

## Pollution Prevention In The Community



### Habitat Restoration and Erosion Prevention

One of the most powerful long-term contributions people can make toward water quality is to restore native habitat. When carefully planned, such projects can prevent flooding and erosion, support wild plants and animals, improve water quality - all while creating pleasant green spaces. They often also offer unsurpassed opportunity for the community to observe and analyze life in nature

The following are action steps for completing a successful community-based restoration/erosion prevention project.



### Choose your focus

Erosion prevention - look for... undermined embankments or streambanks, construction dirt, washed out gullies, or bare soil. You can stabilize and improve these sites with plantings, other landscaping, retention walls, or structures to slow runoff. For example, volunteers can plant deep-rooted native plants to stabilize a steep hillside. Or they could fill washouts on hilly trails and divert runoff with buried pipes or logs.

Habitat restoration - look for... areas of turf grass or non-native weeds (along highways for example) that could be restored to native prairie or forest, or substantial low areas (including by lakes or next to streams) that could be restored to native wetlands. Nurturing wild ecosystems offers volunteers powerful learning experiences, but should not be taken on lightly. What makes for desirable landscaping may not be obvious at first glance. For

example, native prairies do not display their gorgeous array of wild flowers until they are established. Expert help is essential. Restoration projects demand a serious commitment to long-term weeding, additional plantings, etc.



## Get a qualified partner

Secure the support of a qualified biologist, horticulturalist, forester, hydrologist, etc. You will need help to identify existing plants, to plan plantings for soil and other conditions, to get necessary permission, and to demonstrate the best planting methods.



## Organize a Planning Team

You must have broad support to restore and maintain native habitat. This must include affected landowners. In addition to your volunteer team, bring together maintenance staff, administrators, city parks and recreation and public works staff, business leaders, and any other interested stakeholders. Set a regular meeting time to discuss the following steps.



## Gather and map site information

Get or make a large map to record significant features of your chosen site. Possible sources of basic maps include the landowner, city or county planning office, highway department, or local builders. The Department of Environment and Natural Resources may be able to provide aerial photographs of your site.

On the map draw and label:

- ✓ Property lines and neighbors.
- ✓ Measurements of distance, with appropriate scale, slopes, hills, high and low spots. For large areas, you may wish to show topographic relief. For topographic maps, contact the South Dakota Geological Survey at [www.sdgs.usd.edu](http://www.sdgs.usd.edu)
- ✓ All buildings, road, parking lots, and other structures plus utility lines (buried and overhead).

- ✓ Streams, lakes, ponds, downspouts, and storm sewer openings and outlets. Show direction of flow. Call city public works for storm sewer maps. Also show sports fields, play areas, bicycle racks, bus waiting, outdoor equipment storage, snow piling locations, etc.
- ✓ Soil types. Existing vegetation: city gardens that may contain shrubs, flowers, trees, aquatic plants, native and non-native. Make special note of any rare or threatened species.
- ✓ Paths, both animal and human. Indicate the condition of the trails.
- ✓ Animal habitat and homes, both existing and potential.



## Analyze the Information

- ✓ How can you enhance the biological diversity of the site? What plants or animals are “missing” that were likely there prior to development?
- ✓ How can you reduce the fragmentation of nearby habitat, creating wildlife corridors?
- ✓ What plants are native to the area?
- ✓ Can you nurture any species that are endangered or threatened in your region?
- ✓ How will you provide access for study and enjoyment of the area while keeping the impact on wildlife and water quality to a minimum? Design and creation of trails requires much care.
- ✓ How will you interpret the site for others? Signage should be durable, age-appropriate, engaging, attractive, and unobtrusive.
- ✓ How will you create access to food, water, breeding areas, and homes for wildlife?
- ✓ What is the history of the site? Make a timeline of fires, building, farming or other ways the site was used historically. What is the likely natural succession of plants over the years, past and future?



## Choose projects

- ✓ Inventory all plants and animals in the area under consideration. Publish it.
- ✓ Monitor water quality. Analyze the impact of your efforts.
- ✓ Stabilize bare soils, gullies, or sagging slopes. Consider how you will hold them in place until root systems develop. Always use erosion control measures around construction.
- ✓ Establish buffer zones of native vegetation around wetlands, streams and lakes.
- ✓ Plant native trees, shrubs, aquatic plants, and grasses - as appropriate to the site.
- ✓ Eliminate non-native “exotic” species such as buckthorn.
- ✓ Build dikes to create or restore ponds or wetlands. Upstream from lakes or

- ✓ wetlands, create ponds where pollutants can settle out.
- ✓ Use fertilizers pesticides, and herbicides sparingly and properly.
- ✓ Create signs, brochures, tours, videos, web pages... to interpret the site to others.
- ✓ Build the necessary trails, bridges, boardwalks, observation blinds and platforms to allow access.
- ✓ Organize necessary maintenance, including watering, weeding, burning, mowing, etc.



## Plan the details

- ✓ Budget to include donated “in-kind” labor and equipment as well as cash.
- ✓ Contact property owners or agencies that may be willing to cost share.
- ✓ Analyze all likely risks and develop safety plans to head off or respond to each. Make sure everyone knows these procedures.
- ✓ Quality of equipment and materials will pay off in the long run. Borrow tools to avoid costs and storage. Volunteers and agencies are likely sources for items that can be loaned out or rented to your group for a nominal fee.
- ✓ Lack of watering, careless mowing, negligence are all the bane of habitat restoration projects. Work closely with maintenance staff in advance.
- ✓ Monitor and evaluate implementation of your plan and revise as necessary.