

Conservation Landscaping for the Lake Tahoe Basin



How To: Lawn Conversion By Sheet Mulching For Water Conservation

Sheet mulching is an underutilized technique that has been in practice for many years. This process layers “sheets” of organic material on top of your lawn to mimic the natural processes of decomposition on the forest floor. Your existing turf stays put, so there is no need to remove and haul away this nutrient and mineral-rich layer in order to undergo a lawn conversion project. Existing desirable plants can be retained and new vegetation can be planted directly into the sheet mulch at any time during the conversion. When the decomposition process is complete, the soil is at nearly the same level as it was originally.

In addition to conserving existing resources this process:

- restores soil fertility
- optimizes weed control
- improves water retention
- improves soil structure
- minimizes soil erosion

The benefits of turf reduction by sheet mulching outweigh the energy required to complete the process. You can hire out the project or do it yourself with a little help from your friends. The labor and resource savings will be appreciated for years to come.

Mulch is a necessary and vital component of nutrient cycling in our soils. It can be utilized post construction to restore soil fertility or after repetitive years of raking the soil clear of organic material. It is a common practice in water efficient landscaping, erosion control and weed control and is an important component of conservation landscaping.

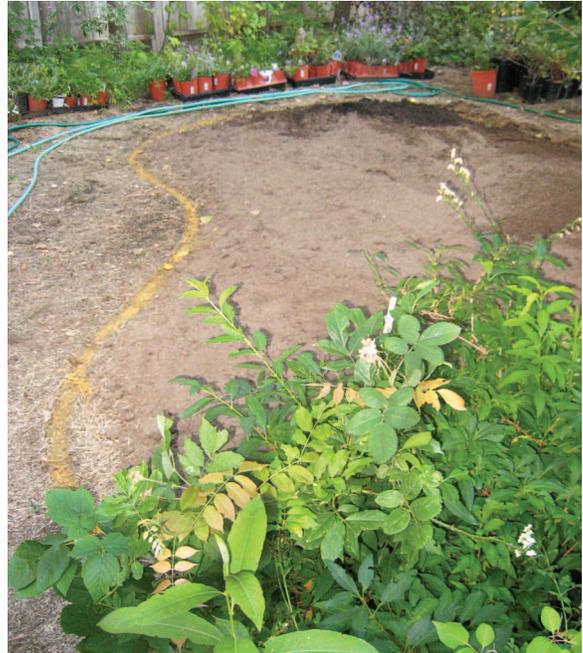
You will want to have materials stockpiled before you start. Use this calculation to figure out how many cubic yards of material you'll need: $(\text{Length in Feet} \times \text{Width in Feet} \times \text{Depth in Feet}) / 27 = \text{Cubic Yards}$.

To Begin:

Prepare your lawn

Mow the lawn at the shortest blade setting leaving the nitrogen rich lawn clipping in place. Physically remove the 12-inch strip of turf that borders hardscapes such as driveways and house foundations. Where turf is removed mechanically, use a flat blade shovel and plane off the

top 4 inches of soil under the turf. Do not disturb the remaining turf.



Layer #1: Add compost and water

Add a 2 inch layer of high nutrient materials such as compost and seasoned horse manure to hasten lawn decay. Be careful not to let compost spill onto surfaces where it can be washed away and pollute water bodies. Get a soil analysis so you can make pH or mineral adjustments during the conversion if needed. Contact your local Cooperative Extension offices for soil testing information.

Saturate the area with water before adding additional layers. In order to protect water quality, only water enough to moisten 12 inches of soil and in a manner that does not cause runoff. On sloped sites, you may need to run the irrigation for multiple short duration cycles.

Layer #2: Apply weed barrier

Apply an organic barrier to block light and smother the lawn and potential soil-born weeds. Everything under this layer will die and be decomposed by worms and other soil microbes. This increased microbe and worm activity creates a fertile planting bed for future plants. The light barrier itself also breaks down over time and with proper planting and mulching practices, grass and weeds will not

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re-sprout. Available materials for this light barrier include flattened cardboard boxes or 4-6 layers of newspaper. The edges of the material must overlap 6 inches in order to prevent light gaps in the weed barrier. The width of this overlapping layer stops sunlight from reaching the turf while allowing water and air to reach the soil for the decomposition process.



Layer #3: Apply 3-5 inches of organic material and water in well

Apply a minimum of 3-5 inches of weed-free organic material over the light barrier. Common materials include finished or partially finished compost, straw and leaves. These materials should be able to retain moisture.

Layer #4: Apply mulch

Apply a 3-5 inch layer of weed free organic material such as wood chips, sawdust, bark and shredded pine needles. This top layer is slow to break down and should be selected for texture, relative flammability and desired appearance. This layer will need to be replenished over time as it decomposes into the soil.

Important considerations:

Timing

Soil microbial activity and organic material decomposition slow to a minimum when soil temperatures fall below 50 degrees F. Depending on when you start your project, it

could take more than one growing season to decompose your lawn. However, you don't have to wait to replant your landscape; revegetation and lawn decomposition can happen simultaneously.

Re-landscaping

Have a plan that integrates all of the important elements of conservation landscaping:

- soil restoration
- Erosion control and water quality protection
- Water conservation
- Defensible space
- Wildlife habitat enhancement
- Building native plant communities
- Retaining and adding vegetation

Select plants appropriate for the environment, site, its intended use and function. Tahoe native and adapted plants require minimal care and are the natural choice. Group plants with similar moisture, sunlight and soil requirements. Refer to the [Home Landscaping Guide for Lake Tahoe and Vicinity](#) for landscape planning, revegetation guidelines and approved plant list.

Holes can be left or created in the mulch layer to plant large container plants. 4 inch pots can be planted directly on top of the mulch layer as long as planting soil surrounds the plant. For disease prevention, do not mulch around the plant root crown. Areas of soil disturbance, breaks in the light barrier and irrigated locations need to be managed for weeds.

Irrigation

Use high efficiency irrigation components and water conservation practices. Adjust your watering schedule monthly and replenish mulch every one to two years to conserve water, minimize soil compaction and runoff. Refer to the Water Efficient Landscaping tip sheet for more information.

Regular irrigation during the growing season will speed the decomposition. Consider not converting lawn sprinklers to drip irrigation until the weed barrier has broken down and the grass beneath has been decomposed. This process does not have the same watering requirements as turf, so adjust the irrigation schedule accordingly. See [How To: Convert Sprinkler Systems to Micro-Irrigation](#) to learn how to retrofit existing spray heads to micro-irrigation.