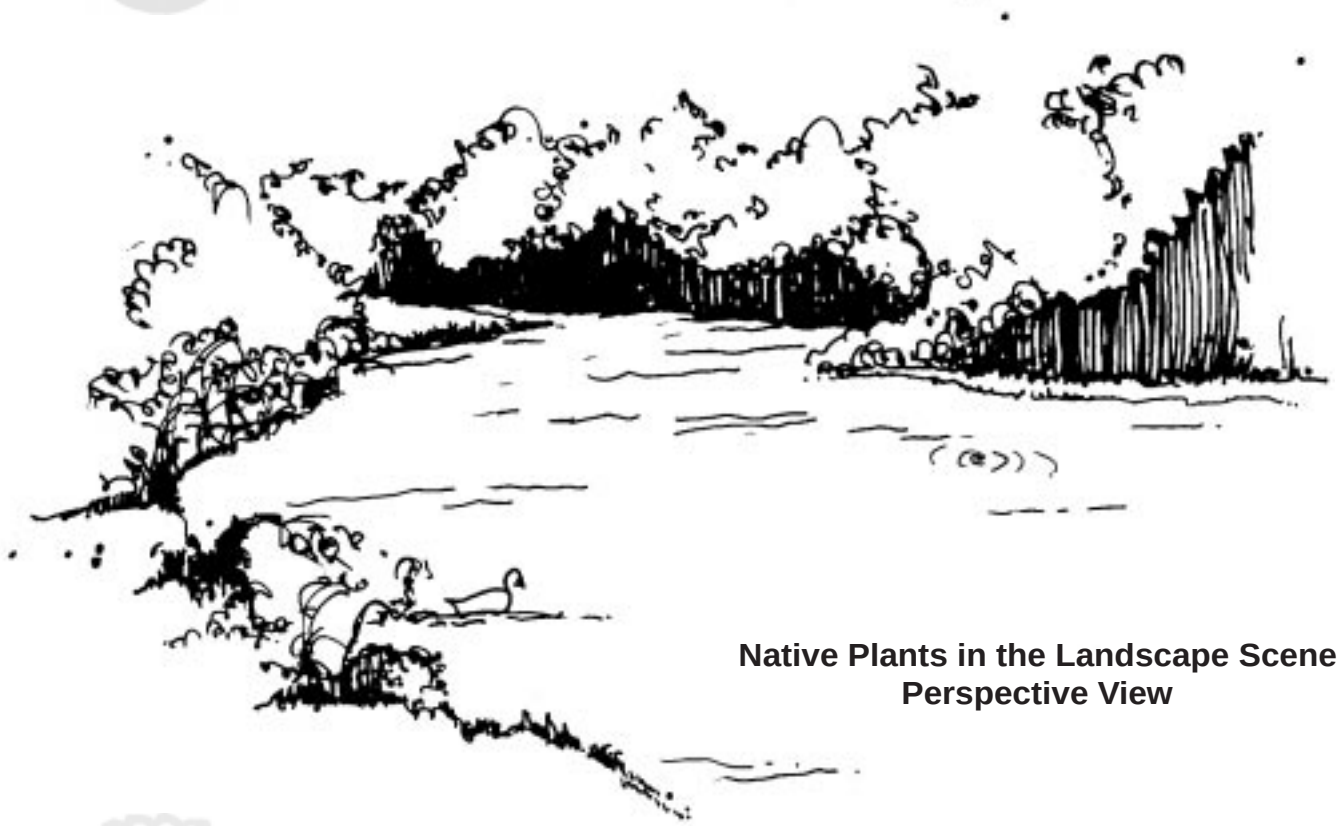
PRIMARY USE: Erosion control.
ADDITIONAL USES: Removal of nutrients and sediment from runoff; minimization of runoff volume.

NATIVE REVEGETATION - TREES AND SHRUBS

What is it? Techniques to establish or re-establish native trees and shrubs at a disturbed or degraded site.

Purpose

Trees and shrubs are more effective than grasses in the removal of nutrients and minimization of water volume. Trees and shrubs contribute to reduced sedimentation and help to reduce erosion. Use of native trees and shrubs is more conducive to restoration of the ecological function of the site.



Native Plants in the Landscape Scene
Perspective View

Limitations

Use of exotics can result in further site degradation instead of achieving desired restoration goals.

Materials

Cuttings, bare root, tube, liner, or container stock.

Installation

There are a number of revegetation options. The best choice depends upon the site, time frame for completion, financial resources, and available personnel. Revegetation projects can sometimes be best accomplished by planting nothing. The best revegetation, from the standpoint of ecological diversity, and the most economical, may be the project that simply creates the conditions for invasion by native vegetation.

Source: Riley, A.L. Restoring Streams in Cities. Island Press. 1997; The University of Georgia College of Agricultural & Environmental Sciences Cooperative Extension Service.

NATIVE REVEGETATION - TREES AND SHRUBS

Installation Guidelines continued:

Using transplanted stock will hasten the process, and this approach is frequently used. Containers refer to the 1, 5, 10, 15 gal (4, 18, 35, or 50 liter) containment buckets commonly seen in nurseries. Some native plant nurseries make containment stock available in tall narrow containers to encourage development of deep roots. Tubes are a small variation on tall containers, having smaller diameters. Liners are small plastic 6-packs of young rooted plants. Bare root plants may come in bundles if they are small and usually have the roots wrapped in moist absorbant material covered with a plastic wrap to delay drying. Cuttings refer to plants propagated from short sections of branches or limbs, sometimes held temporarily in a mixture of perlite and peat moss prior to planting to promote root formation.

Suppplemental Information:

Plant Stock Container stock is the most expensive approach and has recently fallen into disfavor among restorationists for a variety of reasons. In addition to its cost, container stock tends to take a long time to acclimate to new surroundings and grows more slowly than other plant stocks. Roots in container stock may temporarily confine growth to nursery soil from the pot. Bare root, tube, and cutting plants are forced to adapt more quickly to the new environment. On the other hand, container stock appears to be the best choice for areas where significant traffic and/or other sources of damage are expected to occur. The smaller stocks can be more vulnerable than container stocks to pest, animal, and human damage. If rootless cuttings are used, a large number must be planted to ensure adequate survival. If an objective is to make a rapid change in the micro-climate of the site, use of larger (container) stock may be advantageous.

Planting Bare root and tube seedlings can be quickly and easily accomplished by using a mattock, pick, or iron bar. Create a hole using proper tools. Hold the plant so that the roots dangle straight into the hole. Back fill the hole and then tamp to remove air pockets.

Container plant stock tends to be relatively heavily and cumbersome. Fifteen gallon (50 liter) containers require two people. The hole should be twice the diameter and depth of the container. When planting trees, prune off encircling or kinked roots as these may strangle the young plant. Plant with the crown (where roots meet stem) just above the ground. Tamp the dirt to remove air pockets.

Rootless cutting stock is the most vulnerable to transplant shock and is best used when the plants are dormant (fall and winter). Bare root stock is more vulnerable to transplant shock than is container stock. Bare root trees and shrubs are usually available in the winter and spring from nurseries, with early spring planting most common.

Container stock planting times are variable. In the southern and western states, fall plantings are generally more successful. In the northern and mid-western states, spring plantings allow acclimation and root development prior to harsh winters.

Some restorationists manage plantings to promote natural succession. Pioneer species, started from cuttings or seeds, are used to provide a quick cover, extensive rooting, and plant structure. This helps to initially stabilize the site. After stabilization, conditions are better for the establishment (planting) of non-pioneer species.

Planted stock is not typically fertilized during restorations. Mulching, however, is sometimes done to enhance water retention and provide a measure of protection against erosion and drying. Container plants and larger bare root stock usually cost more than the other options and additional protective measures are frequently used. These may include wire fencing to protect the stem/trunk surface and re-bar supports (using wire in rubber hose) to help support the larger stock.

Source: Riley, A.L. Restoring Streams in Cities. Island Press. 1997; The University of Georgia College of Agricultural & Environmental Sciences Cooperative Extension Service.