

Intro to Permaculture Scales of Landscape Permanence

Video Transcript

We're going to look now at another system to help us to design a site, and it's called the Keyline Scales of Landscape Permanence. Keyline design was founded by Australian P.A. Yeomans, and his work was a big influence in the evolution of the Permaculture design system. The site that we will look at, Wolf Gulch Farm, was designed and developed by Permaculturist Tom Ward of Siskiyou Permaculture in Southern Oregon, USA.

The Scales of Landscape Permanence teaches us the sensible order to design for elements, and it begins with Climate. You cannot design the climate on a large scale, but you can certainly choose the climate that you want to be in, if you have the financial and physical mobility to make such a choice. Plenty of people have no mobility or choice to decide where they want to be. We will look at the Little Applegate Valley in Southern Oregon's Siskiyou Mountains, at 42 degrees North Latitude and 2400 feet or 730 meters above sea level. This is the high desert, and the site historically received around 20 inches or 500 millimeters of rainfall yearly, but much less in recent years due to extreme drought.

Next on the scale is Landform. The landform of this farm is a south-facing valley with a watershed of approximately 600 acres or 250 hectares.

Next on the Scale of Landscape Permanence is Water, and this is the first place where we can impose our own will on the landscape and design for the water flow to meet our needs. The main water source on this site is a spring that comes up in the gulch. The flow of this spring is partially diverted across the contour to a pond, which sits above the cultivation areas.

There is also a pond that collects the rainwater runoff from the barn, and a pond placed at the bottom of the farm to collect storm runoff.

It's not just bodies of water, but the layout of the beds that respond to the flow of water over this dryland site during wet periods and storm events. The large swales on the east side of the farm are oriented to intercept water flowing down the slope, and then zigzag that water back and forth across the landscape in slightly sloping swales.

On the west side of the farm, we can see that planting beds are oriented to slightly drift water away from the gulch, to spread storm water laterally across the landscape, in order to slowly infiltrate water into the soil and aquifer instead of having it quickly rush into the gulch, and out of the farm during heavy rains.

The next Scale of Permanence are the Roads or Access Ways within the site. You can see that the main road going down the center of the site is also the water collection surface for the big pond. Other trails and access ways also follow the water design of the farm.

Next on the Scales of Permanence we have Trees, or Permanent Vegetation. Trees can live for a very long time, and their placement within the design pattern should make sense. In this mountain valley, there are what are known as diurnal winds, which means that during the day, hot dry winds come up the valley, and at night, cold frosty winds come down. So the rows of trees in this design have several functions. They deflect cold air and frost away from the beds at night, and they block hot drying winds during the day. They also produce fruit, nuts, firewood, building materials, habitat, mulch, flowers, and shade

Next on the Scales of Landscape Permanence we have the Placement of Structures. Here you can see the structures clustered at the top of the farm, with good solar orientation. Greenhouses, home and barn are all centered around the main vehicle entry and parking hub.

Next on the scale is Subdivision. This refers to how you divide the farm into management areas, and where you might place fencing for the controlled rotation of animals. You can see that based on the water, access and trees, we now have the farm subdivided into management blocks.

The last element on the scale is Soil. Here's where we actually get into the fertility management of the soil. There are many techniques used on this farm, including cover cropping, crop rotation, rotational grazing with animals, plowing with a special Keyline plow to deepen the topsoil, and composting just to name a few. Soil is considered the easiest element to alter in this system, especially once the rest of the mainframe infrastructure of water, roads, trees, and fencing is in place.

So this was a really quick journey through the Keyline Scales of Landscape Permanence and how they can be applied to influence a design. Other versions of the scales add on economy and community, which are also crucial pieces to consider in any farm development.

You can see video footage of Tom Ward at Wolf Gulch Farm in the video tour I made of the property, which is found below.