

Introduction

Where Our Children Learn and Play

Visit a dozen public schools in a dozen different U.S. cities, and it is likely that you will find that school landscapes these days look remarkably the same everywhere--stark and institutional. The typical school ground is dominated by large expanses of asphalt and mowed lawn, and is relatively devoid of any other vegetation. There may be a few sparsely-planted and bark mulched ornamental shrub beds. Trees are generally few and far between.



Many of us have become accustomed to these barren school landscapes and may even find them attractively tidy. We have also come to accept, almost without question, the desirability of devoting large expanses of school grounds to asphalt or turf for children's sports and play. School district maintenance staff consider sparse institutional landscapes to be "low maintenance." School administrators and security officers may also say that unvegetated landscapes are necessary for student safety and surveillance.

Toxic Weed-killers, Lifeless Schoolgrounds

A more thoughtful consideration of today's school grounds reveals that these barren landscapes, and some of the practices that are used to maintain them, can be unhealthy in many ways for children, school staff, groundskeepers, wildlife, and our planet. Impervious surfaces like asphalt and concrete increase runoff and contribute to pollution of local waterways with toxins and sediments. Large expanses of asphalt and mowed lawn also cannot support wildlife. There are no wild areas left on school grounds where children can explore or learn to appreciate nature. Beyond being unstimulating and uninteresting for children's spirits, some educators believe that barren schoolyards are alienating and can promote discipline problems and aggressive behavior (see article on pg. 63).

Finally, many barren or groomed landscapes are not really "low maintenance" at all, but are kept looking the way they do only with nearly constant attention, including mowing, weed-eating, hand weeding, and application of herbicides or soil sterilants. All of these methods of controlling unwanted vegetation are either labor intensive, costly, wasteful of natural resources, or polluting in their own ways. Children, workers, and other living creatures can be exposed to the residues of weed-killers or the fumes of gas-powered mowers and equipment. Weed-killers can run off soil and pavement and pollute nearby streams, harming fish and other aquatic organisms. Maintaining barren landscapes can be dispiriting to groundskeepers who must use toxic chemicals or perform continuing drudgery.



"...natural beauty has a necessary place in spiritual development [...] whenever we destroy beauty, or [...] substitute something man-made and artificial for a natural feature of the earth, we have retarded some part of man's spiritual growth."

Rachel Carson

The Real World Around Us, in *Lost Woods: The Discovered Writing of Rachel Carson*

Is there a solution? How can we reduce the use of toxic chemicals and other polluting maintenance practices and move towards healthier, yet truly low-maintenance, safe, and sustainable school landscapes?

What is a Healthy School Landscape?

A healthy school landscape is one that:

- requires neither **toxic pesticides** (including **herbicides**), nor constant drudgery, to maintain
- is **safe, attractive and welcoming** to children, school staff, and wild creatures
- provides a **stimulating learning environment** for students
- is a part of its **natural environment**, rather than set apart from it
- contributes to the **ecological health** of its neighborhood and community
- is **constantly changing** due to natural succession
- is largely **self-sustaining** once established, requiring few, if any, “inputs” from off the site such as fertilizers, bark mulch, fuel, or irrigation.

Benefits of Natural Landscapes

- **Reduced maintenance and costs!** Once established, natural landscapes can reduce maintenance and costs by reducing or eliminating requirements for irrigation, mowing, mulching, weeding, fertilizing, and use of pesticides.
- **Habitat and a teaching resource!** Native plantings provide food, shelter and nesting sites for birds, amphibians, butterflies, and other creatures. Natural landscaping can also offer an improved habitat for humans by making a site more aesthetically interesting and enjoyable. In a school environment, a natural landscape can provide a place for the study of native plants and animals, ecology and the local environment.
- **Cleaner air and water, and a healthier watershed!** Natural landscapes can help reduce air and water pollution associated with frequent mowing, and can also contribute to cleaner water by eliminating the need for fertilizers, weed-killers, and other pesticides that can (and do!) reach and pollute local waterways.

How Can Healthy School Landscapes Be Restored and Sustained?

School districts face some special challenges in maintaining their landscapes. Typically, public schools are under-funded and have relatively few grounds staff per acre of land managed. The grounds staff feel harried and overworked, and often face pressure from school neighbors, parents, and school staff to keep school grounds looking relatively groomed and weed-free. They also face pressure from local agencies to keep certain weeds controlled to prevent their spread, and vegetation cut to a certain height to avoid creating a fire hazard. In their continuing battle against weeds, it is no wonder that school grounds keepers have come to depend on herbicides, soil sterilants, and concrete as their tools of choice. Poisoning weeds or paving school yards can seem like attractive choices compared with more labor intensive alternatives such as manual pulling, weed-eating, or other weed control methods.

The key to finding a sustainable solution to weed problems on school grounds (or anywhere else) is to recognize that the groomed lawns and sparsely-planted, yet weed-free, ornamental shrub beds that we have come to expect and demand are inherently unnatural landscapes. Their design generally ignores natural processes. In fact, maintaining them requires that one does constant battle against nature. It should not be surprising that this battle is frequently expensive, polluting, and wasteful of resources.

Landscaping Nature’s Way

Rather than staying locked in a constant battle against nature, there is another way to control unwanted vegetation and have attractive school landscapes without constant drudgery. All we need to do is observe that undisturbed natural areas are largely self-sustaining, not requiring the use of herbicides, nor constant mowing, weeding, or watering. Not only that, but these landscapes are ecologically functional, providing food and shelter for birds, insects, and many other living creatures. Finally, we humans find such natural areas attractive, enjoyable, and spiritually refreshing places to visit. How does nature do it, and how can we mimic nature’s methods on our school grounds?

This publication will guide you in helping your school or school district kick the herbicide habit and learn to landscape nature's way. Part I reviews the many hazards of pesticides (including herbicides) to human health and the environment, and offers many reasons why these toxic chemicals should not be used on school landscapes (nor for site preparation during a natural landscaping project!) Part II describes the benefits of natural landscapes, and offers ideas and resources on how to restore a natural landscape at your school. It also offers tips for how to get started, and how to care for the landscape as it becomes established. Part II also includes lists of resources that can offer information, native plants, expertise, or labor for a school natural landscaping project. Finally, Part II contains articles about some successful natural landscapes at schools in the Northwest and elsewhere, and ideas for using a natural landscape as a teaching resource.



This courtyard at Rowe Middle School in Milwaukie, Oregon is full of life and provides an educational resource used by many teachers and classes. No herbicides are used in its maintenance.

Help Restore a School Ground Near You!

Whether you are a parent volunteer or a teacher taking on a project in one area of your school ground, or a district groundskeeper looking for ways to reduce maintenance and herbicide use on school grounds district-wide, we hope the information in this packet will inspire you to restore life (and reduce toxic chemical use) on a school ground near you.

To be sure, natural landscaping will not be appropriate on every part of a school landscape (e.g., athletic fields). Some schools may seem to be more obvious candidates than others for a naturalized landscape, say those adjacent to a creek or natural area. However, there is much that can be done to restore health and vitality to at least some parts of the landscape at nearly any school. An inner city school with the bleakest of landscapes is also an excellent candidate. Children who attend such schools may have the greatest potential to benefit from being able to connect with a little bit of nature on their school ground. Undertaking a natural landscaping project at such a school may have added complexity and cost--for example, it may be necessary to remove existing concrete or asphalt. But "gray-to-green" programs (i.e., taking up concrete and replacing it with trees and beneficial landscaping) are becoming increasingly popular. You will likely find support from local agencies for this important work that benefits the entire community.

So, put away the pesticides, and put on your thinking cap! Find some partners and the expertise you need, visit a nearby natural area for ideas and guidance, and get some plans down on paper. Then organize volunteers, students, and school or school district staff, roll up your sleeves, and get out the shovels. Don't forget to involve students in the planning and work. The process of restoration, itself, and the continued monitoring of and caring for the new and evolving landscape can offer excellent opportunities for learning.

Most of all, enjoy yourself! Yes, you will undoubtedly face some challenges and will need to have patience--a natural landscape cannot be created overnight. However, make a commitment to see your project through. The rewards you get will be worth it, as you create a healthier and more sustainable landscape for children, school staff, wild creatures, and the planet.