



Direct Seeding of Disturbed Areas

USDA, Natural Resources Conservation Service

Background

The purpose¹ of direct seeding is to establish vegetation on disturbed sites to reduce or eliminate soil erosion. Soils in the Lake Tahoe Basin are characteristically low in fertility and retain little moisture for plant growth. A combination of proper seeding technique and selection of suitable plant species can produce a vigorous and effective growth of vegetation resulting in an effective deterrent to soil erosion.

Direct seeding has an advantage over other means of revegetating disturbed sites due to its cost effectiveness. Rather than invest in costly containerized plants or sod, direct seeding can be applied over large areas at a fraction of the cost.

Practice Application

Direct seeding involves a simple 5 step process. These are:

- 1) Species/Seed Selection;
- 2) Site Preparation;
- 3) Seed Application and Mulching;
- 4) Plant Establishment; and
- 5) Management.

Each step in this process is critical to the success of the effort. Shortcuts are generally discouraged.

Species/Seed Selection.

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There are two predominate factors to be considered in selecting your seed mix. You should first consider what your desired landscape will consist of. Do you wish to view only grasses on your landscape or do you wish to include wildflowers for color? It is also possible to include native shrubs into the mixture if desired. Sod forming grasses provide excellent resistance to soil erosion. They are very aggressive however, and will tend to crowd out wildflowers.

Bunchgrasses are the best companion to wildflowers. Seeding wildflowers alone will produce a dramatic landscape for a period of time but the effect tends to diminish with passing years.

Other factors to consider when selecting your plants are the soils and landscape in which they will be growing. The soils at Lake Tahoe are typically very dry and low in nutrients. For this reason select plants that are tolerant of dry conditions and require little, if any, fertilizer. Many commercially available plants meet this criterion, including those native to the Lake Tahoe Basin.

Additional information on plant selection can be found in the [Home Landscaping Guide for Lake Tahoe and Vicinity](#).

Site Preparation

You cannot put too much emphasis on properly preparing your soil for seeding.

Before you begin, mark the area to be seeded and measure the square footage. This information will help you purchase the correct amount of seed to cover the desired area. Tilling the seedbed to a depth of 6 inches can improve its tilth for root development. Compost can be tilled into the soil to improve moisture retention. Spread at least 1 inch of compost over the area prior to tilling for best results.

Seed Application and Mulching

Direct seeding is accomplished in one of three ways: 1) Scattering the seed by hand (hand seeding); 2) Seeding with a whirlybird spreader; or 3) Seeding with a drop spreader. **Hand seeding** is a simple approach used in seeding smaller areas that require no special equipment. Simply take a handful of seed at a time and scatter the seed evenly over the area. The drawback to this method is that it may result in uneven distribution of seed.

Broadcast spreaders are useful for larger areas. This device (sometimes called a belly grinder) throws seed from a rotating chamber which is operated by a crank. This device may also result in uneven and inaccurate distribution of seed but is well suited to sloping areas. The **drop spreader** is a very accurate means of seed dispersal. A rotating spindle allows seed to drop from the bucket directly over the area it passes. Most drop spreaders are adjustable for more accurate control of seeding rate and seed placement. A drop spreader assures a more even distribution of seed.

When possible, seed should be applied when the soil is dry. Seed should be applied over the surface of the area at the rate indicated by the provider. The seeding rate is usually stated as pounds per acre or pounds per thousand square feet. If you are going to use fertilizer, apply it after seeding. See the **Tip Sheet on Yard Fertility Management** for

further information. Once seed has been applied over the ground surface, gently rake the soil surface to a depth of ¼ inch using a common steel-tined garden rake.

After sowing your seeds apply a layer of mulch over the seeded area. This will protect the soil surface from erosion prior to germination, as well as maintain a more favorable soil moisture level during and after germination. Fortunately, the Lake Tahoe Basin has ample quantities of pine needles which serve this need quite nicely. Scatter clean fresh needles over the seedbed area to a depth of ½ inch, but no more than 1 inch. Other materials, such as wood chips, shredded bark or standard compost can also be used as mulch.

Plant Establishment

Now that the seed has been sown challenging tasks still remain. You have to nurture your seeds through germination and early growth. The key factor limiting successful germination of seeded sites at Lake Tahoe is water. For this reason, it is always necessary to provide irrigation to a seeded area during the first growing season. Regular sprinkling encourages better germination and root development. The resulting plant vigor carries plants over to the following year. Plant growth may appear slow at first but will increase as summer temperatures rise. First to appear will be grasses and wildflowers, followed by any shrubs which were seeded. Some plants may not appear at all the first year, delaying their appearance until the following growing season.

Irrigation water can be applied either by hand or sprinkler. Automatic timers which connect to a hose bib offer added convenience in maintaining proper soil moisture. As a rule of thumb, irrigation is usually necessary during the months of May thru October. Frequent, short duration applications are advised until sprouts reach 1 inch in height. Afterwards, less frequent but deeper irrigations promote

root growth. Irrigation should taper off as temperatures cool in late September. Care should always be taken to avoid applying too much water and causing soil erosion. Applicable information on irrigation can be obtained from the **Turf Watering Management Tip Sheet**.

Maintenance

The amount of time and energy one has to invest in maintaining a revegetated site will depend primarily on the type of plants seeded. Moisture needs for plants vary widely. You should always ask about moisture requirements prior to purchasing seed. Proximity to dwellings is another maintenance item that should be considered.

Fire Considerations

An important feature that should not be overlooked in the Lake Tahoe Basin is the tendency of certain vegetation to fuel wildfire. Generally speaking, the shorter the stature of a mature plant, the less likely it will pose a wildfire threat by becoming a **ladder fuel** around the home.

For a Fire Safe environment, avoid seeding taller species adjacent to structures. Grasses and other herbaceous plants grown within 100 feet of a structure should be mowed to a height no greater than 4 inches after they begin to turn brown or stop flowering. Obtain a copy of the **Fire-Safe Landscaping Tip Sheet** or **The Home Landscaping Guide for**

Lake Tahoe and Vicinity for additional information.

Practice Authority

This Conservation Practice Standard applies to the seeding and establishment of vegetation on highly erodible or critically eroding sites. These sites are generally severely eroded or disturbed and have low fertility and few, if any resident seeds. This Tip Sheet is applicable on sites with a slope gradient of less than 2:1, or 50%. Steeper slopes will require additional provisions not covered here

This is a local amendment to NRCS Conservation Practice Standard 342, Critical Area Planting. This practice covers the horticultural prescription and establishment of vegetation through direct seeding on disturbed sites.

For further information contact:

Nevada Tahoe Conservation District
(NV) **(775) 586-1610**

Tahoe Resource Conservation District
(CA) **(530) 543-1501 Ext 113**

USDA Natural Resources Conservation
Service **(530) 543-1501 Ext 103**

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