**Draft Minutes**

**Arana Gulch Adaptive Management Working Group Meeting**

Zoom Meeting

**10:30 a.m. – 12:00 a.m. on Monday, March 14, 2022**

**VIRTUAL MEETING**

Working Group Members present:

Travis Beck, City of SC Dept. of Parks and Recreation

Blake Woessner, City of SC Dept. of Parks and Recreation

Kathy Lyons, Biotic Resources Group

Alison Stanton, Botanist

Bill Davilla, EcoSystems West

Sylvie Childress, UCSC Greenhouses

Grey Hayes, CA Native Plant Society

Mark Ogonowski, US Fish and Wildlife Service

Todd Lemein, US Fish and Wildlife Service

Devii Rao, USDA

Lauren Garske-Garcia, CA Coastal Commission

AMWG Members Absent:

Serena Stumpf, CA Department of Fish and Wildlife

Virtual meeting was held via a Zoom video call. Travis Beck facilitated the meeting, representing the City of Santa Cruz Department of Parks and Recreation.

**Welcome and Meeting Objectives.** Travis opened the meeting.

The revised minutes from the November 4, 2021 AMWG meeting were reviewed, and approved, with correction of one typo on page 4, item 3. Word change from year to years.

The minutes from the January 19, 2022 AMWG meeting were reviewed and approved.

**Public Comments**

None.

**Management Updates and Discussion**

1. Coastal Prairie Restoration. Travis and Alison presented a review of the HMP objective #A-3E relating to coastal prairie. Alison’s data indicates less than 10% native grass cover in all years. A map of the extant coastal prairie (Figure 7 from annual report) shows location of areas with native grass stands, yet the HMP goals apply to all mapped grassland. There was discussion on the ability to enhance the extant prairie and how to manage and expand coastal prairie features to adjacent areas. Gray discussed findings from a study by Justin DeLoeng, a UCSC student, that indicates that coastal prairie restoration is feasible, using a simplistic approach that focuses on large weedy areas as a way to enhance coastal prairie and installation of native species (plugs of 6 coastal prairie species). Alison shows a graphic of the transect locations in Area A (Figure 27 in annual report). Data from Table 9 in annual report shows little cover by native species outside of areas mapped as coastal prairie. There was group discussion on compatibility of coastal prairie and Santa Cruz tarplant (SCT). There are opportunities for coastal prairie enhancement, yet limiting factor for SCT is depleted seedbank. There was discussion on identifying areas outside of historical SCT areas for creation of coastal prairie/native grassland, using grasses, such as *Elymus glaucus, Hordeum brachyantherum, and Bromus carinatus* outside of SCT areas. There were suggestions to install native grasses into the SCT planted areas to test microsite compatibility of native grasses and SCT. There was interest in investigating propagation of native grass plugs from UCSC. Sylvie indicated that may be feasible in coordination with Younger Lagoon growing system and possibly using their locally-collected seed, or the City could obtain a quote from Central Coast Wilds to harvest native seed from Arana and grow out plugs. Planting could occur in November/December 2022. Another option to consider is dividing existing on-site perennial grasses and outplant the divisions. The City indicated they will work on a grass planting program.
2. Area A Mowing. The existing mowing regime in Area was discussed. A new mower attachment can mow to 6-inch height. Its s expected that mowing will occur at 3-week intervals and will include all of Area A, including the 2021 SCT plots. A portion of the 2022 SCT plots will also be mowed. There was discussion to mow prior to flower heads on non-native grasses and to not mow when native species are in flower/ seed set. Travis requested field training for City staff on phenology to decide when to mow.
3. Fertilizer Experiment. The City reported that they received an offer from Craig Dremmen to conduct a fertilizer program in Area B, yet the City has yet to receive a quote for these services. There was discussion on the suitability of such as study, with consensus that existing soil nutrients are naturally low and a concern that fertilizer would encourage growth of non-native/weeds and, as such, there was not agreement on pursuing this study. There was discussion on mowing and selective weeding in Area B and possible installation of grass plugs. There is likely no viable SCT seed in Area B.
4. USFWS SCT Study. USFWS reported that their draft report is due soon. The report will have a characterization of SCT sites, including species composition, historical land uses, current management actions and the information will be used in developing a 5-year species review that is due in May 2022. There was discussion on sampling on first coastal terraces, sharing information, and compare data on each site, such as in a workshop forum. A species status assessment will be done in 2023 to develop a species recovery plan in 2024. There is expected to be a recovery meeting after the assessment study is done in 2023/24.
5. Coastal Prairie Reference Data. There was discussion on collecting data from others to get reference community information. Some information may be contained in Justin DeLoeng report. Work by Mark Stromberg suggested three types of coastal prairie: flat, sloping hillsides, and grassy balds.
6. Cattle Stocking. Cattle were added to the site after the January AMWG meeting. The City indicated that there was flexibility in moving animals on and off site and between pastures and could be moved based on SCT phenology.
7. 2021 SCT Outplantings and Mowing. Most weeds in 2021 plots is cats’ ear (mulched plots; grasses and other forbs are present in the unmulched plots. Rattail fescue is weedy species of concern. There was consensus that it is okay to mow SCT plants once. The USFWS study indicates at Watsonville Airport they mow at 8-10” in spring and do a 2nd mow at 4” before Memorial Day. They also mow again in September/October. They mow very slowly.
8. 2022 SCT Outplantings. 1,145 SCT plants were installed on site; 600 on February 3 (Area A), 400 on February 24 (Area A), and 145 on March 7 (Area C). The goal of planting 1,000 plants was achieved. Drought conditions found hard soil conditions. Approximately 150 SCT plants remain at UCSC Greenhouses. They propose to allow student interns to do experiments, such as plant growth, seed dispersal, affects of clipping, etc., on these plants. There was consensus that this would be a good use for these plants.
9. Greenhouse Experiment. UCSC Greenhouse reported that the SCT germination study is in progress and they are getting good results on germinating the ray achenes.
10. USFWS Grant Funding Cycle: The City has submitted a funding request to USFWS for future SCT experiments for fall 2022/23.

**Wrap Up and Next Steps**

1. There is interest in some level of coastal prairie restoration/enhancement
2. The areas need to continue to have weed management, paying attention to the timing of mowing.
3. A more precise grazing plan should be developed for fall 2022.
4. SCT outplantings in fall/winter 2022/23 is recommended
5. There is no interest in the Area B fertilizer plan
6. Data on coastal prairie reference is still needed

**Next Meeting:** Not determined, but City indicated it will be in fall 2022.