

## Status of Santa Cruz Tarplant at Selected Sites

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### **EO#11 - Tan Heights (aka SeaCrest Development)**

Background: Two colonies of SCT occur in the southern portion of the SeaCrest Residential Development. The colonies are contained in a Conservation Parcel (A) that abuts Anna Jean Cummings County Park. The two colonies collectively cover approximately 0.5 acre.

Surveys. Last survey I conducted at this site was in 2011.

No individuals of Santa Cruz tarplant were observed in 2011. The last time the species was observed on site was in 1993. The southwestern habitat area is seasonally mowed, yet this activity does not appear to adequately remove competing non-native grass/forb growth or create suitable soil conditions for the species to germinate and grow.

Management: Previous management actions to promote the growth of this species included mowing, control of invasive plant species, and a small torch sample plot (conducted in 2002). In 2010, the grass within a portion of each colony was weed-whipped, with the cut material and thatch hand-raked away, in early November. The ground surface was raked to encourage seed germination. No SCT were observed in the treated area, or elsewhere within the historic colonies in 2011.

### **EO#37- Winkle Avenue (aka Santa Cruz Gardens #12 Development)**

Background: The population at Santa Cruz Gardens #12 has historically occurred in two colonies (Sites 1 and 2) that collectively cover approximately 0.1 acre. The Site 1 population was first recorded in the CNDDDB in 1983 (50-100 plants), with subsequent observations in 1984 (10-20 plants), 1985 (75 plants) and 1986 (60 plants). During construction of an adjacent Santa Cruz Gardens development in 1986, soil containing tarplant seeds was salvaged and deposited into a pile on the Santa Cruz Gardens #12 site, becoming Site 2. According to CDFW records, the upper 1-2" of soil was scraped for the salvage and "tarplant grew in the pile" every year until 1994 (CDFG, 1995).

Recent Surveys: In 1991, tarplant was observed in the native colony (Site 1) (101 individuals), yet no individuals were observed at Site 2. In 1993, approximately 101 individuals were observed at Site 1 and one individual was observed at Site 2. Subsequent surveys have been conducted in 1998, 2004, 2005, 2013, 2014, and 2015. No individuals of SCT have been documented from Site 1 or Site 2.

Management: An Incidental Take Permit was obtained from CDFW in 2012 for take of the salvaged SCT site (Site 2) as part of a residential development. A long-term management plan (LTMP), outlining actions relative to the SCT, was approved by CDFW in May 2015.

Pursuant to the ITP and the LTMP, in 2013 soil and any residual seedbank of SCT from the 1986 salvage site (Site 2) was placed into a designated area within a 9.3-acre prairie/grassland management area. Within a 400 square receiver site the upper 1-2" of soil from the 1986 salvage site (Site 2) was scraped and deposited onto the receiver site. The material was lightly spread onto the receiver site, with the soil evenly distributed within the receiver site. The post-salvage condition of the receiver site was photographed. A sign was installed on the fencing to discourage human access to the receiver site.

In fall 2013 Site 1 was hand raked and weeded to promote SCT germination. In 2014, both sites were hand mowed and weeded in spring and summer. No SCT were observed at either site in 2014. In fall 2014 Site 1 was again hand raked and weeded to promote SCT germination. In 2015, both sites were hand mowed and weeded in spring and summer. No SCT were observed at either site in 2015.

Management for 2016: As per requirements of the ITP and LTMP, both the extant SCT colony and the receiver site will be surveyed for SCT in 2016. As no SCTs were detected in 2015, the habitat areas will be mowed and censused in 2016. If no individuals of SCT are detected in 2016, the SCT Site #1 will be seeded with SCT seeds from an off-site locality. In summer of 2016, seeds from an extant colony will be collected and in October 2016 the seeds will be hand-broadcast onto the prepared seedbed (i.e., soil surface hoed/raked to depth of 1 inch). A minimum of 200 seeds will be collected from an extant site, with site preference (in order of preference, based on similarity of site conditions and substrates) are Santa Cruz Amory (DeLaveaga Park), Twin Lakes State Beach, or Fairway Drive/Coyote Canyon and subject to approval from the applicable landowners. Prior to collection, CDFW will be consulted to approve the offsite collection location and on appropriate collection measures. Personnel at the Jepson Herbarium will be consulted on potential issues of genetic integrity between the off-site collection and on-site population, seed germination requirements and other issues that may affect seed germination.

SCT Sites #1 and #2 will be hand-weeded in winter 2015/16 to remove young French broom plants or other invasive plants. The sites will be mowed to reduce non-native grass growth as needed to keep growth below 3 inch height November through April. During May through October, the canopy height at the two sites will be mowed or weed-whipped if grass height exceeds 12 inches.