Draft Minutes
Arana Gulch Adaptive Management Working Group Meeting

Zoom Meeting

9:00 a.m. – 11:00 a.m. on Wednesday, January 19, 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
Serena Stumpf, CA Department of Fish and Wildlife
Mark Ogonowski, US Fish and Wildlife Service
Todd Lemein, US Fish and Wildlife Service
Devii Rao, USDA
Lauren Garske-Garcia, CA Coastal Commission

Additional Attendees: Frank and Teresa Locatelli, Jean Brocklebank, Michael Lewis

AMWG Members Absent: None

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 minutes from the November 4, 2021 AMWG meeting were reviewed, with revisions. The revised minutes will be recirculated for AMWG review and approval

Meeting Agenda

1. Grey requested a discussion on the budget. Travis added this to The Wrap Up and Next Steps section of the agenda.
2. Mark requested a discussion on possible USFWS funding. Travis added this topic to the end of the agenda.

Public Comments

1. Jean indicated that she and the AMWG members were not able to see the public participants due to the Zoom settings. She requested that setting be adjusted to see all participants. No other public comments.

Research Updates and Discussion

1. Greenhouse Experiment. Sylvie reported on the UCSC Greenhouse plants where there are over 1,000 SCT under cultivation. The plants will be ready for outplanting in two batches – January and February. The first batch is hardening outside now. She reported that the SCT ray achene germination experiments will begin next week. All outplanting plants to date have been propagated from the disk achenes; however, on another project she had successful germination of ray achenes using gibberellic acid. The growing medium for the plants is standard potting mix.
2. SCT Outplanting Experiment. Alison gave a summary of the results from the SCT outplantings, to supplement information presented at the November 4, 2021 AMWG meeting. The goal of the outplantings was to facilitate the survival and reproduction of container grown SCT plants to introduce seed into the site. She provided a handout with the treatments conducted: control (no treatment, grazing release), mowing (Toro deck mower at 10" height), sheet mulch (B-flute cardboard with 3" depth bark mulch), demo (sheet mulch plots with mowing), and Juncus (plot with native Juncus in plot). Implementation was implemented by volunteers from UCSC, which Sylvie helped to organize. Plant survival was 75% in control plots and 78% in control plots that were mowed once. Average height in control plots was 7-9"; number of flowers per plant averaged 4 to 8. In the sheet mulch plots, survival ranged from 58 to 63% and was similar in weeded and un-weeded plots but lower survival was noted in the woodchip only (no cardboard) plot, likely due to gopher activity. Average plant height in sheet mulch plots was 14-18", with multiple stems. Flowerhead production ranged from a low of 52 in an unweeded subplot to a high of 582 in a weeded subplot. The City received approval for use of Sluggo (exemption from City IPM) and Sluggo was applied to the plantings in February. The sheet mulched plots provided the most success in introducing seed onto the site, as it was estimated that the sheet mulch plots produced 50,000 seeds, compared to 2,000 seeds in the control plots. In October and November 2021, wood chips in several of the sheet mulched plots was raked away to allow for SCT germination in native soil. SCT germination was observed in the sheet mulched plots at that time. In December, SCT seedling cover data was gathered from five subplots. Kathy presented her data, showing highest cover in mulched, then raked, plots, with cover by SCT ranging from 15% to 80% cover. In unraked sheet mulch plots, SCT cover was lower, from 0% to 1%. Bill asked if non sheet mulch plots were raked to remove thatch. Kathy

indicated no raking of thatch was done, but could be considered for 2022 plots. Alison reported that weeding the sheet mulch plots (with string trimmer and/or hand-pulling) is important, based on UCSC studies. Alison reported that she would like to do a simpler outplanting plan for 2022. Bill asked about Sluggo application and whether to apply to just a portion of the plots. Grey indicated that snail and slug herbivory is a concern and is in favor of using Sluggo. Grey also indicated that maintaining a low canopy cover will reduce slug and snail populations due to predation. Sylvie commented that Sluggo, not Sluggo+, should be used to avoid any potential impact to earthworms. Alison discussed other recommendations for the 2022 outplantings: use of browse cages not feasible due to cost and labor to install; mowing with a flail mower earlier in the season; consider a plot with cardboard only (held down with staples); sheet mulch with wood chip (vs. bark), with chips raked away when plants in full flower, and sheet mulch with native grass plantings. Sylvie indicated that only *Elymus glaucus* plants are available right now and the group agreed those would not be suitable. Group discussed keeping cattle grazing out of Area A again for 2022 unless a cross fence could be installed to allow grazing in the northern part of Area A. Grey suggested a consideration of using funds from the budget for grazing exclosure fencing in Area A, indicating no grazing in Area A will degrade the northern portion of Area A. Blake indicated he could use a flail mower in the northern portion of Area A. Mark indicated a focus on simple actions and to monitor 2021 macroplots for recruitment and progress through 2022. Jean would like to see Area A outplantings continue with no grazing for 1-2 more years to see a longer trend. Bill indicated that grazing should be considered as a maintenance regime for SCT and thought it was suitable when there is a viable seedbank; however, site is now in recovery mode for seedbank development. Yet grazing in the north part of Area A could prepare the area for SCT expansion, and suggested a sub meeting for grazing in the northern part of Area A.

3. <u>USFWS SCT Study.</u> Todd presented anecdotal input from the study which is funded by USFWS. The largest SCT colonies have a native prairie component that are suitable for passive management (mowing/grazing). The sites with less SCT density occur in areas with more non-native grasses and forbs. Seasonally-saturated soils are important. The USFWS study report is expected in late spring 2022.

Management Updates and Discussion

1. <u>Grazing.</u> Teresa reported that there are 5 animals in Areas C and D. They are hoping for more rain for good grass cover. Grey indicated the need for more bare ground and more cows may be needed. Artificial feeding could also be considered. Kathy reported that the canopy height measurements in Areas C and D from December 2021 are 2.4” and 2.6”, respectively, and are within the target range from the HMP. Alison showed the

table of bare ground from the spring vegetation assessment, indicated the current grazing pressure is not high enough to create enough bare ground. Teresa and Frank indicated they can put more cattle on site, in areas c and D, as well as Area A. The group discussed the goal is to control canopy height (2-3 inches), increase bare ground, and get SCT into the system.

2. Monitoring for 2022. Alison presented data from the spring 2021 monitoring. There has been an increase in the cover of non-native forbs and no increase in native species from the baseline. The composition of grasses has changed, from *Avena* to lower stature *Festuca myuros.* Prominent non-native forb is *Erodium*. She suggests that there be an increase in sampling areas mapped as coastal prairie in Area A to better document vegetation composition compared to non-coastal prairie areas. She will conduct a power analysis to determine how many more transects are needed to more adequately document the coastal prairie. Kathy reported that RDM measurements are taken each fall and canopy heights are recorded in February and December. The coastal prairie maps were reviewed. Bill and Kathy indicated there has been no substantial change in the extent of coastal prairie since the onset of grazing, based on field observations. Lauren asked why there are monitoring transects in areas that are not coastal prairie. Alison indicated there could be a decrease in frequency of monitoring in non-coastal prairie areas, but would not like to abandon them. Consensus was to continue monitoring and Allison will update the Area A coastal prairie transects.

Wrap Up and Next Steps

1. Budget and Funding. Travis reported that funding is received from the City's annual operating budget, the Arana Gulch Trust Fund, and a grant from USFWS. Mark indicated that USFWS recovery funds are covering the UCSC greenhouse studies. Proposals for 2022/23 are due March 1, 2022. Proposal costs can range from $5,000 to $25-30,000.
2. Other. Jean asked about other resources, such as woodrats in Hagemann Gulch and implementing other habitat activities vs. all the coastal prairie work.
3. Zoom Chat. In the Zoom chat, Grey indicated at Arana and elsewhere, the sign that there is enough bare ground is a flush of *Juncus bufonius* (toad rush) which has a huge, long-term seedbank and co-occurs with SCT. Grey also expressed concern that any wood chip/bark is a long-term concern for SCT, suggest not using it at all or at least removing it before tarplant goes to seed. Grey indicated that the transects for native species cover and richness were supposed to be for the entire grassland, not just the coastal prairie. He suggested Alison discuss sampling with Coastal Commission as to original intent of monitoring.

Next Meeting: Not determined, but Travis indicated it may be soon to discuss funding and grazing in Area A.