



Starting a Trail Building Project

Not all trails are found exclusively on public lands, a growing trend shows students not only in walking on trails, but also in designing and building them on school grounds.

Students can design a nature trail with informational signage and seating; or remove invasive species from their school grounds or build an outdoor classroom. There are many options for an entire student body to get involved in adding an asset they can all learn from and enjoy.

Building Trails/Adding to a Trail

You can turn a “useless” piece of land into a useful one and create something beautiful by building a trail on the school campus. It doesn’t even matter whether you have a lot of land or just a small scrap of nature.

It is highly recommended that you contact DRBA before beginning a trail building project on your school campus to help determine location and feasibility. However, below are some helpful steps to begin your project.

- 1) Survey the terrain** – all trails need to be surveyed in order to understand the environmental impacts and provide for sustainability. You will want to identify slopes, run-off and naturally-occurring pathways. It is nice to have a loop trails, but sometimes the terrain lends itself to a there-and-back trail.
- 2) Determine the type of trail** – natural surface trails are the most common on school campuses (and the least expensive). Natural surface trails can be built between 3 feet wide to 6 feet wide. Also, you will need to determine if gravel/rocks are needed. The type of trail also includes identifying what the trail will be used for – educational purposes? Recreational purposes? Depending on how the trail will be used, will help to determine the best route for the trail.
- 3) Create a timeline** – most trail building takes about 1 person/1 hour/3 feet to cut the trail. Finishing the trail can take even longer depending on brush and roots. You will want to walk the trail path and mark it with trail flags.
- 4) Recruit your team** - If you’re working with a large group, split them into smaller teams with group leaders. You will want to recruit at a minimum of six trail builders and have the builders work in 2-3 hour increments if possible.
- 5) Schedule your workdays** – Plan for bad weather. Ensure all workers have closed-toe shoes, gloves, bug spray, safety goggles. Also you will need to have trail building tools such as shovels, rakes, loppers.

- 6) **Allow time** - your trail will need to “settle” and experience different types of weather before finishing so you can determine where puddles form, where rain water drains and causes erosion, etc.
- 7) **Finishing** - all trails need to be finished which includes cutting back brush, cleaning up roots and installing signage.

Adding Signage to a Trail

Adding signage can be a great project for students. It gives the opportunity to explore the historical, social and natural stories of the land where their school was built. Called interpretive signage, students can research, identify and design signs that teach about the flora and fauna and past human uses of the site.

Removing Invasive Species

We need your help to fight the spread of invasive species!

Invasive species are any species that are non-native and harm the local ecosystem. When these non-native plants and animals establish themselves in our local ecosystems, they outcompete and dislodge species that have evolved specifically to live there. These plants affect us by degrading our soil, leading to erosion that can lower the quality of our water. They crowd out and can kill important tree species that provide shade, carbon storage, and habitat for native wildlife. And they can even increase the risk of wildfire.

Our natural areas are facing one of their biggest challenges ever: invasive species. Without their natural predators, invasive species can spread aggressively, edging out native species, devastating ecosystems, and costing a lot of money. Learn how you can help stop the spread of invasive species!

The best way to fight invasive species is to prevent them from occurring in the first place. You can help stop the introduction and spread of invasive species. Help protect native plants and animals by following these six easy guidelines:

1. Verify that the new plants that are bought for the campus are not invasive. Replace invasive plants in landscaping with non-invasive alternatives. Ask your local nursery staff for help in identifying invasive plants.
2. When boating, clean your boat thoroughly before transporting it to a different body of water.
3. Clean your boots before you hike in a new area to get rid of hitchhiking weed seeds and pathogens.

4. Don't "pack a pest" when traveling. Fruits and vegetables, plants, insects and animals can carry pests or become invasive themselves. Don't move firewood (it can harbor forest pests), clean your bags and boots after each hike, and throw out food before you travel from place to place.
5. Don't release aquarium fish and plants, live bait or other exotic animals into the wild. If you plan to own an exotic pet, do your research and plan ahead to make sure you can commit to looking after it.

If you have determined that there are invasive plant species on the school campus, removal takes hard work, time and patience. In many cases, simply pulling the plants out of the ground will not solve the issue. You may need to contact a trained expert to spray the area with herbicides which are among the most effective and resource-efficient tools to treat invasive species. Most of the commonly known invasive plants can be treated using only two herbicides—glyphosate (the active ingredient in Roundup™ and Rodeo™) and triclopyr (the active ingredient in Brush-B- Gone™ and Garlon™).

Building an Outdoor Classroom

Outdoor classrooms can be powerful teaching tools. At their simplest, they are spaces that connect children with the natural world, places where they can hear the birds sing, watch butterflies flutter by, dig in the soil, contemplate in silence, and, feel a part of a diverse ecosystem rather than apart from it. Outdoor classrooms are excellent venues for teaching a wide range of subjects. By weaving the environment into the fabric of existing curricula through outdoor classrooms, teachers can help students develop a deep understanding of and respect for earth communities, including the corresponding human conditions within those communities.

Teachers can easily use these spaces to illustrate the intimate interrelationship between personal and planetary health, foster creative systems thinking, and provide a space for reflective inquiry and experience in cooperative, hands-on problem solving. In addition, outdoor classrooms provide multiple opportunities for exploring solutions to local and global challenges, from preserving biodiversity to addressing social justice issues such as food deserts and childhood obesity.

The benefits conferred by learning in outdoor classrooms are backed by a growing body of research that show students learn more effectively within an environment-based context than within a traditional educational framework. Further finding from research include:

- Academic performance improved across curriculum;
- Students had a more comprehensive understanding of the world and were aware of diverse viewpoints;
- Critical thinking skills improved;
- Discipline problems diminished; and

- Students exhibited improved proficiency in problem solving and enhanced application of systems thinking.

Steps to Take When Creating Your Own Outdoor Classroom

DRBA has constructed several outdoor learning areas and we're here to help if you need us! Here are some tips and lessons we've learned along the way:

1. **Get buy-in.** Start with approval from administrators and buy-in from teachers. It is critical to work together to involve other teachers and the school's administration as you develop plans for the outdoor classroom. Consider including an outside organization that has built outdoor classrooms to help you prepare your pitch.
2. **Assemble a team.** Develop a Green Team of students, teachers, administrators, parents, and volunteers who can help with the project. Invite PTA members and team with local agencies and organizations who can provide resources and expertise. Or, **[click here to find your regional U.S. Forest Service Conservation Education Coordinator](#)** who can put you in touch with local outreach educators, such as DRBA.
3. **Assess the site.** Map your school site, inventory the plants and animals, and assess ways the school grounds can be used for outdoor learning. As you select a site for the outdoor classroom, consider one that includes shady areas for classroom space and sunny areas for native plants to attract birds and butterflies.
4. **Engage volunteers.** Volunteers make the difference! Reach out to parents and community members to find volunteers who can assist with the outdoor classroom plan.
 - A local landscape architect can help students envision what the site would look like and incorporated their ideas into a final drawing
 - The art teacher can help students make mosaic stepping stones and tree identification signs
 - Parent volunteers can help make the tree sign bases
 - A local graphic designer can design the signs for printing
 - A local master gardener and the landscape architect can assist students and help plan a pollinator garden
6. **Seek funding.** Reach out to local businesses for donations of materials, such as building supplies, birdfeeders, wood chips, and so forth.
7. **Have a lot of patience!** Be prepared for it to take longer than you may have originally thought. The end result will be well worth it!

If you would like someone from DRBA to help you with trail building on your school campus, please contact Krista Hodges, Environmental Education Manager at khodges@danriver.org.