



*Toolkit for Conservation
Landscaping
Projects in
Community Spaces*



The *Toolkit for Conservation Landscaping Projects in Community Spaces* is a production of the Schoolyard Habitat Partnership. This production of the Schoolyard Habitat Partnership cannot be copied for resale however it can be copied for educational purposes.

The Schoolyard Habitat Partnership is a partnership between the Maryland Association for Environmental and Outdoor Education, US Fish and Wildlife Service, and the NOAA Bay Watershed Education and Training Program from 2003-2009.

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Toolkit for Conservation Landscaping Projects in Community Spaces

Goal

To provide a framework for designing a conservation landscape and accessing existing supportive resources

Audience

Conservation landscaping project leaders and those interested in a format for training others to become project leaders

Objectives

- Participants will demonstrate how the choice of restoration goals influences project implementation.
- Given various samples of site assessments, participants will identify at least three of the assets or stumbling blocks that will impact a sample project.
- Given existing resources and examples participants will be able to create a list of tasks and a timeline for accomplishing a habitat restoration.
- Given existing resources and examples, participants will create a framework for a budget and identify possible funding sources.
- Given a native plant guide and web resources, participants will be able to create a planting plan for a native landscape.
- Participants will develop a five-year maintenance plan for their planting plan that includes watering regimen, invasive species control, and monitoring.

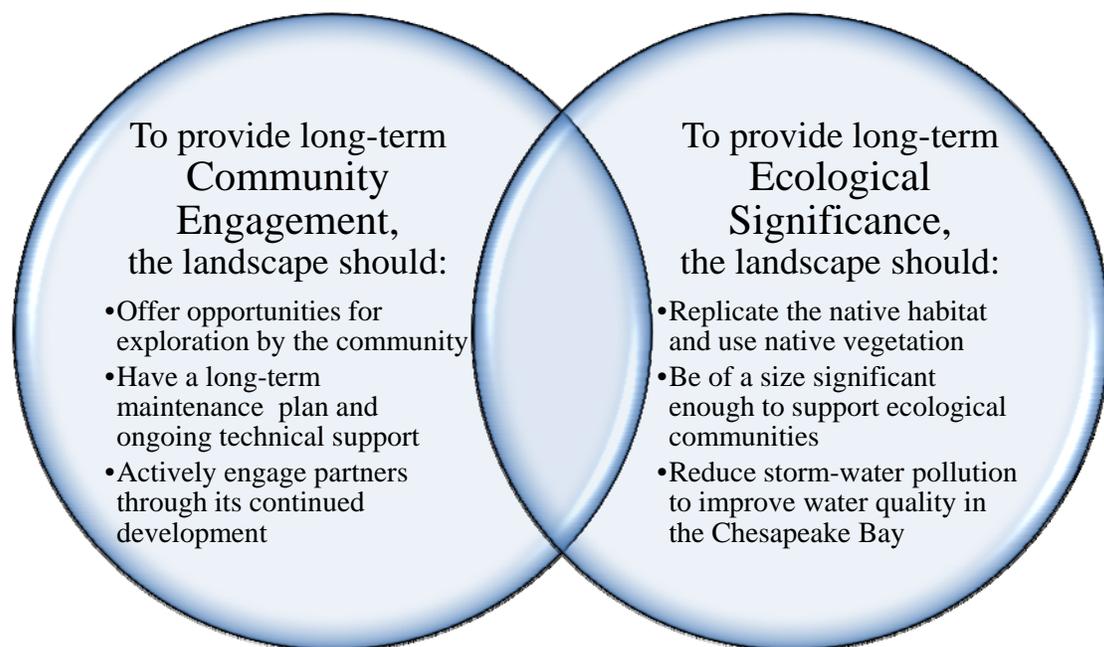
Toolkit for Conservation Landscaping Projects in Community Spaces

Conservation landscapes are landscapes designed, planted and maintained to benefit people and the local ecosystem.

Conservation landscaping designs can include schoolyard habitats, native gardens, outdoor classrooms, rain gardens, BayScapes, wetlands, meadows, forests, hedgerows or any other natural area designed to improve wildlife habitat and reduce negative impacts to the environment.

Conservation landscaping in community spaces is accomplished when the grounds reflect the environmental ethic embodied by the people using that space. Conservation landscaping is more than plant choice and placement. It is about engaging the larger community in the design, implementation and use of the area. Conservation landscaping in community spaces transforms the landscape into a tool to improve the community's relationship with the environment. As our environmental awareness grows and we learn the global implications of our actions, then too our landscaping evolves to reflect our growing connectivity.

The focus of the *Toolkit for Conservation Landscaping for Community Spaces* is to provide a framework for designers to achieve a balance between ecologically significant landscaping and community engagement.



The Toolkit for Conservation Landscaping in Community Spaces is divided into these five units:

- *Unit One - Determining project goals*
- *Unit Two - Assessing the site*
- *Unit Three –Developing a project plan*
- *Unit Four - Developing a planting plan*
- *Unit Five - Planning for maintenance and monitoring*

For more guidance for the principals and benefits of conservation landscaping, please visit:

MAEOE Schoolyard Habitat Program

<http://www.maeoe.org/habitat/benefits/>

USFWS Bayscaping Program

<http://www.fws.gov/ChesapeakeBay/Bayscapes.htm>

Chesapeake Conservation Landscaping Council:

<http://www.chesapeakelandscape.org/>

Environmental Landscaping from the Alliance for the Chesapeake Bay and Audubon Pennsylvania

<http://www.envirolandscaping.org/conservation.htm>

National Wildlife Federation: schoolyard habitat guide

<http://www.nwf.org/schoolyard/howtoguide.cfm>

Green Book for the Bay: guide for landscaping for Chesapeake Bay critical areas

<http://www.firststopforthebay.org/greenbook.htm>

Toolkit for Conservation Landscaping in Community Spaces

-Unit One- -Determining Project Goals-

Objective

Participants will demonstrate how the choice of restoration goals influences project implementation.

Introduction

Before beginning the landscape design process, it is important to determine the project goals for the landscape. As a project moves from idea to implementation, the project goals provide focus and guidance. To understand the importance of project goals, imagine being the project leader in these two examples:

1. The director of the library wants a visually appealing landscape at the entrance of the library that she can use to teach people about the benefits of native plants. Your native garden design calls for New England aster. The only aster you can find is the cultivar purple dome aster. From what you have heard, this aster is longer blooming, visually appealing and a little better behaved than New England aster. However reports have shown that pollinators and caterpillars are not as attracted to this cultivar and the wildlife benefits are marginal.
Should purple dome aster be used in the planting?
2. A local elementary school is very interested in creating a wetland for the back courtyard of the school. The teachers, principal and students are all very excited about how they will use a wetland. They very much want standing water to attract dragonflies to their school. Rainwater flows directly from the roof into the courtyard. When you examine the soil you find that the soil is very sandy and far better suited for a rain garden than a wetland.
Should the project be a wetland or a rain garden?

The project leader's immediate answers probably depend on his or her own expertise, experiences, and biases. But ultimately what should drive the decisions in each scenario are the goals of the project. The goals must be created by the people that will use this landscape, because ultimately it is the people using this landscape that will develop and maintain it. The landscape should reflect their values and goals. If the landscape is truly their own, they will be committed to its survival.

Discussion and Links

The goals of the landscape project will most likely evolve as the project evolves, and therefore will need to be revisited throughout the life of the project. But it is important to establish goals to serve as a starting point for decision making.

A great starting point is to create a project team. Project stakeholders could include families, students, staff, administrators, facilities personnel, volunteers, local organizations or clubs, and technical experts. Some team members may emerge as leaders, others may just have a very cursory involvement, but representatives of all stakeholder groups must be involved in some way to create a successful project.

Look for examples of what is possible, both in established conservation landscapes as well as in naturalized areas like wildlife refuges and other preserves. Consider visiting local, state, and national parks for opportunities to immerse oneself in an existing native forest, meadow, or wetland as an important step to creating one's own habitat. A few of the many examples in Maryland include:

Patuxent Research Refuge <http://www.fws.gov/northeast/patuxent/>
Blackwater National Wildlife Refuge <http://www.fws.gov/blackwater/>
Adkins Arboretum <http://www.adkinsarboretum.org/>

Also consider visiting existing conservation landscapes or reviewing some online. Some examples of conservation landscapes can be found at:

MAEOE Schoolyard Habitat: <http://www.maeoe.org/habitat/projects/>

List possible goals and then decide on what the main goals for your project will be. Here is a list of some of the possible goals:

Possible ecological goals:	Possible human community goals:
<ul style="list-style-type: none">• Reducing storm water volume• Providing pollinator habitat• Providing habitat for threatened species• Reducing stormwater pollution• Eliminating nonnative and invasive plants• Improving existing habitat	<ul style="list-style-type: none">• Providing opportunity for the study of wildlife• Providing examples of native plants• Improving opportunities for casual interactions with nature• Providing opportunities for community gardening• Beautifying the landscape

Extensions

Mission statement:

You might even want to create a project mission statement such as: “Jaderski Regional Park’s habitat mission is to re-establish native plant and pollinator communities on park grounds and create opportunities for awareness and enjoyment of the available natural resources.”

Open spaces sacred places:

Based on the work of the TKF Foundation, have participants brainstorm the important places for themselves personally in the natural and built environments; places that are influential in their own ecological identity. List the features of these places. Consider the elements and functions of these landscapes and consider how these elements of sacred places can be recreated, even in very compressed or urban areas. For more information visit the TKF foundation website: http://www.tkffdn.org/what/what_is_a_sacred_space.php

Additional research and examples:

Research on the impacts of nature on children:

Children and Nature Network:

<http://www.childrenandnature.org/>

More examples of local conservation landscaping:

Chesapeake Ecology Center:

<http://www.chesapeakeecologycenter.org/rainscaping.html>

Chesapeake Landscaping Council:

<http://www.chesapeakelandscapes.org/>

Montgomery County Rainscaping Program:

<http://www.rainscaping.org>

Conclusion and Assessment

Creation of the goals is a part of the entire educational process of the project. The project leaders and the stakeholders must respectfully listen and respond to each other’s needs and concerns. The concerns of the human community must be respected and incorporated into the goals of the project and eventual plan.

Virtual Training: Participants name a project in which they have been involved and state what the goals of the project are. State how these goals influenced a choice they had made. Use this project for the remainder of the unit conclusions and assessments.

Face-to-Face Training: An area on the grounds of the training site is identified as a location for a conservation landscape. The participants are asked to list at least one ecological goal and one human use goal. Speculate as to how these goals might influence a planning decision. Use this project for the remainder of the unit conclusions and assessments.

Toolkit for Conservation Landscaping Projects in Community Spaces

-Unit Two- -Assessing the Site-

Objective

Given various samples of site assessments, participants will identify at least three of the assets or stumbling blocks that will impact a sample project.

Introduction

A thoughtful site assessment is important for the success of a project. The size and scope of the site assessment depends on the nature of the project.

For example:

- When considering a native garden near an entry way, the site assessment will focus on existing pedestrian traffic, water source, existing habitat, a very basic soil profile, and the needs of the community.
- When considering control of stormwater runoff from the parking lot, the site assessment will involve a soil survey, a precise water budget, a comprehensive review of the many stakeholders, identification of existing habitat including possible invasive species, and local resources for earth moving and asphalt removal.

Site assessments are a great opportunity to engage the community, particularly students. Asking people what they think about current conditions and what, if any, changes they would like to see is an investment in the project's eventual outcomes.

There are essentially two steps in a site assessment. The first is a feasibility study of the entire site to assess the major concerns and possibilities. The second is the gathering of the specific details that will most directly impact the project plan.

Feasibility Study

In general, when assessing the possibilities of a site, consider the *ecology*, *watershed*, and *community*. Below are some possible questions to consider in any site assessment. Read these questions and brainstorm additional questions to add to the categories.

Ecology:

- What is the connectivity to existing naturalized areas? What are the dominant plant species there?
- Are there concerns about invasive plant species?
- What are the signs of use by wildlife? What species could be there with the appropriate habitat (e.g., certain butterflies, songbirds and reptiles have specific habitat requirements)?

- Would attracting wildlife be problematic? Is the site near a major road? Are there concerns about certain wildlife: deer, snakes, bees?

Watershed and hydrology:

- What and where is the nearest tributary?
- Where does the water go when it rains?
- Is there standing water for a day or two after a rainstorm? Is there evidence of erosion?
- Is the soil profile dominated by sandy or clay soils?

Community:

- What are the property boundaries?
- Who maintains the area currently? What are the current maintenance concerns?
- How is the area currently being used? How would people like to see the area used?
- What are ways you would like to play and learn here?
- Are there concerns about vandalism or other negative uses?
- What other possible stakeholders are interested in the area? (e.g., local businesses or organizations)
- Who are potential funders?
- What experts can help answer some of these questions?

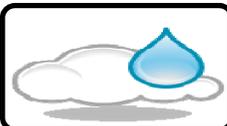
The conclusion of the feasibility study should lead the stakeholders to a few potential project sites, general advantages to the site and possible red flags. It is possible at this step to begin a whole site master plan with individual project sites identified.

Specific Site Assessment

There are many different site assessment tools to choose from. Most focus on certain aspects, such as water quality, stakeholder support, or wildlife habitat. Check MAEOE's website for some great example assessments.

- link to site assessments: <http://www.maeoe.org/habitat/assessment/>

All site specific assessments cover the basics of sun, space, soil and slope:

	Sun Observe where there is full and partial sun throughout the day and year
	Space Measure the site, observe the current use of the site Make note of access to water and any existing vegetation
	Soil Are the soils dominated by sandy or clay soils? http://www.fws.gov/chesapeakebay/pdf/habitatguide.pdf#page=43
	Slope How does the rainwater move through the space? Are there places where the water pools? Is there evidence of erosion?

Conclusion and Assessment

Good site assessments will help you identify the most important assets and potential stumbling blocks. While no site assessment can predict all the possibilities, a good site assessment will help with planning and the stakeholder engagement.

Fill out the template on page 12 to serve as the summary of the feasibility study and specific site assessment for the site identified in unit one.

Feasibility Study

Indicate the possible assets and possible stumbling blocks for the site for each of the categories			
	Ecology	Watershed	Community
Possible Assets			
Possible Stumbling Block			

Project Site Specific Assessment

List the observations about the following for the specific site where the project will be located:

Sun:

Soil:

Space:

Slope:

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-Unit Three- - Developing a Project Plan-

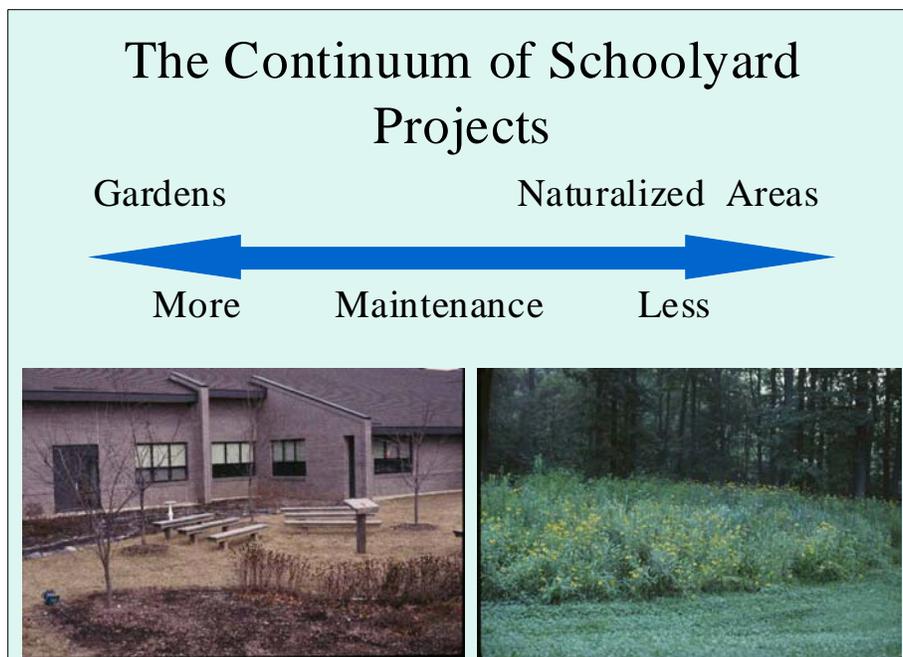
Objectives

Given existing resources and examples, participants will create a list and timeline for accomplishing a habitat restoration.

Given existing resources and examples, participants will create a framework for a project budget including possible needed materials and possible resources.

Deciding on a Project

Review project goals and site assessment. Consider the following graphic when conceptualizing the basics of the project:

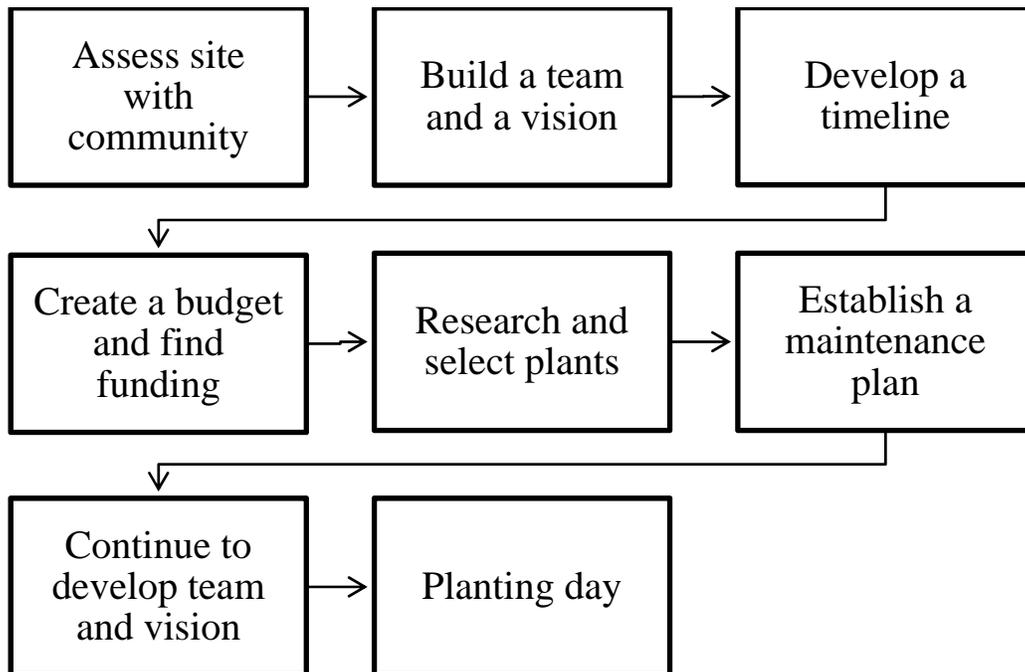


Understand that the selection and placement of the project will impact the longevity of this project. Before implementing a project it is imperative to create a maintenance plan for that project (unit five). But even before creating a comprehensive maintenance plan, understanding the general maintenance commitment involved in any specific project must be a part of the decision to create that project.

Consider listing all the possible projects that could be done on the site and consider each one in terms of the amount of maintenance needed. Develop a master plan of how the whole site could be revitalized and then decide on a starting point.

Timeline

Projects can have multiple elements and frequently several things have to happen simultaneously. One way to envision the timeline is to “begin with the ending in mind.” Determine the ideal planting date, and then work backward from there. For most projects the timeline could take anywhere from 6 months to 18 months. Here are some of the elements that need to happen in many conservation landscaping projects:



Review the above list and identify:

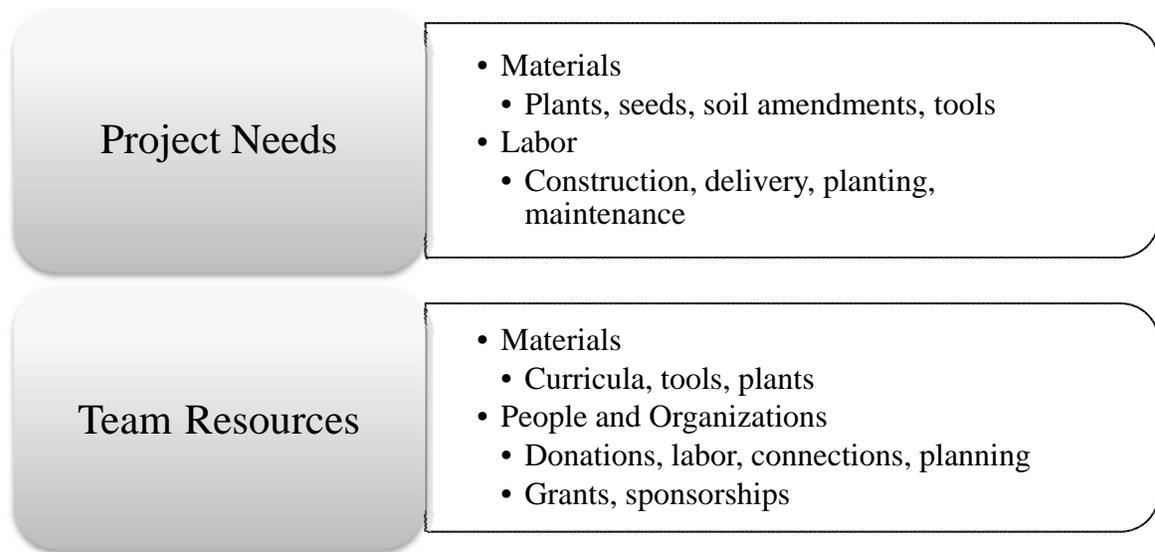
- Other elements that may need to be included.
- Elements that may have to happen simultaneously.
- How to engage students and/or the larger community.

The Schoolyard Habitat Sample Timeline demonstrates how some of these elements could happen simultaneously http://www.maeoe.org/habitat/how/timeline_sample.pdf or see the appendix.

Funding:

Before going too much further, consider where the support is coming from. When creating a budget, think larger than cash; survey what is needed and what resources are readily accessible.

Think of the project in terms of needs and resources.



What are some other needs and resources that could be listed?

Keep in mind: Some resources such as student labor, volunteer assistance, and tools from supporting groups can be listed as a 'match' to any cash request from granting organizations. Don't forget that there are many potential stakeholders that might be willing to contribute such as scout groups, civic organizations and community centers. As the planning progresses, the budget must adapt. For example, a budget might include small trees from a state nursery at \$15 a piece and then a local nursery donates larger trees at no cost to the project. If this donation is accepted, both the planting plan and the budget would change.

Also, this exercise is designed to help identify the resources that are needed. Use this information to create a more definitive project based budget. This website has sample budgets and ideas for funding sources: <http://www.maeoe.org/habitat/funding/index.php>

Conclusion and Assessment

Managing the timeline and budget of a project plan is essential to the implementation of a successful project.

Complete the three tasks below for the site identified in unit one:

1. Decide on a specific project type
2. Create a timeline for implementation that includes all of the relevant steps from page 14.
3. Fill in the following chart indicating the needs and resources for your project

Needs			Resources	
Materials	Approximate Cost		Materials	Approximate Value
Labor			People and Organizations	

Toolkit for Conservation Landscaping in Community Spaces

-Unit Four- -Developing a Planting Plan-

Objectives

Given a native plant guide and web resources, participants will be able to create a planting plan for a native landscape.

Introduction

Developing the planting plan is frequently one of the most exciting parts of planning a project. This is the ideal time to get even more investment from stakeholders. Bring native guides, graph paper, and colored pencils and invite students and community members to sketch ideas of what the project would look like. Take the time to consider differing views of what is important about the appearance of the project. Relax and have fun; this is when the project really begins to take shape.

Discussion and Links

Selecting plants:

Conservation landscapes coexist, rather than compete with nature. Conservation landscapes use native plants. Native plants co-evolved with our local animal communities. Native plants are adapted to the local weather and rainfall. Researching plant choices is a great opportunity to engage the community.

When coming up with the final plant list, remember that biodiversity is important and the project should mimic natural patterns. In a native forest of 100 trees, there are not 100 different trees. There is more likely to be only ten different trees.

Plant selection should match the specific site characteristics and project goals; refer back to the wildlife and human-use goals to justify the plant choices. Also identify alternate plant choices because some native plants can be difficult to find.

Arranging plants:

For both wildlife and human use, plant arrangement can be just as important as plant selection. Even in a very naturalized habitat plan, arranging plants in a pleasing way can help make the area more appealing to the human community. Native perennials and grasses typically grow in clumps and drifts. Consider this while arranging a site. For example, balance two clumps of a particular plant on opposite sides of the garden with one or two clumps of the same plant in the middle of the garden. Plant for communities, not specimens. For example, instead of planting one cedar in the middle of mowed turf, clear an area of all turf and plant three cedars then surround the bases of the trees with clumps of bee balm and little bluestem. The balance of all three plants creates a

community of color and habitat. Landscape design is the opportunity to be an artist painting with plants.

Generally grasses, ferns and perennials need to be spaced about 1 to 2 feet apart and woody shrubs and trees should be spaced between 8 and 15 feet apart. For more tips on site design and plant arrangement: <http://www.maeoe.org/habitat/how/design.php>

Cornell University has an excellent gardening resource website including a segment on the “Wheel of Color” design concept. This website should be helpful when looking for examples of how to incorporate visual symmetry into native garden design: <http://www.gardening.cornell.edu/homegardening/scenee40a.html>

Additional Resources

MAEOE: How to choose and find native plants in Maryland

<http://www.maeoe.org/habitat/how/plants.php>

Maryland Cooperative Extension: Identifying and choosing Native plants

<http://mastergardener.umd.edu/GardeningTopics/NativePlants/NativePlantsofMD>

USDA Plant Database: Research more about the maintenance needs of plants

<http://plants.usda.gov>

USA National Phenology Network: Learn about how plants change over time and what that can indicate about the planet. <http://www.usanpn.org/>

The American Woodland Garden by Rick Darke that guides the reader through the recreation of our native landscapes with color, structure, diversity and use of native plants. http://www.timberpress.com/books/american_woodland_garden

Conclusion and Assessment:

Expertise can only be gained through experience. With every design take the time to listen, research and create.

Complete the two tasks below for the site identified in unit one:

1. List ten first-choice plants and ten alternates. Identify your reasons for picking those plants, include how these plants address your goals.
2. Arrange the plants in a planting plan to scale on graph paper

If all the participants design the same area, have each team present their projects and then redesign their own projects incorporating some of the favorite elements that they heard from the other teams. This is a great way to mimic the collaborative design process that happens in some of the best projects.

Toolkit for Conservation Landscaping in Community Spaces

-Unit Five- -Planning for Maintenance and Monitoring -

Objective

Participants will develop a five year maintenance plan for a project that includes watering regimen, invasive species control, and monitoring.

Introduction

There is no such thing as a maintenance-free landscape. Even cement needs to be cleaned and repaired. Large wildlife refuges need to manage their properties for wildlife benefits. Whether you have a small garden or a several acre restoration project, you will have to manage or maintain the landscape in some way.

Conservation landscaping is generally designed as a ‘maintenance by choice’ landscape. If the only thing you want to do is pull out invasive species, it should still function as a beneficial landscape. If you want to have a more groomed and purposeful look to your landscape you will need more maintenance. Not all items listed here are necessarily required; they are simply things to consider.

Before creating your maintenance plan, remember the goals of the project. The project may be large enough to have several goals, and therefore it is very important to have clear expectations of maintenance. For example, if you have a two acre forest restoration with a trail, you might have a more intensive maintenance plan for the entrance to the trail than you do for the majority of the forest.

Discussion and Links

Imbedded in the design of your project must be a plan for long-term maintenance and use.

Consider creating a 5-year signed commitment collaboratively written by all involved parties before the project is implemented. This is important not only for the longevity of the conservation landscape but also for the significance of the landscape to the community. Ultimately the landscape must be more important to those in the community who use it, than to the technical-assistance partners that helped design it.

When creating a maintenance plan, remember that different types of maintenance will be needed at different times during the year. Consider using the attached template and these resources as examples in designing your own maintenance plan

<http://www.maeoe.org/habitat/connections/maintenance.php>

If the conservation landscaping is at a school site then it is imperative that the use of the site be embedded in the curriculum.

<http://www.maeoe.org/habitat/connections/>

No matter where the site is, there should be some opportunity for informal interactions with the natural beauty of the site. The ideal conservation landscape serves as an open invitation for use, discovery, and integration in the community

Special note about invasive species

Invasive species are more than just weeds. Removing invasive species is the only maintenance that is absolutely required of any conservation landscape. The first step is to identify all invasive species that are on the property. For more information about invasive species refer to the *Plant Invaders of the Mid-Atlantic Natural Areas*

<http://www.nps.gov/plants/alien/pubs/midatlantic/> and the *Invasive Plant Atlas of the United States* <http://www.invasiveplantatlas.org>

Possible seasonal checklist

Spring

- Plants, consider the following
 - Removing the deadfall from last year's grasses and perennials
 - Dividing any perennials that would benefit
 - Adding more mulch
 - Pulling weeds once a week or as needed
 - Removing all invasive plants by the roots
- Water
 - Monitor rainfall. If there has not been enough rain, augment by watering. Place an empty tuna can in the landscape to determine if enough rain has fallen. If within a week, the tuna can is full of rain water, then you do not need to water.

Summer

- Plants
 - Check for damage and predation on the woody plants and perennials. Note the plants that are not surviving the deer browse or other herbivores.
 - Consider pulling weeds once a week or as needed
 - Remove all invasive plants by the roots
- Water
 - Monitor the rainfall.

Fall

- Plants:
 - Do not cut back the grasses, perennials, or the woody species; they offer excellent winter habitat.

- Add any new plants
- Consider pulling out any established weeds before the first frost, so they don't make themselves at home over the winter.
- Remove all invasive plants by the roots
- Water
 - Watering is not as much of a concern in fall and winter in most of Maryland.

Winter

- Relax and wait for the signs of spring, checkout to see what fauna is using the landscape as winter habitat.

Considerations for the first 5 years

First two years

- Watering
 - Watering is important to help the plants establish themselves.
 - Consider not watering after the first year or two. This will allow nature to take its course after establishment. Some perennials will respond to drought years by simply going dormant for a year or two.
- Plants
 - Weeding will be particularly important in the fall of the first two years, to avoid letting weeds get established in the very early spring.
 - Note the species that are not thriving
 - Remove all invasive plants by the roots

Next three years

- Plants
 - Consider replacing plants that did not thrive
 - Consider moving and/or splitting perennials to create the appearance that you would like
 - Consider just letting nature take its course
 - Remove all invasive plants by the roots.
- Design
 - Revisit the goals, use, and the appearance of your landscape. Make sure that your landscape still matches the goals. Consider bringing in more stakeholders and/or expanding the footprint of the landscape.

Additional considerations for wildlife

- Keep a log of the wildlife observed using the areas before, during, and after the project. Observe how the habitat is used throughout the seasons.
- Research other wildlife that might use the area if additional habitat was added. For example, Eastern red cedars provide habitat for cedar waxwings. Consider adding to the existing habitat to increase the variety of species using the landscape.

Conclusion and assessment

Critical to the success of any project is a maintenance plan that includes: watering, invasive species control, monitoring, and evaluation. But the most important part of any maintenance plan is that its creation must be the most collaborative element of the entire project. All stakeholders must be involved in the creation of the maintenance plan for the project to be a success.

Complete the two tasks below for the site identified in unit one:

1. Create a 5-year maintenance plan using the template
2. List the maintenance issues that the participants have faced and discuss how a more comprehensive maintenance plan would have addressed those issues

Maintenance Template

Conservation Landscape Maintenance Team Roster: List all of the people who need to be included in the development and implementation of a maintenance plan.

Conservation Landscape Maintenance team member names	Role (e.g. supervisor, student, teacher, groundskeeper, volunteer, etc.)	Contact information

Responsibility Chart: Indicate the seasonal tasks that need to be completed and the team members who will be responsible, assisting and consulting. The responsible party is ensuring that the task will be completed, the assisting party would help complete the task and the consulting party would be part of any decision making regarding that task.

Depending on the task not all members of the maintenance team would be involved in every task.

First Three Years				
	Tasks	Responsible	Assisting	Consulting
Spring				
Summer				
Fall				
Winter				
Next Two Years				
	Tasks	Responsible	Assisting	Consulting



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Appendix

“The predictions of mass extinction are based on the assumption that the vast majority of plants and animals cannot coexist with humans in the same place at the same time. Nonsense! Evidence suggests that the opposite is true: most species could live quite nicely with humans if their most basic ecological needs were met.

For the past century we have created our gardens with one thing in mind: aesthetics. We have selected plants for landscaping based only on their beauty and their fit within our artistic designs. Yet if we designed our buildings the way we design our gardens, with only aesthetics in mind, they would fall down. Just as buildings need support structures...to hold the graceful arches and beautiful lines of fine architecture in place, our gardens need native plants to support a diverse and balanced food web essential to all sustainable ecosystems.”

*From Bringing Nature Home
By Douglas Tallmay*

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Sample Timelines for Habitat Projects at Schools

General Guidelines

- If writing a Chesapeake Bay Trust grant remember the students can write it, you can submit it at any time if you are asking for \$2000 or less, and you should submit it at least 12 weeks before you want the money.
- Field trips to local waterways can help solidify the “Meaningful Bay Experience Connection”
- Ideally start the forest or meadow project process about 6 to 12 months before you would like to plant and the wetland project process about 2 years before you would like to plant.
- Allow your site to dictate the project. If you have the right soils, make a wetland. Or if you have a stand of trees, expand them into a forest.
- The sooner you start talking to nurseries the more likely you are to get the plants and trees you want.
- Be flexible! We make our plans so we can eventually change our plans.

Additional tips for Meadows:

- Ideally it takes about a year to establish a meadow. In order for the meadow to be successful you have to kill whatever species of grasses are currently in the area.
- It will never look like the highway median plantings because we encourage natives only.
- Meadows are a transition habitat. In a natural setting they eventually become a forest. Consider if you want to keep it a meadow (more maintenance) or allow it to transition into a forest (less maintenance), or some combination of the two.

Additional tips for Forests:

- Plant trees when the transition will be the least traumatic for them. Look for mild weather: usually March, April, October, November, and December.
- You will have some mortality. Plant densely and monitor closely in the first year or so to try to reduce mortality.
- Maintenance for a forest project can sometimes be as simple as: don't mow, put up a nice sign and monitor for invasive vines. But it can be more complex, everything depends on existing vegetation and existing herbivores.

Fall Forest Planting

Season	Task	Participants
Summer	Teachers attend workshop	Teachers Technical Partners
Summer	Potential project sites identified	Teachers Technical Partners
Summer	School approval is received	Teachers
Fall	School applies for funding and additional technical support	Teachers Technical Partners School Personnel
Fall	<ul style="list-style-type: none"> • Students discuss water quality and assess the schoolyard. • Discuss possible projects and decide on a Forest project • Students measure and plan site • Students write a grant 	Teachers Students
Spring	Funding is approved	Technical Partners
Spring	Students create a planting plan, which includes species and numbers of plants <ul style="list-style-type: none"> • Nursery must be contacted to ensure plants would be ready for the dates they are needed 	Teachers Students
Spring	Students go on a field trip exploring a local waterway making the connection to their project	Teachers Students Resource personnel
Fall	Students review the process and the plants selected	Teachers Students
Fall	Students plant the forest	Teachers Students
Ongoing	Students monitor site looking for invasives, mortality and wildlife	Teachers Students

Spring Meadow Establishment

Season	Task	Participants
Summer	Teachers attend workshop	Teachers Technical Partners
Summer	Potential project sites identified	Teachers Technical Partners
Summer	School approval is received	Teachers
Fall	School applies for funding and additional technical support	Teachers Technical Partners School Personnel
Fall	<ul style="list-style-type: none"> • Students discuss water quality and assess the schoolyard • Discuss possible projects and decide on a Meadow project • Students measure and plan site • Students write a grant 	Teachers Students
Fall	Students create a list of desired meadow species <ul style="list-style-type: none"> • Wholesale seed company is contacted and gives advise 	Teachers Students
Spring	Funding is approved	Technical Partners
Spring	Students go on a field trip exploring a local waterway making the connection to their project	Teachers Students Resource personnel
Spring	Students review the process and the plants selected	Teachers Students
Spring	Students seed the meadow according to wholesalers directions	Teachers Students
Ongoing	Students monitor site looking for invasives, mortality and wildlife	Teachers Students

Group Work Templates

Team Name

Team Members

The Challenge

The owner of this property wants a conservation landscape in order for the property to offer wildlife habitat and water quality benefit. This is an education center with a very busy and overworked staff.

Potential Goals of the project

List at least one for each category

Possible ecological goals:	Possible human community goals:

Share and discuss with the larger group.

What are some other issues that could influence the goals?

Feasibility Study

Indicate the possible assets and possible stumbling blocks for the site for each of the categories			
	Ecology	Watershed	Community
Possible Assets			
Possible Stumbling Block			

Project Site Specific Assessment

List the observations about the following for the specific site where the project will be located:

Sun:

Soils:

Space:

Slope:

