

## PLANTING ON YOUR HILLSIDE

### San Diego Facts:

We live in a Mediterranean climate with virtually no summer rainfall.

We rank as a desert with little fall, winter and spring rainfall.

Our terrain is not flat; in fact, we are quite hilly.

Our infrequent heavy rains can cause our hillsides to wash away.

Based on these facts, we need to spend the time and effort to plant our hillsides to prevent garden havoc, home damage, and erosion. Erosion is a natural process through which soil moves. It can occur slowly due to winds or rapidly with storms. The main purpose of proper hillside planting is to prevent this from happening. Here's a link to helpful hints on preventing erosion: <https://firesafemendocino.org/wp-content/uploads/2017/10/PreventErosionNRCS.pdf>

### Key preventative actions include:

Choosing plants that will hold our hillsides together;

Providing mulch to curtail weeds;

Providing organic matter;

Maintaining soil moisture and irrigating to establish healthy growth.

If you can follow these guidelines, you should be able to maintain the integrity of your hillside.

Along with proper plant selection (covered later in this article), other methods of hillside control include installing drains, strategic rock placement to divert water, and building retaining walls to create large terraces.

**Determining Slope Types:** Our properties may have slopes that fall away from our house or fall towards it, or maybe both, if you live on a hill and canyon. Slopes range from gentle to steep. The steepness is found by dividing the rise by the run, aka the vertical change by the horizontal change. A 10% slope means that you have a ten-foot rise over a 100-foot stretch of land. Less than 10% is considered a gentle slope. A 50% slope means that you have a 10-foot rise over a 20-foot stretch which is considered a steep slope.

This graphic by **THE COASTAL GARDENER** (Humboldt & Del Norte Master Gardeners Newsletter) will help you visualize the degrees of slope.

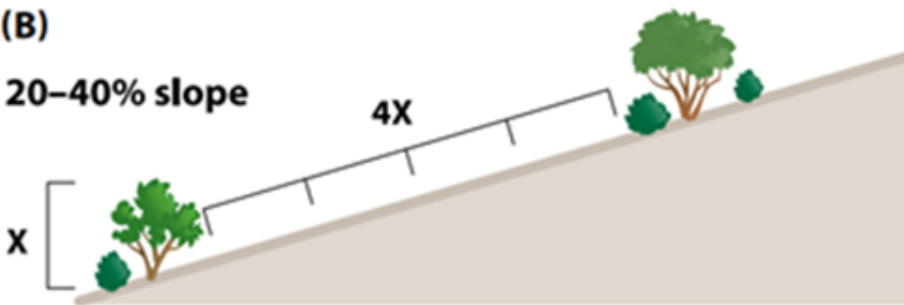
**(A)**

**0–20% slope**



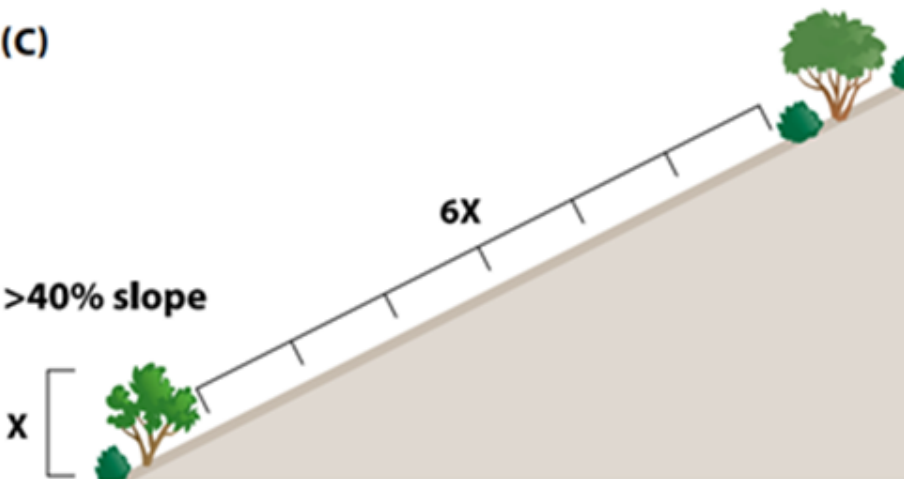
**(B)**

**20–40% slope**



**(C)**

**>40% slope**



With a gentle slope (less than 10%), you can plant whatever you like. Flowers, shrubs and vegetables will do well especially if you can level areas, making tiers with rocks, bricks, or wood.

A moderate slope (10% - 33%) will be served well with ornamental grasses, low ground covers, and shrubs. Use several inches of medium to large mulch, including pine needles, wood and bark chips. Choose plants with deep and wide roots to help stabilize the soil.

Planting on a steep slope (greater than 33%) can be very challenging. Your decisions will be based on the size and location of your hillside. The steeper the slope, the more likely it is to slide away in heavy storms. Choose trees and shrubs that have deep and wide root systems as the larger the root system, the better to hold the soil in place. Be sure to plant trees with their trunks upright. Use 2+ inches of mulch (wood or bark chips) and the steeper the slope, the larger the mulch should be. Consider terracing, building several mini levels. Make each level as

flat as possible and create tree basins in the front and sides so that the irrigation percolates down to the root zone and not down the hillside.

About Irrigation: Many experts recommend installing drip systems, others prefer bubblers or spray. Choose the system that works best for you. The following article provides great information on the pros and cons of different systems:

[https://marinmg.ucanr.edu/BASICS/IRRIGATION\\_911/Types\\_of\\_Irrigation\\_Systems/](https://marinmg.ucanr.edu/BASICS/IRRIGATION_911/Types_of_Irrigation_Systems/)

Place your emitters on the uphill side to increase water into root zone. Make sure that each plant gets the proper number of emitters and allow for more to be added when the plant grows wider. Hopefully, you will choose low water plants like California Natives and succulents. Almost all plants will need initial regular water. California natives may take 2-3 years of supplemental water before thriving on only winter rainwater. Some succulents live in the desert regions of our county with no supplemental water. Other plants will want more regular irrigation to thrive. Choose your plants wisely.

Irrigation Tips from Debby Dunn, San Diego Master Gardener and Southern California Water Authority expert:

Hydrozone your irrigation by placing plants with the similar water needs on the same valve (ex: trees on one valve and groundcover on another).

Irrigate infrequently but deeply to encourage deep root growth for the plant/tree.

Irrigate slopes and clay soil in cycles to reduce runoff – i.e., cycle and soak (split total watering time into 2 to 3 cycles 30-60 minutes apart)

For info on irrigation practices, creating healthy soil and more, watch SDCWA's short videos @ [SDCWA.org/conservation](http://SDCWA.org/conservation).

Turf & other rebates @ [SoCalWaterSmart.com](http://SoCalWaterSmart.com).

Overall Design Guidelines for Slopes:

1. Plan paths for access to your plants. You will need to weed, check sprinkler function, add mulch, rebuild watering basins, prune, and trim your plants.
2. Plant the shortest plants closest to your garden and the tallest further away. Be aware of blocking your view as well as your neighbors'.
3. It is more effective to plant an assortment of different plants than choosing only few.
4. Don't plant in a straight line but stagger the plants as your hill allows.
5. Smaller container plants will grow faster and spread their roots wider than large ones – start small.

The Challenge of Plant Selection: You need to look at the mature size (both height and width) of the plants you choose. Know the depth of your terracing, how much watering your plants will require, and how much time you're willing to commit to maintaining the area. Remember that there is no such thing as a maintenance-free landscape.

Help with Plant Selection: The experts at neighborhood nurseries are there to help you choose plants. They sell what does best in their region.

And check out these online resources:

- California Native Plant Society: <https://www.cnps.org/gardening/hot-sunny-slopes-and-the-plants-that-hold-em-12972>
- CalScape: <https://calscape.org/search>
- Waterwise Garden Planner: <https://waterwisegardenplanner.org/lists/plants-for-slopes/>
- San Diego County Water Authority: Insert link to “Happy 100 Plants” list

Hillside Planting Tips:

- Master Gardener Program of Contra Costa County: <https://ucanr.edu/blogs/blogcore/postdetail.cfm?postnum=19450>
- Sonoma County Master Gardeners: <https://ucanr.edu/sites/mgsc2016/files/360537.pdf>

Planting on a hillside or slope can be challenging but by following recommended guidelines, you can create attractive spaces while preventing erosion and damage to our landscapes.

Linda Stewart, UCCE Master Gardener