

MEETING MEADOWS



In these mountains, fire-suppression has allowed forests to become overgrown. Meadows end up as very occasional openings, usually made by a bulldozer or as maintained by domestic grazing animals. Meadows with large quantities of native forbs are virtually non-existent. Here at the Wildergarten meadows are maintained by hand and are by far more demanding than any other type of habitat. Larger plants hide tiny weeds, requiring time-consuming inspection and removal at least five times per year (weeds crop up after rain; in 2010, the patch at left got 14 visits). The soils are tangled with roots, making effective removal more difficult.

This meadow is a mix of small-flowered lotus, Spanish lotus, pinpoint clover (*T. gracilentum*) tree clover (*T. ciliolatum*), thimble clover (*T. microdon*), small-flowered needle-grass (*Stipa lepida*), blue wild-rye (*Elymus glaucus*), California brome (*B. carinatus*), hedge nettle (*Stachys ajugoides*; they don't sting), and about 20 others. Interestingly, this meadow is succeeding to grasses, while the one on p6 is going the other way. Note the three native shrubs, yerba santa (*Eriodictyon californica* - the leafy thing in the mid-ground), monkey-flower (*Mimulus aranticus*, at the tip of the shadow on the right), and deer weed (*Lotus scoparius*, behind my trusty dog). If I don't remove them too, this meadow would succeed to chaparral in about five years. Now, that isn't a bad thing in terms of native plants, but it is a bad thing in terms of management if the goal is to maintain grasslands learn about how each one of these systems works.

Although this site is cleaner than some other locations on our property, disturbance still brings up non-native Dwarf Wood Sorrel (*Oxalis laxa*), nit grass (*Gastridium ventricosum*), bur clover (*Medicago polymorpha vulgaris*), and French Broom, even though they have all been under control here for over 10 years.





May 2010



Native meadows vary spatially and over time. Their management requires adapting to each individual system. This one is a mix of California brome (*B. carinatus*), purple needle grass (*N. pulcra*), blue wild rye (*Elymus glaucus*), Western fescue (*F. occidentalis*), coastal tufted hair grass (*Deschampsia caespitosa* v. *holciformis*) Santa Barbara sedge (*Carex barbarae*), and the usual lotuses.



April 2012

Did I say that native meadows were complicated? This one, in addition to the grasses has strange perennials like cinquefoil (*Potentilla glandulosa*), blue witch (*Solanum umbelliferum*), strawberries (*Fragaria vesca*), blackberries (*Rubus ursinus*), and annuals like pink cudweed (*Gnaphalium ramosissimum*) that can get five or six feet tall and as wide (if I let them). This is right in front of the house. I keep thinking from time to time that I should landscape it. M-m-maybe not just yet. I do mow it at the end of the year though.



May 2010

To most people, this looks like it's just grass and a few bushes. To me, this represents an awful lot of work. I had just taken a 40 pound rice bag of weeds out of this area of maybe 25 X 40 feet the same day.





May 2010

When you get them right, native grasslands can be immensely productive despite very poor parent material for making soil.
What you can see is almost all California brome (*B. carinatus*). We will soon get to what you can't see.



May 2013

Meadows even have their uses. This one is a road. Here are slender hair grass, (*Deschampsia elongata*), blue wild rye (*Elymus glaucus*), (*Bromus carinatus*), miner's lettuce (*Claytonia perfoliata*), monkey flower, Santa Barbara sedge (*Carex barbarae*), foothill sedge (*C. tumulicola*), and of course weeds, but at least not many, the worst is chickweed (*Stellaria media*).



May 2010

There are 37 species of grasses, rushes, and sedges in meadows at the Wildergarten. Where they first appear may is not necessarily demonstrative of where they are best suited. This is (mostly) nodding Trisetum (*T. cernuum*), which is still spreading on the property.



May 2010

Some meadows here have sand-hill species present and vice versa.
You know when you are in the middle of one, but at the edges, not so much.





April 2009

In fact, nailing down a sharp demarcation between grasslands, sand hills, or even chaparral can be a somewhat subjective exercise more determined by what stage of succession appears to be dominant at the time. You know when you are in the middle of one, but at the edges, not so much.



April 2009



Sometimes the trend is obvious, which demands decisions on the part of the manager. The reality is that in a temperate Mediterranean climate like this, vegetation is in constant transition, one successional stage displacing the next until there is a disturbance. Rarely are such systems stable on their own.



May 2010

That lack of sharp distinctions is also true of grasslands found deep in the forest. This one used to be a broom patch with bare ground. It now has Torrey's melic (*M. torreyana*), pine grass (*Calamagrostis rubescens*), and small-flowered needle grass surrounded with roses, hazelnuts, and ferns. But as remote as it is, this meadow shares one thing in common with all the others...



May 2013



So, how did we end up with so many different meadows?
Sometimes it was happenstance, simply because of varied topography.



April 2005



sometimes by design.



April 2013

A few times it was easy.





February 2009

Most of the time it was a war.

This is wall bedstraw (*Galium parisiense*) from the weed bank infesting needle grass and Spanish lotus.



May 2010

In one case native grassland developed and then died almost totally, taken over by another weedy native plant. Where it was going carried significant hazards; it did *not* look promising.



Deschampsia elongata, May 2005

In another case what *did* look promising ended up displaced completely by other natives. It happens, but it was pretty.





May 2013

But in any case, I have learned more from grasslands than I have from any other type of habitat, simply because they do change so greatly from year to year. So, now that you've made your introductions, it's time to get started with what was involved.



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