

Large Flowered Fiddleneck, *Amsinckia grandiflora* Restoration Project The Beginnings

We are working on a project in a remote corner of San Joaquin County. After years of planning to save the critically endangered Large Flowered Fiddleneck, *Amsinckia grandiflora*, we have started the first phase of planting. This is one of our coolest projects ever! The sites are incredibly steep and arduous to hike to and work on. Thrilling!



A picture of large-flowered fiddleneck, *Amsinckia grandiflora*, from the only naturally occurring self-sustaining population in the wild photographed in April 2013. The University of California Botanical Garden at Berkeley has been growing this plant in cultivation to produce seedlings and seed for this project funded by the Bureau of Reclamation.

How Planet Horticulture got involved in the project:

The lead company that submitted the bid proposal is Vollmar Natural Lands Consulting in Berkeley. I had done work for them previously in plant/habitat mapping/ID/etc on another of their projects for the Walker Ridge (Colusa/Lake Cos) wind farm proposal for BLM. When they were considering which proposed projects to submit bids for (Bureau of Reclamation puts out numerous potential projects for plant/habitat restoration/reintroduction/enhancement, etc), Jake Schweitzer, their lead botanist/GIS person asked us (Planet Hort) to go in with them on the *Amsinckia* proposal. I had been growing some at UCBG for 20+ years prior, so he thought my horticultural expertise would help getting the grant - which is what happened.

Jake really did the vast majority of the work - getting permits, vigorously pursuing ranch owners for access and use of their lands, etc., in addition to putting the plan together, all the GIS work, etc. I wouldn't want his job. We further partnered with the UC Botanical Garden because they were still growing the plants for seed storage, and Holly Forbes, the curator, had been curating all the previous work done on this plant - as there had been almost 20 years of previous attempts to increase this *Amsinckia* in the wild.



All sites are on steep winter-shaded hillsides with deep sandy loam soils. The lack of sun during the germination and seedling phases seems important to this very rare annual, as well as moisture retention into early spring.



Each site has fenced and unfenced sections to determine if cattle grazing benefits or impedes the success of this plant. Each sub-site (fenced/unfenced) has 3 rectangular plots marked by rebar with orange caps, so that the planting areas can be relocated easily.



Looking down this slope from the top of the ridge shows how steep most of these sites are, making work on them very difficult and arduous. Our crew is barely visible in the center of the image under the trees.



Another site in San Joaquin Co. off the Central Valley. Most sites are predominantly grassland, but some have blue oak (*Quercus douglasii*) and CA juniper (*Juniperus californica*) scattered throughout.



Crew foreman, Jesus Garcia, delineates one of the 6 sub-plots on this site. If the plants and seed in these plots succeed in flowering and setting seed, we hope they will spread into the surrounding areas and become viable self-sustaining populations. There is only one naturally occurring self-sustaining population in existence.



The ecological distinctions between N, NE-facing slopes and S or W-facing slopes cannot be overestimated in these areas of minimal winter rain. Here is yet another site in San Joaquin Co. The brown "shrub" at the base of the sunny canyon is the weedy Russian thistle, commonly called tumbleweed (*Salsola tragus*), a bane of ranchlands in this area.

December 15, 2015



Mass of *Amsinckia* seedlings at one of the sites which we are cautiously optimistic about being our desired large-flowered fiddleneck.



Planet Horticulture has been working under Vollmar Natural Lands Consulting of Berkeley CA as part of a grant to try to re-establish more self-sustaining populations. Project manager, Jake Swcheitzer of VNLC, and I spent time determining second year plots.



What we consider "prime habitat", steep open, but winter-shadowed slopes of sparse grasses, rich soil over-lying sandstone. Most of the green seedlings are miners lettuce, *Claytonia perfoliata*, common on these slopes. Although hard to pick out, there is a perennial native bluegrass, *Poa secunda* which is thought to be a good indicator species for the right habitat.



One of the sites chosen is this blue oak (*Quercus douglasii*) spotted N slope. A trial plot can be seen left of center with the mylar bird tape.



A distant view of the one naturally occurring site, with the square representing a fenced enclosure to protect it from cattle. Since these N-facing slopes are the greenest the latest in the grazing season, they disproportionately attract cattle in late spring and - while they don't like to eat *Amsinckia* - they can trample it into oblivion.



One of our trial re-introduction sites; very steep and shaded. The "wedge" in the center is a fenced trial area from last year.



We are in the second planting season, but some of last year's sites had really good populations of *Amsinckia* seedlings. While it is impossible to be 100% sure with seedlings at this stage, it looks as if many will be self-sown *A. grandiflora*. The "Y" shaped cotyledon leaves are characteristic of the genus *Amsinckia*.



Late April picture of *Amsinckia grandiflora* in flower. It has a very showy and relatively large flower - compared to most fiddleneck (*Amsinckia* species).

