

# YOUTH ROOTS, COMMUNITY CANOPY

A GUIDE TO WORKING WITH TEENS ON FOREST  
MANAGEMENT ACTIVITIES



# COMMUNITY GROUNDWORKS

Community GroundWorks is a nonprofit organization that connects people to nature and local food. Through hands-on education, children and adults learn gardening, urban farming, healthy eating and natural areas restoration. Organized in 2001 as The Friends of Troy Gardens, Community GroundWorks, based in Madison, Wisconsin, serves diverse communities and schools across the region.

For more information, visit [www.communitygroundworks.org](http://www.communitygroundworks.org) or call (608) 240-0409.

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The mission of the Wisconsin Environmental Education Board is to provide leadership in the development of learning opportunities that empower Wisconsin citizens with the knowledge and skills needed to make wise environmental decisions and take responsible actions in their personal lives, workplaces and communities.



# GETTING TEENS OUTDOORS

“One of the main problems we struggle with as at-risk educators is our students’ apparent isolation. Our kids often have difficulty forming lasting relationships, leading to social isolation. They also frequently seem to lack a sense of connection to their surroundings, especially to the natural world. These two factors combine to drive much of their attention inward where unresolved issues can make them feel frightened and low on self esteem. Their attention is also driven outward to video games and other forms of electronic entertainment- junk food for the brain.

Something unusual happens, however, when we get our kids out into the garden for an afternoon. It’s as if they are finally allowed to “come home”. The natural world vibrates a little more slowly and peacefully than the virtual realities into which they are continuously plugged. I’ve seen that calming effect settle in our at risk students after an hour working in the prairie. What was, just a moment ago, a ‘dirty field full of itchy weeds’ becomes a transcendent, multi-sensory experience featuring the smells of the prairie flowers, the sound of a hawk screeching as it flies, the afternoon sun on autumn maples.” - Maurice Smith, Teacher, Monona Grove Alternative School



At Troy Gardens, we feel it is important to give teens a place where they feel a sense of ownership and belonging. We enjoy helping people interact with others that they wouldn’t usually interact with. We have found that teens may initially show a resistance to hard work. Once they start working outdoors they will often get absorbed into the tasks, especially when we allow the teens to take ownership over a project. We let them choose where they build a trail or which invasive species they remove that day. When they become decision makers, they gain confidence that shows on their faces.

When teens come to work with us at Troy Gardens, we often include educational activities as well as land maintenance tasks. Teens sometimes keep a field notebook throughout their time with us to record details about the day, knowledge gained, or feelings about the experience. After a hot day removing sweet clover, one teen wrote, “Today we split into groups. Half supposed to pick white & yellow clover. Pulling clover is a little rough as they are pretty tough plants but it gets easier for some reason.” Another teen reflected in his field notebook, “We witnessed what most of us assumed was an American Goldfinch fight on our bird walk this morning. We stopped briefly near the oak savannah to rest and there were roughly half a dozen goldfinches loitering at the Queen Anne’s Lace and mulberry trees. As we watched two of the males, identified from their strikingly yellow plumage, (they) suddenly launched themselves into the air and engaged in a seemingly vicious, but brief, aerial battle.” As a result of recording these types of observations in a journal, teens will be more likely to engage in stewarding our natural areas because they have witnessed their value firsthand.

# ORGANIZING TEEN GROUPS

Community GroundWorks is often host to educational and non-profit groups that serve teens. These groups include: United Way, Youth Services of Southern Wisconsin, Madison Metropolitan School District, Madison School & Community Recreation, Monona Grove Alternative School, and Future Farmers of America. Groups typically send 5-30 individuals to Community GroundWorks' flagship site, Troy Gardens, to perform non-skilled labor maintenance tasks such as weed-whacking, invasive species removal, brush clearing, and mulching. These tasks are best accomplished when group strengths (timeframe, number of individuals, training, and ages) are matched to particular tasks.

Here are the steps we keep in mind when planning activities for a group:

1. Start with clear learning and management objectives.  
Begin by asking: What are the management tasks that need to be completed? Examples include:
  - Buckthorn removal
  - Garlic mustard removal
  - Trail building
  - Tree pruning
  - Tree wrappingWhat are the learning goals of the forest activities? Examples include:
  - Definition of invasive species
  - Differences between Creeping Charlie and Garlic Mustard
  - How to Use a Weed WrenchWhat is the time frame for the project? Be sure to match groups with a project that can be successfully completed in the time available.
2. What are the characteristics of the group? Things to consider:
  - Size of group
  - Type of group (community service or honors club?)
  - Purpose of visit
  - Previous experience
  - Special needs

Large groups can perform large scale tasks such as trail building and garlic mustard removal. Small groups are better suited to specialized tasks such as tree pruning or tree wrapping.

We have had great success with a group from the Wisconsin Department of Juvenile Corrections with trail building projects. These group members love ripping out vegetation to clear the trail and can spread tons of mulch in a day. We had a disastrous day when the same group did tedious office tasks that involved sticking labels on packages. They had a very difficult time with tasks that required fine motor skills and attention to detail. The Monona Grove High School Environmental Club did a wonderful job removing invasive species because of their interest in plant identification.

3. When the group arrives:
  - A) Have the participants and staff introduce themselves. Depending on the learning objectives, we often ask a question such as, "Have you been to Troy Gardens before?" or "What wildlife do you think we might spot in the woods today?"



B) Explain the site, the history of the site, and the various groups who use the site. Point out the bathroom and where students can get drinking water.

C) Introduce the tasks for the day and put the tasks in context for the group. For example, if the task is to remove buckthorn, talk about what native species the group is protecting by removing buckthorn. When discussing the task, we often teach the students how to properly use the required tools. Even if the group is there for the purpose of completing assigned community service it is important for them to learn from their visit and understand that they are doing work that benefits the community.

D) Demonstrate tasks. We will often have a local expert demonstrate the task if possible. If the task for the day is buckthorn removal, each participant gets a lesson in buckthorn identification. The lesson includes finding a plant, getting a Wisconsin Wild Card (invasive species trading card), and then checking in with the group. Ask if there are any questions.

E) Perform tasks. While at the site, allow time for frequent check-ins, bathroom and water breaks. Engage with the students. Share your passion for the environment- it will rub off on them. When you observe something interesting such as a hawk or a cicada, point it out. Ask questions like, “What is your favorite part about working outside?” and “Do you get to go out to the woods often?”

We have also found that it is important to allow teens time for quiet reflection and nature observation when creating a successful day of work activities and education. In between land management tasks, we sometimes go for a birding walk or look at plants in our natural areas. The next pages give additional ideas for activities to pair with work tasks or to create a day of learning in the outdoors.

E) Wrap-up. Clean up and put away all of the tools. Gather students one last time and ask them, “What was one thing you liked, or one thing



you learned today?” The responses are often enlightening. Some students talk about a new career idea they have. Others express excitement about spotting a deer or other animal. One teen in a Department of Corrections program observed, “I got to smell new smells that I’ve never smelled before.”

*“Building things is empowering and satisfying work- a great way to connect students to the community.” -Mo Kappes, environmental educator*

*“For many groups, it’s important to offer a variety of tasks or rotate between tasks to hold their attention. Variety makes the project more fun and interesting.” -Christie Ralston, Natural Areas Coordinator, Community GroundWorks*

# FOREST ACTIVIES FOR TEENS

Observing the forest is the first step toward learning and finding patterns. Have teens use all five senses to discover new parts of the forest that may otherwise go unnoticed. Focus on the different layers of the forest (the canopy, the shrub layer, ground plants, and soil) and any organism interactions. For example, trees feed on chemicals in the air and in the soil. Mushrooms and other fungi feed on decaying plant material. Birds feed on berries and insects in all layers. Use the following activities to get teens comfortable observing the forest – sounds, smells, textures, colors, temperatures (microclimate), sizes, motion (wind in leaves, insects, animals) – or design your own. Additional ideas can be found in the “Useful Links” section at the end of this guide.



## Journaling

Have students walk along a path. Instruct them to look and listen silently. Ask them to think about the following questions while they walk through the forest and record their thoughts in a notebook:

- 1) How does the forest make you feel?
- 2) What do you hear?
- 3) Describe the space. Does the forest feel like an open room or a narrow hallway? Are there walls, ceilings, floors, windows, doors?
- 4) Do you observe any animals? What clues do you find to support your ideas? (see, hear, smell, found evidence of eating, excreting, other)...
- 5) What is on the forest floor? (leaves, needles, plants?)
- 6) What kinds of trees are there – evergreens (needle leaves), deciduous trees (with leaves)?
- 7) Describe the size of the forest or its parts – as tall as a house, a skyscraper, your school? As large as a town, a neighborhood?

## Photo-Journaling

Give small groups of students a digital or camera. Tell them to spend 15 minutes taking pictures of the forest. Group members must agree on all pictures taken. One member should record the subject/idea/relative location of the photo on a numbered sheet of paper. Limit the number of pictures to approximately 20.

Give students a list of pictures to take:

- 1) Bark of three different trees
- 2) A decaying branch or log
- 3) A sapling or brush
- 4) Two examples of invasive species if students are familiar with plant ID and invasive species
- 5) A place that feels open
- 6) A place that feels closed or secluded
- 7) A cooler place and a warmer place
- 8) Patterns of shadow and light
- 9) Signs of animal activity such as footprints, woodpecker holes, squirrel nests, egg shells, droppings
- 10) Leaves from three different trees
- 11) Anything else unusual, interesting, gross or beautiful to show others

## Birding

Tell students that birding requires quiet movement and no talking. Finding birds often requires listening for bird movement in leaves or quiet bird calls. Slowly walk along a path with students. Look for movement and listen for noises in the forest. If a bird is detected, have the students raise a hand and point toward the bird. Stop and observe the bird carefully. If the instructor is familiar with the bird species, identify the bird and point out distinguishing markings or behavior. For common birds, identify the bird once and have students make the identification the next encounter. Binoculars are helpful for this activity but not required.



## Garlic Mustard Pull

Explain the concept of invasive species and the problems with garlic mustard, a common invasive plant in forests. Teach students how to identify garlic mustard in an area of the forest with a lot of garlic mustard. Have students find a garlic mustard plant on their own and stand by the plant. Check to make sure the plant has been correctly identified. Teach the students how to pull garlic mustard. Spend 10 minutes pulling garlic mustard and collecting it in a bag or bucket.



## Tree Identification

Show students the differences between evergreen/needled trees and deciduous trees. Younger teens can learn how to identify a few common trees such as sugar maple, white oak, green ash, or any others common to the area. Older teens can learn how to use a basic dichotomous key. (A good example of a key has been created by the University of Wisconsin-Stevens Point; see the “links” section at the end of this guide.) Students can learn about alternate, opposite and whorled leaf arrangements and simple versus compound leaves. Students can also be taught basic leaf shapes and leaf margin patterns.



## Deer Damage

Explain the problems with excess deer in a forest ecosystem and the reasons for a large deer population. In Wisconsin, forest fragmentation and large-scale agriculture have led to the creation of ideal deer habitat. Combined with a lack of predators, the number of deer has skyrocketed from historical levels. Deer eat ground plants as well as young trees, disturbing the natural ecosystem.

Look for signs of deer browse in saplings and other plants. Roughly chewed-off sapling tops, deer droppings, deer pathways through brush, and tree scratches from antler rubbing are good signs of deer presence. Have students spend 5 minutes looking for signs of deer.

## Sketching

Give each student a pen and/or pencil plus a notebook. Count off students by numbers 1, 2, 3 and 4. Tell the students that they will be sketching different nearby parts of the forest. Assign their sketch topics by number:

- 1) A ground plant
- 2) A leaf either on the ground or on its plant. No tracing!
- 3) The pattern of bark on a tree
- 4) Berries, seeds, acorns or pinecones; alternatively mushrooms/fungi



# STORIES FROM TROY GARDENS

## **Pulling Garlic Mustard**

Most woodlands in Wisconsin are threatened by garlic mustard, an invasive species. Garlic mustard is difficult to control and many groups struggle with the large task of removing it. We have found that pulling garlic mustard is a great way to get teens involved in their community. In April, 2010, the club “Life as a Boy” from the Vera Court Neighborhood Center came to Troy Gardens for a garlic mustard pull. First, the leaders of the field trip (our Natural Areas Coordinator and a volunteer steward) introduced themselves to the boys and their leaders. They explained what Troy Gardens is and what we were going to be doing on that particular Saturday, namely removing garlic mustard from the woodlands. The students started the day with a hike and learned how to identify garlic mustard and some lookalike species like violet and Creeping Charlie. All of the boys took garlic mustard leaves, smashed them, and smelled them to be sure they were pulling garlic mustard and not another plant species. The group worked together to fill eight trash bags of pulled garlic mustard! They labeled the bags and hauled them to the curb for the city to pick them up. The boys were triumphant at the end and felt a sense of accomplishment with their work. We felt this program was successful because the boys learned something, had fun, and removed much of the garlic mustard from our woods.

## **Woodland Cooking**

In June 2010, an ongoing partner, the Monona Grove Alternative School, requested a very specific field trip. They wanted a fieldtrip that focused on woodland cooking. These are urban students, and many of them have never been camping. Many of them are not comfortable in the woodlands. Because a major goal of our program is to expose people to our urban natural areas, especially people who wouldn't normally seek out this type of activity, students at this alternative school were the perfect candidates. We started the field trip by hiking through our maple woodlands and identifying native trees and shrubs. We talked about foods humans can get from the woods, and foods animals get from the woods. A local expert taught the students



multiple methods of outdoor cooking, from dutch oven cooking, to tin can and tinfoil cooking. Together, we made cheesy potatoes, hobo bread, ham, and s'mores. This field trip was a huge hit! We could see many of the students become more comfortable in the woodlands over the course of their visit.



### **Watching an Arborist**

Community GroundWorks likes to incorporate information on careers in urban forestry into teen programs. In December, 2010 we had a certified arborist, Sean Gere of Gere Tree Care in Madison, demonstrate tree climbing for a group of high school students with disabilities. Sean is a six-time Wisconsin Arborist Association state climbing champion and the current ArborMaster North American skills competition champion. First, we had the students form a circle and introduce themselves. We explained what we were going to show the students and what they would learn. Sean began his demonstration by showing the students his safety gear and climbing equipment. He suited up, set a line, and began climbing a giant sugar maple tree. Soon, to the amazement of the students, Sean was 60 feet up in the tree! Many of the students expressed fear for him, but he assured us he was safe and showed us the various safety procedures. One parent chaperone asked how many times he's fallen. He replied, "Zero! I am very safety-conscious!" Sean came back down to the ground and we ended the field trip with a hike through our woodlands. We studied the bark of a hackberry, admired fungus we found, marveled at our maple woodlands gathering space, and spotted a squirrel. At the end of the fieldtrip, one student gave Sean a hug and said, "I'm glad you didn't die." Though some students were frightened at the idea of climbing

*Performing community service provides our clients with environmental education through service learning. By giving them a hands-on education about the environment, it provides an experience that connects them to their community.*

- Juliet Davis, Youth Restitution Program,  
Youth Services of Southern Wisconsin

# ADDITIONAL RESOURCES

Alliance for Community Trees  
<http://actrees.org>

American Forest Foundation  
<http://www.affoundation.org>

Arbor Day Foundation  
<http://www.arborday.org>

Forest Resource Environmental Education (F.R.E.E.) Network  
<http://www.freenetwork.org>

4-H  
<http://www.4-h.org/resource-library>

Society of American Foresters  
<http://www.safnet.org/education>

TreeLink  
<http://www.treelink.org>

University of Wisconsin- Madison Arboretum  
<http://uwarboretum.org>

University of Wisconsin- Stevens Point LEAF Program  
<http://www.uwsp.edu/cnr/leaf>

US Forest Service  
<http://www.fs.fed.us/kids>

Wisconsin Association for Environmental Education  
<http://www.uwsp.edu/cnr/waee>

Wisconsin Department of Natural Resources  
<http://dnr.wisconsin.gov/education>

Wisconsin Environmental Education Board  
<http://www.uwsp.edu/cnr/weeb>

