Minutes
Arana Gulch Adaptive Management Working Group Meeting

11:00 p.m. – 2:30 p.m. on November 7, 2023

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
Todd Lemein, US Fish and Wildlife Service
Grey Hayes, CA Native Plant Society
Sylvie Childress, UCSC Greenhouses
Rachel Pausch, CA Coastal Commission

AMWG Members Absent:
Suzanne Schettler, CA Native Plant Society
Mark Ogonowski, US Fish and Wildlife Service
Devii Rao, USDA
Teresa Locatelli, Rancher
Serena Stumpf, CA Department of Fish and Wildlife

Other Attendees:
Jean Brocklebank
Michael Lewis
Jim West
Ako Culver, City of SC Dept. of Parks and Recreation

The meeting was held at Arana Gulch (11:00 – 12:30), then was reconvened at the Santa Cruz Bible Church coffee room (12:30 to 2:30). Travis Beck facilitated the meeting, representing the City of Santa Cruz Department of Parks and Recreation.

Field meeting

Site Tour, Updates and Discussion. Travis opened the field meeting with a walk to the Prairie Loop Trail to review fuel management work and then to Areas A and C to review biomass and tarplant-occupied sites.

1. Field Observation of 2023 Shaded Fuel Management Work Area. The group viewed the recent fuel management work implemented by the City Fire Department. Vegetation

along the outward side of the Prairie Loop Trail was trimmed/cut as per the City's plan (previously reviewed by the AMWG). Tree limbs were trimmed up to 8 feet in height and underbrush was removed in an approximately 30-foot swath. There were questions and comments from the group about the reason for the work and justification on the need to create a fuel break. Some asked about how this work complies with goals for Hagemann Gulch in the Habitat Management Plan (HMP)[1]. Does this work help achieve these goals? One goal in the HMP in to reduce invasive, non-native species and some areas of French broom were removed as part of the fuel reduction work. There was discussion on the amount of down material left in some areas and future encroachment of invasive plants into the area.

2. Area A North: Group viewed grass conditions in Area A north. The mapping of residual dry matter (RDM) in October (handout) documented most of this area in the blue zone (high RDM). The high rainfall year and limited number of cattle resulted in high RDM levels in this area. RDM levels were lower in Areas C and D as cattle were in this area longer. Two cows are currently on site in Area C/D. There were questions on the number of cows per acre and timing and duration; this information will be provided by the grazing operator.
3. Area A, South: In this area, the group reviewed the extent of Santa Cruz tarplant (SCT). The extent (and number) of SCT from historic sites (13 SCT), previous-year outplanted sites (942 SCT), the 2023 planting plots (874 SCT), and the seed plot (4 SCT) were viewed. The grassland around the SCT-occupied area had been recently flail-mowed and there had been hand-raking of thatch from a 20-foot wide swath around a portion of the SCT area and some wood chip mulch had been hand-raked from the 2023 planting plots. The City is scheduled to rake and bale the grassland (excluding SCT-occupied areas). The group viewed site conditions and discussed fall season management actions, including raking cut material and mowing the SCT stands. Due to recent rainfall events, seeds on the SCT plants have shown signs of imbibing, such that seed collection is not feasible this year; however, previously-collected seed in storage at UCSC is being used to grow SCT plants for a 2024 outplanting.
4. Area C, SCT Outplanting Area. The group viewed the 2023 SCT outplanting area and surviving SCT (76 SCT) and there was discussion of allowing cattle to enter this area to facilitate SCT seed dispersal.

[1] HMP Goals
Goal 1. Seek funding to develop an integrated pest management (IPM) plan to reduce the understory of invasive non-native species in Hagemann Gulch,
Goal 2. Reduce the fire hazard within Hagemann Gulch.
Goal 3. Protect wildlife habitat features in Hagemann Gulch.
Goal 4. Increase appropriate uses in Hagemann Gulch
Goal 5. Preserve the "Rose of Castille" historic roses

Meeting at SC Bible Church

Welcome and Meeting Objectives. Travis opened the meeting.

The minutes from the April 18, 2023 meeting were reviewed and approved. Meeting objectives are to receive public comments, receive information from Todd Lemein on the USFWS Species Status Assessment for SCT and discuss SCT site management for fall 2023.

1. Public Comments. Jean Brocklebank inquired about goals and objectives for other resources besides SCT recovery and expressed concern that other habitats are lacking management. She also expressed concern on the unauthorized trail from the marsh Vista Trail to Arana Creek; closure measures are needed here. There was also a question on the status on interagency work on the Arana Creek watershed. Travis reported that the watershed group has been inactive. Jim West indicated the large expanse of iceplant on the in-channel areas of Arana Creek; Blake indicated access for iceplant removal and control to these areas is difficult. There was interest in outreach to students for connect them to the open space.
2. Summary of USFWS Species Status Assessment (SSA). Todd presented findings from the SCT Assessment, with handouts on the evaluation of multiple SCT sites and their site attributes. The assessment will be used by the USFWS to develop a species recovery plan and a species recovery implementation plan. The SSA identifies the critical needs of the species and evaluates all SCT sites to determine the range-wide condition of the species. Key site features for the species are seasonal saturation (on clay soils), flat topography, low competition, and a suitable disturbance regime. The SSA found that not one management strategy works for all sites and a specific management program needs to be developed for each site. Actions to reduce competing biomass is key once a site has a suitable size seedbank. The SSA study suggests a large seedbank is needed to maintain a population, but what constitutes “large” is not known. Group discussed the status of the seedbank at Arana with consensus that the site in still in “recovery” mode (developing a suitable seedbank and identifying suitable management) and is not yet in a “maintenance” mode. Group discussed genetic variability and more work is needed on genetic diversity, but that work is not currently funded. The species is not pollinator limited.
3. 2023 Monitoring Data – SCT Census. Data on SCT census was presented in a handout. Population of SCT in 2023 is 1,899 plants; Area A supports 1,823 SCT and Area C supports 76 SCT. There have been two generations of SCT recruited from the 2021 outplantings as well as expression of SCT plants within “historic” areas (areas outside SCT outplantings). The 2023 SCT outplantings had an 88% survival rate (874 SCT plants).

4. 2023 Monitoring Data – Grass Planting. Data on the 2023 grass plug plantings was presented in a handout. 400 grass plugs (5 species) were installed in February 2023. Four species had survival rates from 62% to 93%. The survival rate of one species could not be determined.
5. 2023 Monitoring Data – Plant Cover and Species Composition. A synopsis of spring transect data was presented. There was no change in transect numbers of location in Areas C or D, however, 3 transects were added in Area A south and one was removed from Area A, north. Native cover remains low in Area C (<1%), Area D had no native cover. Area A north recorded 7% native cover. Area A, south recorded 23% native cover, comprised on *Stipa* (13%), *Danthonia* (7%), and *Juncus* (3%).
6. SCT Management Discussion. The group provided input on the proposed Fall 2023 Management Program (handout) as well as general guidance for 2024. The following actions were identified:
    a. Fall 2023 Management Program:
        i. Remove thatch from mowed grassland in Area A south to reduce competition and reduce nutrient levels. Rake and bale material.
        ii. Mow only (no rake) one half of SCT-occupied area, including one 2023 macroplot. Eastern side of SCT-occupied is preferred by City due to terrain and mower use.
        iii. Allow cows into western side of SCT occupied areas to facilitate SCT seed/soil contract and seed dispersal and to experimentally compare grazing and mowing treatments. Confer with grazing operator about how this might be done (temporary electric fence?). Consider installing mineral block or molasses barrel to encourage cows to be within SCT-occupied area, as needed.
        iv. Spread some on-site SCT seedhead/plants onto raked unoccupied areas outward of the 2023 plots to facilitate spread of the species.
        v. Allow cows to enter Area C to graze on grass and thatch and facilitate SCT seed/soil contact and seed dispersal.
    b. 2024 Program:
        i. Install 2024 SCT outplantings in an area south of the 2023 plots. This area may be wetter and more conducive to growth, as evidenced by the SCT plants that emerged from the 2023 seeded plot.
        ii. Monitor Area C for SCT natural recruitment; do not install 2024 SCT outplants to this area.

Next Meeting: Not determined.