



# Welcome to Vacaville's Native Demonstration Meadow

## Behind Three Oaks Community Center (1100 Alamo Drive, Vacaville, CA)



In spring 2016, Solano Resource Conservation District (Solano RCD) and the City of Vacaville created a small demonstration meadow behind the Three Oaks Community Center (1100 Alamo Drive). The meadow is accessed via the Alamo Creek Bike Trail off of Marshall Road near the Community Center's tennis courts. Five species of native grasses and sedges are planted and are available for you to look at. All are native to California and are adapted to our dry climate. Once established, they require very little water to thrive.

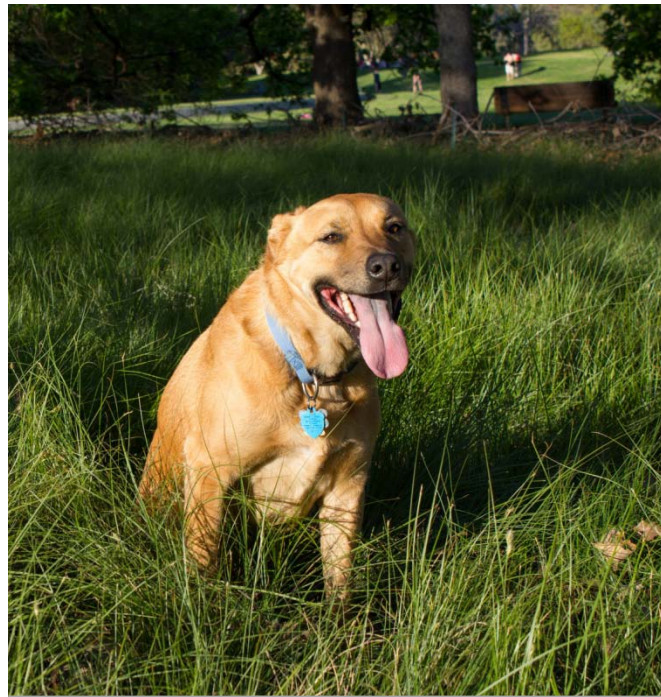
This flyer provides information on how to replace a traditional water-hungry turf lawn with a native meadow like the one at Three Oaks. Luckily it's easy to use native grasses and sedges to create a meadow that provides the look of a lawn but needs very little water once established. You can even tuck in bulbs and wildflowers to fill your new meadow with flowers!

Solano RCD also holds workshops for Solano County residents on how to replace water hungry turf lawns with native plants landscape, reducing irrigation needs and improving wildlife habitat. Please contact us at 707-678-1655 x101 for more information.

### Selecting your species

The Demonstration Meadow behind Three Oaks Community Center can give you a good idea of

what several different native grasses and sedges look like. Species featured at the Demonstration Meadow include Purple needlegrass (*Stipa pulchra*), June grass (*Koeleria macrantha*), Slender sedge (*Carex praegracilis*), red fescue (*Festuca rubra*), and Idaho fescue (*Festuca idahoensis*).



Native meadows, like this one made of slender sedge (*Carex praegracilis*), can be very pet-friendly. Photo by Mick Klasson

However, there are many species of native grasses and sedges that can be used to create a native meadow in Solano County; the table at the end of this flyer will help guide you to the right species for your situation. This table was compiled from a variety of

resources, including the book "Know Your Natives", produced by Yolo RCD.

**Summer water?** If you are OK with watering at least 2-3 times a month during the summer, you can select any species from the table. Even those that normally go dormant in the summer under natural conditions will stay green with some water. However, if you don't want to water at all in the summer, select species from the bottom half of the table. They will turn brown during hot weather if not watered, but will green up after the first rain.

**Growth form (3<sup>rd</sup> column in the table)** If you want a solid, continuous mass of grass, pick a

rhizomatous species, which grows by forming a dense mass of grass stems. If you like a "bunchier" look, with room for bulbs or wildflowers, select a bunchgrass.

**Awns (4<sup>th</sup> column)** Some native grasses have seed heads with sharp, needle-like awns. If dogs with long, fluffy hair have access to your meadow, you may want to consider picking a species with short awns. Another option is to mow or cut off the seed heads before they develop awns.

**Height (5<sup>th</sup> column)** Most native grasses and sedges naturally grow to a height that is taller than a typical sod lawn. The table gives height ranges, which can vary depending upon soil type, sunlight, and nutrients. Although some species can be **mowed (11<sup>th</sup> column)**, there are limits as to how much you can reduce the height of some grasses without damaging them. The heights given for bunchgrasses include their flower stalks. These can easily be trimmed off without hurting the bunchgrass.

**Growth season (6<sup>th</sup> column)** Warm season grasses grow actively in the summer (but need water to do that), while cool season grasses grow naturally in the winter (with the rain). Cool season grasses are usually dormant in the summer, but can be tricked into staying green with occasional irrigation. A couple of the warm season species are winter dormant and will turn brown in cold weather.

**Water, Exposure, Soil (7<sup>th</sup>, 8<sup>th</sup> and 9<sup>th</sup> columns)** Different species prefer

different amounts of water and sun. Some do better in sandy soils while others can tolerate the heavy clay soils so common in Solano County. Make sure you match up the conditions at your site with the requirements of the species you are thinking of using.

**Planting (10<sup>th</sup> column)** Many native grasses can be grown from **seed**, but most sedges and a few grasses have to be planted as small **plugs**. In general, seeds are cheaper than plugs, but require more site preparation (more on that below).

### Installing your meadow

**Kill your existing lawn** Before you plant your native meadow, it is important to completely kill your existing lawn. Shutting off all irrigation for an entire summer, using a broad spectrum herbicide like Roundup, and/or renting a sod remover are all feasible options for getting rid of a traditional turf lawn.



Plug tray and dibble stick, with purple needle grass (*Nassella pulchra*) in background. Photo by Mick Klasson



**Where to buy your natives?** There are a number of nurseries in the area that sell native grasses and sedges; try searching for “native grass supplier northern California” on your web browser. Here at Solano RCD, we often buy our grass seed and plugs from Hedgerow Farms in Winters.

**Timing** The best time to install your meadow is in February or March, before it gets too hot. Make sure the soil is NOT saturated when you are doing heavy work to protect soil structure and prevent compaction.

**Planting from seed** If you are planting from seed, you will need to rototill. Use a rake to break up large clumps of soil and create a finely-textured seed bed. Use a broadcast seeder to

spread seed evenly: your target is 50-75 seeds per square foot or ¾ pound per 1,000 square feet. You should count the number of seeds in a square foot to make sure you are seeding at the correct rate. Then, lightly rake seeds into soil - this improves soil-seed contact and hides the seed from birds.

**Planting from plugs** If you are planting from plugs, you will need to purchase grasses or sedges in special trays that have small plants growing in 1”x1”x4” cells. Plugs are best planted with a dibble stick (see picture), which you can buy on-line or make yourself with an old broom stick or even a construction stake. Use your dibble to create a small hole slightly deeper than the depth of the plug root mass. Then jam the plug into the bottom of the hole, so that the surface of the plug is about ½ inch below the surface of the soil.

Finally pinch the native soil over the top of the root mass so that the plug is sealed into the soil. Depending upon how much room you want for wildflowers or bulbs, plant your grass/sedge plugs 6 to 12 inches apart.

**Watering** Water once a week or so for the first couple months until the new grasses or sedges are well established. Most natives can get by on a deep watering about twice a month during the summer (May-October), although a few of the coastal species may need a bit more frequent watering here in our hot Central Valley summers.

**Diversifying your meadow** Consider using several different grass and sedge species in a single meadow; differing heights and textures can create an interesting mosaic. You may want to use different species in shady versus sunny

exposures. It’s also a great idea to include flowering species in your meadow, since this greatly improves wildlife habitat by providing nectar and pollen for birds, butterflies, and bees. Bulbs (crocus, daffodils) and wildflower plugs (yarrow, milkweed) can be planted in the spaces between bunchgrasses, while other wildflowers (poppies, lupine) will sprout from sprinkled seeds.

The Native Demonstration Meadow was funded by the California Natural Resources Agency with an Urban Greening grant and Proposition 84 bond funds.



Native grass and sedge species appropriate for Solano County low-water meadows										
Needs some amount of summer water										
1. Name	2. Native habitat	3. Growth form	4. Awns	5. Height	6. Active growth season	7. Water	8. Exposure	9. Soil	10. Planting	11. Mowing and foot traffic
Santa Barbara sedge <i>Carex barbarae</i>	Riverbanks and seasonal sloughs	Rhizomatous - forms a dense mass of stems	None	12-24 inches	Active growth in summer, green year round	Fairly drought tolerant, but requires summer water	Sun, part sun, shade		Plugs only	
Sand dune sedge <i>Carex pansa</i>	Coastal sand dunes	Rhizomatous - forms a dense mass of stems	None	8-12 inches	Green year round with watering	Fairly drought tolerant, but requires summer water	Sun, part sun, shade	Prefers sandy soil, but can be grown in clay soils	Plugs only	Handles mowing well, tolerates moderate foot traffic
Slender sedge <i>Carex praegracilis</i>	Floodplains and wet meadows	Rhizomatous - forms a dense mass of stems	None	8-18 inches	Warm season growth, may go dormant in winter	Tolerates long periods of standing water as well as long dry periods	Sun, part sun, shade		Plugs only	Handles mowing well
California oatgrass <i>Danthonia californica</i>	Moist, open mountain meadows	Densely tufted bunchgrass	1/2 inch	20-36 inches, including tall flower stalks	Active growth in cool season	Requires moist soils	Sun		Seeds or plugs	Regular mowing leads to turf-like cover, tolerates foot traffic
Saltgrass <i>Distichlis spicata</i>	Floodplains and salt marshes	Rhizomatous, forms low mat, looks similar to bermuda grass	None	4-16 inches	Warm season growth, winter dormant	Can tolerate prolonged arid conditions	Sun, part sun		Plugs only	
Naturally dormant during summer, but summer watering will keep green year round										
1. Name	2. Native habitat	3. Growth form	4. Awns	5. Height	6. Active growth season	7. Water	8. Exposure	9. Soil	10. Planting	11. Mowing and foot traffic
Red fescue <i>Festuca rubra</i>	Coastal regions	Somewhat rhizomatous bunch grass, loosely tufted	None	12-30 inches, including tall flower stalks	Cool or warm, depending upon temp and water	Drought tolerant, but may stay green if given summer water	Likes full sun but needs shade in Central Valley		Seeds or plugs	Handles mowing well
Junegrass <i>Koeleria macrantha</i>	Dry open sites in foothills/mountains	Bunchgrass	None	18-24 inches, including tall flower stalks	Cool season growth at low elevations	Water once a month in hot summers	Sun	Needs well-drained, sandy soils if watered in summer	Seeds or plugs	Mow once a month if desired
Coast range melic <i>Melica imperfecta</i>	Dry rocky hillsides and oak woodlands	Loosely tufted bunchgrass, can be rhizomatous	None	12-24 inches, including tall flower stalks	Active growth in cool season	Stays green during summer if watered	Sun, part sun, shade		Seeds or plugs	Tolerates mowing but do NOT cut to less than 6 inches tall
Idaho fescue <i>Festuca idahoensis</i>	Foothill oak woodlands	Bunchgrass, cespitose or cushion-like form	1/8 inch	12-36 inches, including tall flower stalks	Cool season - dormant late summer to winter, growth starts in spring		Full sun to part sun	Grows on many soils, does best on well-drained sandy loams	Seeds or plugs	Tolerant of mowing
Purple needlegrass <i>Nasella pulchra</i>	Central Valley and foothill grasslands	Bunchgrass	4 inches	12-40 inches, including tall flower stalks	Cool season - starts growth with first fall rains	Very drought tolerant	Full sun to part sun	Adapted to clay soils	Seeds or plugs	Good tolerance of mowing