Minutes
Arana Gulch Adaptive Management Working Group Meeting
Frederick/Broadway Entrance to Arana Gulch (Near Santa Cruz Bible Church)
9:00 a.m. – 1:00 p.m. on Wednesday, August 29, 2018

PARTICIPANTS:
Noah Downing, Planner, City of SC Dept. of Parks and Recreation
Mike Ferry, Senior Planner, City of SC Dept. of Planning and Community Development
Kathy Lyons, Biotic Resources Group
Suzanne Schettler, CNPS
Mark Ogonowski, USFWS
Bill Davilla, EcoSystems West
Lauren Garske-Garcia, CA Coastal Commission

Additional Attendees: Tommy Williams, Debbie Bulger, Richard Stover, Craig Dremann, Nina Donna (Sierra Club)

Invasive Plant Control: The City presented information on the volunteer work days held by the Earth Stewards (students from Ponderosa High School) in March and April. Kathy Lyons described work that was performed, including control of passion vibe, ivy, and French broom. Kathy Lyons presented results on invasive plant removal done in June 2018 by Huerta Tree Services wherein invasive plant removal/control was implemented in the Arana Gulch Creek and Hagemann Gulch management areas. Crews worked for one week removing/controlling French broom, acacia, eucalyptus, cotoneaster, pyracantha, ivy, and *Prunus.* A map with a list of polygons and photos of work areas was presented.

Trail Maintenance: Noah Downing presented the work done on the eroded, muddy section of Prairie View Trail on the hillside. The trail was renovated this summer by the City's youth school trail program.

Grazing Areas: The group walked into grazing area A to discuss grassland conditions and Santa Cruz tarplant. Noah Downing and Kathy Lyons presented data from February and August 2018 canopy height measurements and the April grassland data collection/analysis by Alison Stanton.

- Canopy height in Areas A and C was within target in February
- April canopy heights of 4 to 6 inches (11-16 cm) in Areas A and C were significantly reduced compared to last year, but were slightly higher than target

- Cattle may need to be confined to Area D (no access to Area C) for some period to reduce canopy height to within target. Non-native species cover has not been reduced, although the proportions of certain species has shifted during the sampling period
- Measurable native species cover has only been detected in Area A and has not increased
- Average native species richness has increased by less than one species
- Construction of the multi-use trail resulted in a flush of coast tarplant (*Deinandra corymbosa)* that has persisted and was detected in Area C in sampling in 2017 and 2018. This is the only new native species that has been detected in the sample plots since 2015
- Very small occurrences of native species have been observed outside of the sampling plots
- Average cover of bare ground in Area A increased significantly from the 2015 baseline across the sampling years
- Measured bare ground cover in Area C increased significantly in 2017, but otherwise has not changed significantly, likely due to small sample size and large standard deviations
- Measured bare ground cover in Area D has also not changed, likely due to small sample size and large standard deviations
- Consider collecting bare ground measurements in November -December during potential SCT germination period

SCT Recovery Actions: Group looked at Santa Cruz tarplant (SCT) at five areas within Area A, the only area where SCT were found in 2018. Current census is 267 plants, with 499 flower heads.

Group discussed site disturbance and a mechanism to move SCT seed around after SCT flowering could be good. Group discussed placement of molasses buckets in Area A and Area D to create bare ground. Group indicated support for this in November 2018. Group discussed strategy to create four bucket areas in Area A and apply site-collected SCT seed in two area. In Area D, 2 buckets would be placed and site-collected SCT seed would be placed in one area. Craig Dremann discussed need for soil sampling and need to test soils before and after management actions. He suggested looking at soils where coast tarweed is growing as well as where SCT is and is not growing. He expressed concern that soil is too acidic and other nutrient levels may be adversely affecting plant growth. The group discussed SCT seed collection from on-site seed and seed storage and out planting. Craig Dremann suggested collecting plant cover data at each SCT site. Bill Davilla expressed interest in having cattle back on site in November to vector SCT seeds around site (and possible scarify the ray seeds), as per previous study done by Kim Hayes.

Noah presented information that City Fire Department may be interested in doing a prescribed fire. Group discussed potential use of prescribed fire and the effects of previous fires on SCT. General consensus was fire can be used to stimulate SCT seed germination when fires were in the fall. Concern was expressed on a spring "green" fire could "parboil SCT seeds if there is too much moisture in the soil. Group agreed that previous data from other fires should be gathered and reviewed. Suzanne Schettler suggested waiting to see census of SCT in 2019 before having a prescribed fire in Area A. Group discussed the possibility of plant propagation for harvesting seeds.

> Action: Develop management action plan for putting molasses barrels out, collecting and broadcasting SCT seed and soil sampling, for review and approval by AMWG, USFWS, and CDFW. City will collect plant cover data at each SCT site in September 2018. Suzanne Schettler will try to reach Kim Hayes about her cattle study. Look into the possibility for growing tarplants off-site for seed production.

Tarplant Recovery Workshop: Mark Ogonowski (USFWS) and City expressed interest in facilitating outreach to the other land managers for another tarplant recovery workshop and pursuing soil sampling studies across the SCT range. USFWS indicated grant monies may be available for some studies.

> Action: USFWS to reach out to other land managers about interest in another recovery workshop (in spring 2019) and soil nutrient analysis. USFWS and AMWG members to check if any available Arana Gulch seed in storage for testing (i.e., UCSC Herbarium, Jepson Herbarium, Dudley Herbarium at Cal Academy).

Native Plant Diversity. Kathy Lyons reported that purple needlegrass seed was collected in summer 2018. As per direction from the February AMWG meeting, a minimum 20'x20' plot would be created in fall 2018 for out planting of this seed. Group discussed location and Bill Davilla suggested having the plot be in close proximity to other needlegrass areas to expand the native grassland area. Craig Dremann suggested soil testing of the revegetation area and the existing needlegrass area.

Craig Dremann asked why mowing was not done in Area B to encourage native plant growth, as discussed at the February AMWG meeting. City indicated a change in staffing occurred. New park personal (Matt) will begin work on site in August 2018 and will pick up tasks previously done by Brett Snider. Tasks will include weed whipping Area B, seasonal mowing, and continued weed control.

Next Meeting: Winter or Spring 2019, TBD.
Action: Noah Downing to send out a Doodle poll for next meeting.