to learn! I look forward to spending this summer and fall working outdoors.

Hi! My name is Kirstin (a.k.a. Kee) Condict, the new NAP Technician. I received my bachelor’s degree from Duke University and my master’s degree in Natural Resources from the University of Michigan. Since graduating, I have worked with several different organizations including the National Wildlife Federation, the Massachusetts Audubon Society, GREEN, and the Dahlem Environmental Education Center. Around town you may spot me running with my dog, biking, playing soccer, or grabbing an ice cream cone at the dairy. I am very excited to be working with NAP and look forward to meeting all of our volunteers on whom we depend so much to help us in our restoration efforts.

Eric Crawford is NAP’s new herpetologist. A graduate student at Eastern Michigan University, his wealth of experience with amphibians will be an asset to NAP as he coordinates this year’s frog and toad survey.

My name is Brian Killian, and I’m one of the newest members of NAP as a conservation worker. I recently graduated from the University of Michigan with degrees in Resource Ecology & Management and Geology. My interest in NAP stems from past experiences in the city’s parks, which I have used both as a classroom and a place to recreate.

I’m Mallory Tackett, a new NAP conservation worker. I, too, am a recent graduate from the University of Michigan’s School of Natural Resources and Environment. I’ve had many opportunities to study and work outdoors, but I’m still learning something new every day at NAP. I look forward to seeing you out in the parks this summer!

Aquatic Invertebrates (continued from page 1)

covering) and have transparent bodies. If you catch one, look closely to see its red coloration, from the hemoglobin in its blood, and the pulsing of its long, tubular heart.

Aside from the charismatic fairy shrimp, Black Pond is also home to thousands of tiny Daphnia, also commonly referred to as water fleas. The common name “water flea” given to these almost microscopic critters is a misnomer since Daphnia are crustaceans and fleas are insects. Daphnia are encased in a transparent shell and have two sets of antennae, one of which is used for locomotion. Due to their rounded shape and the position of their propelling antennae, Daphnia often swim in erratic loops or spirals.

Fairy shrimp and Daphnia are animals that live in the water column of the pond, but there are also many creatures that live above them on the water’s surface or below them in the leaves and mud of the pond’s bottom. One of the invertebrates found among the leaf litter of the pond floor during spring is an insect most people are more familiar with during the hot, lazy days of mid July—dragonflies. Dragonfly nymphs, or “naiads,” spend the winter and spring under the water’s surface but by summer have transformed into iridescent, winged predators circling around the surface of the pond and alighting on water plants. As naiads they can be identified by their squat body shape and the absence of any visible external gills. Look also for the six legs characteristic of insects and mouthparts located underneath the head.

Finally, it’s time to dry off a bit, sit back, and relax on the boardwalk to watch water striders skate along the pond’s surface as if it were still frozen. Water striders are insects classified as true bugs. Although the term “bug” is often used interchangeably with insect, this is no more correct than calling all insects beetles. By looking more closely at a water strider, you will see some of the characteristics that it and other true bugs possess. Bugs are winged insects, and although you are unlikely to see a water strider use them, you will notice that the wings are hard or leather-like on the upper half and transparent or membranous on the lower half. The wings lay flat on the insect’s back, so often they are overlooked. Water striders are also fierce predators and will dive below the surface to capture other insects with their piercing mouthparts.

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Workday Note: Long pants and sturdy shoes are strongly recommended.

Bird Walk Note: All skill levels are welcome. Please bring your binoculars! Walks will be cancelled in the event of rain.

JUNE
June 5, Saturday
Bird Walk
Barton Nature Area, 7:30 am
Meet at the Barton Dam parking lot off of Huron River Drive.

June 5, Saturday
Volunteer Stewardship Workday
Southeast Area Park, 10:00 am-1:00 pm
Celebrate National Trails Day by joining NAP in creating a new nature trail in Southeast Area Park! Meet at 10:00 am at the paved area between the restroom and the playground (it will be visible from the main parking lot off of East Ellsworth Road, just west of Platt Road).

June 5, Saturday
Traver Creek Workday
Leslie Science Center, 11:00 am
In celebration of Southeast Michigan River Day join the Friends of Traver Creek in this invasive species removal workday! Meet at the Leslie Science Center, 1831 Traver Road, at 11:00 am.

June 9, Wednesday
Bird Walk
Ann Arbor Landfill Property, 7:30 am
Meet at the small parking area at the Platt Road entrance.

June 19, Saturday
Bird Walk
Marshall Nature Area, 8:00 am
Meet at the parking lot off of Dixboro Road.

June 19, Saturday
Volunteer Stewardship Workday
Black Pond Woods Nature Area, 10:00 am-1:00 pm
Help maintain and improve trails at Black Pond Woods! Meet at 10:00 am at the Leslie Science Center parking lot, 1831 Traver Road.

June 30, Wednesday
Volunteer Stewardship Workday
Greenview Park, 6:30-8:30 pm
Join us in removing invasive shrubs to improve conditions for native plants! Meet at 6:30 pm at the park entrance off of Greenview Drive.

JULY
July 11, Sunday
Huron River Day
Gallup Park, 8:00 am-4:00 pm
Join the Butterfly Walk at 8:00 am, the Plant Walk at 10:00 am, and the Purple Loosestrife Pull any time between noon and 4:00 pm. See the enclosed brochure for details!

July 21, Wednesday
Volunteer Stewardship Workday
Bandemer Nature Area, 6:00-8:00 pm
Help control purple loosestrife, a non-native plant invading our wetlands! Meet at 6:00 pm at the Bandemer parking lot across the bridge (off of Whitmore Lake Road).

July 28, Wednesday
Volunteer Stewardship Workday
Bandemer Nature Area, 6:00-8:00 pm
Purple loosestrife beware! We'll continue controlling this invasive plant along the Huron River at this workday. Meet at 6:00 pm at the Bandemer parking lot across the bridge (off of Whitmore Lake Road).

AUGUST
August 7, Saturday
Volunteer Stewardship Workday
Fritz Park, 10:00 am-1:00 pm
Join us in removing invasive shrubs! Meet at 10:00 am at the shelter in the middle of the park. Parking available along Russett Road.

August 18, Wednesday
Volunteer Stewardship Workday
Lakeview Nature Area, 6:00-8:00 pm
Help remove invasive shrubs during NAP’s first ever volunteer stewardship workday at Lakeview Nature Area! Meet at 6:00 pm at the park entrance on Sunnywood Drive.

SEPTEMBER
September 8, Wednesday
Volunteer Stewardship Workday
Miller Nature Area, 5:30-7:30 pm
Join NAP in improving trails at Miller Nature Area! Meet at 5:30 pm at the park entrance on Arborview Boulevard.

NATURE ACTIVITIES
NAP, in conjunction with Gallup Park, will be leading several nature activities this spring. On-site registration is available on a first come, first served basis, or mail in a registration form (from the Parks and Recreation Dept. Spring/Summer brochure) at least one week in advance to pre-register. For more information call 662-9319 (Gallup Park) or 668-7411 (Argo Park).

Wetlands by Canoe—Gallup Park
Paddle by canoe and discover the wetland areas of the Huron River. Guided tour with refreshments upon completion. $7.50/person ($12.00/couple)

Early Bird Walk—Gallup Park Meeting Room
Join this bird identification walk in Furstenberg Park. Bring your binoculars! Refreshments will be provided. Meet at the Gallup Park Meeting Room. $2.00/person

SPECIAL VOLUNTEER OPPORTUNITIES
NAP is looking for volunteers to help staff our display at Huron River Day, July 11. Work alongside NAP staff providing information to the public and selling our native landscaping brochures. This is a great opportunity to talk with others about the great work you are doing with NAP! Please call the NAP office at 996-3266 to volunteer!

It’s not too late to get involved in NAP’s breeding bird and butterfly surveys! Call the NAP office for more information.

We’re looking for one or more volunteers to help maintain the native plant exhibit garden at Furstenberg Nature Area. Call the NAP office to volunteer!

Join the Purple Loosestrife Patrol! See page 8 for details.
Hot Time in the City: 1999 Spring Burn Season Report
by Dave Borneman

“April is the cruelest month.” I think T.S. Eliot said that. Perhaps he was talking about our spring 1999 prescribed burn season. After March gave us a tremendous stretch of dry weather to help get the burn season started, it looked as if this spring would be a record-setter for us. But April showers made up for the March drought, and the burn season ended up being just very good, rather than incredible. (I think I heard that we had 22 days without rain in March, but this April was one of the wettest on record!)

Fortunately, we were ready for the start of the March dry spell. We ran 35 people—the most ever—through our half-day burn training on March 11. We officially started the burn season on March 19 with a big burn double-header: The Furstenberg Sedge Meadow and the Dolph Bog. Veteran volunteers such as Steve Bean, Barbara Powell, and Jan Wolter showed the new NAP staff how to lay down a good fire line with drip torches. What the new staff may have lacked in drip torch finesse, however, they easily made up for in leaf blower and brush blade expertise, blazing burn breaks as fast as I could flag them. That wasn’t an easy task, considering that 5 of the 12 burn units we did in March had never been burned by NAP before and, thus, required extra effort to create good burn breaks through the many dense buckthorn thickets.

Staff and volunteers also became very proficient with the use of backpack sprayers, pulaskis, and other tools used to extinguish smoldering logs and trees. Unfortunately, the dry weather that made the forest leaf litter so suitable for burning also made the down logs just as flammable. Thus, March was “mop-up” month. It was not unusual for the burn itself to take 1 hour and the following mop-up to take another 3-4 hours before all the smoldering logs were put out. That’s one of the challenges of burning in an urban environment where leaving logs to burn themselves out is frowned upon.

The final statistics look something like this: We burned about 100 acres in 19 burn units which ranged in size from .1 acre to over 12 acres. Two-thirds of that acreage was woodland (which we were fortunate to get to in March before many of the wildflowers were up). This total acreage is only about half of what we did in 1997, and there are good reasons for that. Since 1997 we have established a rotation of burning where we let an area rest for several years between burns. Thus, some of our largest burn units were skipped this year. We have also reduced the size of many of our burn units to leave unburned “refugia” for butterflies and other invertebrates.

All in all, it was a very good burn season for us. We were able to get fire into some nice woodlands that really needed it to control garlic mustard and non-native shrubs. These burns take a lot of time and effort, and we are indebted to the 20 volunteers who worked at one or more of the burns this season. Truly, we couldn’t have done it without them. So if you see these volunteers wandering around sporting handsome “BURN CREW” t-shirts, give them your respect; they’ve had a busy spring caring for your natural areas!

Aquatic Invertebrates (continued from page 4)

There are many more invertebrates inhabiting each and every niche of Black Pond, and there are plenty of books available at bookstores and libraries that can provide further information about identification and natural history. Regardless of whether or not you are able to identify everything you see in the pond, an afternoon of exploring is an enjoyable way to catch a glimpse of the invertebrates playing a hand in the management and preservation of Black Pond Woods.
Park Focus: Cedar Bend Nature Area
(excerpts from Along the Huron and an upcoming brochure by Brian Glass)

Cedar Bend is one of the oldest parks in Ann Arbor. It was designed in the early 1900s by landscape architect O.C. Simonds, who also designed the Nichols Arboretum. Simonds was a pioneer in the art of designing landscapes to look natural, and Cedar Bend was a showcase for his talents. In a report to the Ann Arbor Parks Commission in 1905, O.C. Simonds wrote of Cedar Bend, “...one gets beautiful views of the city and valley of the Huron. The river banks and portions of the hillside are covered with attractive native trees and shrubs. Every city should try to secure for posterity an attractive native woodland. It is not so important to develop the park by introducing carefully kept lawns and flower beds, but it is important to retain the native growth.”

The entire wooded portion of the park is dry forest, although not as open as it once was, as indicated by several large, spreading trees now being crowded by younger competitors. Unfortunately, like many of our natural areas, Cedar Bend’s native flora also faces competition from invasive, non-native plants such as honeysuckle (Lonicera), common buckthorn (Rhamnus cathartica), and garlic mustard (Alliaria petiolata). In all, 194 species of plants have been recorded in Cedar Bend, including the state threatened upland boneset (Eupatorium sessilifolium). Of these, 143 species are native.

In summer you may see the large yellow urn-like flowers of smooth false foxglove (Aureolaria flava) strung along its robust leafy stalk. This plant grows in association with oak trees, on which it is said to be semi-parasitic. Along the slopes are the well-named hillside blueberry (Vaccinium pallidum), a small shrub with berries too small and sparse to inspire jam-making.

The main east-west trail offers an excellent cross section of the park, transecting the dry forest dominated by oak (Quercus) and hickory (Carya). As the trail crosses a ravine in the center of the park, the temperature drops slightly. This area supports a slightly richer array of plants cascading down the slope along the water course. Here you can find skunk-cabbage (Symplocarpus foetidus), Jack-in-the-pulpit (Arisaema triphyllum), and alternate-leaf dogwood (Cornus alternifolia), the one dogwood shrub which does not have twigs arranged on opposite sides of the branch.

Wildlife abounds in the park, as well. Cedar Bend is used both by resident birds, such as woodpeckers, and by tropical migrants, including several species of wood warblers. Nesting Cooper’s Hawks are one of the park’s highlights. The most conspicuous mammals are fox squirrels and chipmunks. However, deer can occasionally be seen.

If you have an opportunity to visit Cedar Bend this summer, take it! The park’s rich natural and human history truly make it one of Ann Arbor’s treasures.
The Purple Plague
by Courtney Babb

It’s an amazing summer day. Billowy cumulus clouds whisper across the azure sky. The Huron laps, laps, laps against the side of the canoe, it’s gentle current drawing you through some of Ann Arbor’s most spectacular natural areas. Then suddenly, without warning, its guile beauty strikes! It’s purple loosestrife, the wetland menace, the purple plague.

Purple loosestrife (*Lythrum salicaria*) is a perennial, wetland plant native to Eurasia. It was brought to New England in the early 1800s and is suspected to have been brought intentionally as an ornamental or accidentally in the ballast of ships. It was considered a medicinal plant and was welcomed as a source of nectar and pollen for beekeepers (though the honey quality is poor). Nicknamed the “purple plague” because of its rampant spread and purple flowers, a single healthy, mature plant can produce 2.7 million seeds per year. Mature plants can also propagate vegetatively by root and stem segments.

“What’s wrong with that?” you may wonder. Absolutely nothing when purple loosestrife is in its native habitat. But it’s a huge problem when the plant is in North America, a region absent of the insects and diseases that control purple loosestrife in Eurasia. Without its natural population controls, purple loosestrife takes over, out-competing our native wetland plants, including some endangered orchid species. Additionally, purple loosestrife is a poor food source for animals, and its stiff, dense stems provide poor habitat for waterfowl. Its stems can also collect silt and debris, changing shallow aquatic habitats (essential for frogs, toads, and salamanders) into terrestrial habitats.

What can you do about it? Join NAP’s **Purple Loosestrife Patrol** this summer! We’re looking for volunteers to control purple loosestrife by hand pulling and snapping off its flowering heads. Volunteers will adopt natural areas to monitor as their schedule allows. Training will be provided. Please call the NAP office at (734) 996-3266 to sign up or for more information.