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**Revised Botanical  
Survey Report Dimitrov  
Project**



Prepared by  
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And Kelsey McDonald  
9/5/2019

*Revised July 2020*  
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For  
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Signature: Kelsey McDonald

Date: 9/5/2019

### Revision July 2020

On June 19<sup>th</sup>, 2020, botanist Claire Brown visited the site of the *Tracyina rostrata* population reported below, on Humboldt County APN 210-044-017. This visit was intended as a monitoring visit, as well as one of personal interest to Claire as an opportunity to see this very rare species. There are only eight CNDDB occurrences of *Tracyina rostrata* recorded from Humboldt County, only two of which have been seen more recently than 1988. Furthermore, all eight of these occurrences are from the Jewett Rock, Alderpoint and Fort Seward USGS 7.5' Quadrangles, which are 10 miles south of the occurrence reported below.

Location data from the report below, as well as the flagging hung in the field by Kelsey and Kevin were used to locate the population on APN 210-044-017. However, no plants identifiable as *Tracyina rostrata* were found. Instead, Claire found a robust population (of hundreds of individuals) of an annual plant in the family Asteraceae that is identifiable to the genus *Crepis* but does not key out to or exactly match any species of *Crepis* described in The Jepson Manual (Baldwin et.al 2012) or in the eFlora of North America (eFNA 2020). The closest match is the species *Crepis pulchra*, of Eurasian origin, which is not yet included in these identification resources but has 10 records from Napa, Solano, and Contra Costa Counties listed in the Consortium of California Herbaria (CCH) (CCH1 2020). These plants, unlike *Tracyina rostrata*, have liguliflorous heads and distinctly keeled phyllaries.

Claire communicated these results to Kelsey Macdonald in late June 2020. Via these communications, Kelsey was able to determine that the plants Claire found are the same species identified as *Tracyina rostrata* in the report below. Therefore, the previously reported rare plant findings are redacted here in this revised report, and the *Tracyina rostrata* occurrence reported to CNDDB in 2019 will also be redacted.

A detailed description of the *Crepis* species found as well as additional photographs are found in Revised Attachment G, at the end of this document. Several specimens were pressed. Claire will keep one available at the NRM office in Eureka for inquiry, and others will be submitted to the UC Davis Center for Plant Diversity and the California Department of Food and Agriculture Botany Lab and Herbarium for accession and further identification.



Photo of 2019 Specimen (from report below)



Photo of 2020 Specimen (June 19, 2020)

## **Setting**

The Dimitrov Cannabis Cultivation Project is located in Section 35 and 36, Township 1 North, Range 5 East, Section 1 and 2, Township 1 South, Range 5 East and Section 31, Township 1 North, Range 6 East, and Section Township 1 South, Range 6 East HB&M; Humboldt County, on the Iaqua Buttes USGS 7.5' quadrangle. The project area is located in Dinsmore CA, off Buck Mountain Road 6 miles from Highway 36. The biogeographic region can be described using a three-tiered hierarchy of province, region and sub-region. This site lies within the California Floristic Province, Northwestern California region, and North Coast sub-region. The area is about 136 acres and the elevation ranges from ~3,700 -4,200 feet. The area contains open grasslands dominated by native and non-native grasses, oak woodland, and some mixed coniferous forest. Slopes on the property are gentle to moderate, and the aspect is primarily south-facing.

## **Methods**

Kelsey McDonald and Kevin Landaw conducted the botanical surveys for the Dimitrov NTMP on May 22, July 14, and July 19. Kelsey is a CNPS Certified Consulting Botanist, and she holds a M.S. in Natural Resources with a concentration in Environmental Science from Humboldt State University. Kelsey has taken relevant courses including conservation biology, ornithology, ecology, plant taxonomy, field botany, and plant biology. She has 5 years of botany and wildlife experience in Northern California. Kevin holds a B.S. in Botany from Humboldt State University, where he is currently a graduate student. Kevin has taken relevant courses including ecology, plant taxonomy, and plant biology.

The surveys were floristic in nature and seasonally appropriate, with an initial survey conducted during the spring to catch early-blooming species and a follow-up survey during the summer for later-blooming species. Approximately 31.5 field hours were spent on surveys. Surveys included systematic assessment of all potential habitats in the area based on maps, aerial photos, and visible environmental features such as canopy cover, slope, soil texture, aspect, hydrologic features, and associated vegetation. This survey protocol is based on the Protocol for Surveying and Evaluating Impacts to Special Status native Plant Populations and Natural Communities (CDFW 2018). A list of potential rare plants on CNPS lists 1 and 2 found within the 9-quad area as listed in CDFW BIOS and CNPS Inventory of Rare and Endangered Plants is available in Attachment A. Attachment B provides details on potential rare plants. Attachment C lists all plants identified from botanical surveys. Attachment D contains a map of the botanical survey routes. Attachment E contains habitat photos of the area. Attachment F contains rare plant rank definitions.

## Results

The property is composed of two parcels. The southern parcel (Fig.1) is larger and contains swaths of grassland (Fig. 3) interspersed by patches of oak woodland. The grassland contains both native and non-native grasses and is dominated by hedgehog dogtail grass (*Cynosurus echinatus*), ripgut grass (*Bromus diandrus*), blue wild rye (*Elymus glaucus*), California fescue (*Festuca californica*), and seaside barley (*Hordeum marinum*). Oregon white oak (*Quercus garryana*) woodlands (G4 S3) with an understory of California fescue (*Festuca californica*) occurred on the property. APN 210-144-011 contained an area where ~35 Oregon white oaks were recently cleared around the cultivation area (Photo 6). Diverse oak woodlands dominated by California black oak (*Quercus kelloggii*) (G4 S4) was also widespread on the property. The northern, smaller, parcel (Fig.2) is more heavily forested and is primarily covered by a mixture of Douglas fir (*Pseudotsuga menziesii*) and ponderosa pine (*Pinus ponderosa*) (G4 S4), with canyon live oak (*Quercus chrysolepis*).

During the course of the botanical survey two populations of beaked tracyina (*Tracyina rostrata* 1B.2) were discovered. One population was found near the border of the northern parcel (Fig. 4) and one in the southern parcel (Fig. 5). The population in the northern parcel was found growing along a disturbed roadside and former cultivation area. 90% of the individuals were in fruit, 10% in flower, with a total number of individuals at this site of ~800. The exact location of the property line was uncertain in this area. Associated species included Oregon white oak (*Quercus garryana*), deer brush (*Ceanothus integerrimus*), celery leaved lovage (*Ligusticum apiifolium*), oceanspray (*Holodiscus discolor*), blue wild rye (*Elymus glaucus*), gumweed (*Madia gracilis*), and hedgehog dogtail grass (*Cynosurus echinatus*). The population in the southern parcel was found in a disturbed south-facing slope in opening on the edge of mixed coniferous forest. 80% of the individuals were in fruit, 20% in flower, with a total number of individuals at this site of ~1500. Associated species included Ponderosa pine (*Pinus ponderosa*), Douglas fir (*Pseudotsuga menziesii*), black oak (*Quercus kelloggii*), canyon live oak (*Quercus chrysolepis*), Oregon white oak (*Quercus garryana*), gumweed (*Madia gracilis*), foxtail barley (*Hordeum marinum*), hedgehog dogtail grass (*Cynosurus echinatus*), California fescue (*Festuca californica*), blue wild rye (*Elymus glaucus*), sheep sorrel (*Rumex acetosella*), and snowberry (*Symphoricarpos albus*).

Beaked tracyina (*Tracyina rostrata*) was first discovered on the property on 7/14/2019. The identity of the species was confirmed and the populations were delineated on 7/19/2019. The rare plant was identified by its mostly inconspicuous ray flowers, lack of palea, annual habit, stems branched distally with branches exceeding main stem, sessile leaves, larger withered lanceolate leaves proximally, and tiny linear leaves distally. Both populations were flagged for avoidance and the landowner was asked to avoid development in these areas. The plants appeared to be thriving in disturbed areas around the greenhouse and other areas with low- to moderate-level use. For example, while the plants were not growing in the road, hundreds were growing on the side of the roads. The population is likely to continue to thrive as long as suitable habitat remains and the flagged areas are avoided. No mowing, piling of compost or other materials, or other major alterations to the habitat should occur in the flagged areas. All potential rare plant habitats around known cultivation sites were surveyed, and false negative surveys are unlikely.

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### Attachment A: List of Potentially Occurring Sensitive Plant Species

| Scientific Name                       | Common Name                           | CESA | FESA | CNPS | Blooming          | Potential |
|---------------------------------------|---------------------------------------|------|------|------|-------------------|-----------|
| Anisocarpus scabridus                 | scabrid alpine tarplant               | None | None | 1B.3 | (Jun)Jul-Aug(Sep) | Yes       |
| Arctostaphylos manzanita ssp. elegans | Konocti manzanita                     | None | None | 1B.3 | (Jan)Mar-May(Jul) | Yes       |
| Astragalus umbraticus                 | Bald Mountain milk-vetch              | None | None | 2B.3 | May-Aug           | Yes       |
| Calycadenia micrantha                 | small-flowered calycadenia            | None | None | 1B.2 | Jun-Sep           | Yes       |
| Carex praticola                       | northern meadow sedge                 | None | None | 2B.2 | May-Jul           | Yes       |
| Epilobium oreganum                    | Oregon fireweed                       | None | None | 1B.2 | Jun-Sep           | Yes       |
| Erigeron maniopotamicus               | Mad River fleabane daisy              | None | None | 1B.2 | May-Aug           | Yes       |
| Erythranthe trinitensis               | pink-margined monkeyflower            | None | None | 1B.3 | Jun-Jul(Aug)      | Yes       |
| Erythronium revolutum                 | coast fawn lily                       | None | None | 2B.2 | Mar-Jul(Aug)      | Yes       |
| Gilia capitata ssp. pacifica          | Pacific gilia                         | None | None | 1B.2 | Apr-Aug           | Yes       |
| Harmonia doris-nilesiae               | Niles' harmonia                       | None | None | 1B.1 | May-Jul           | Yes       |
| Hosackia yollabollensis               | Yolla Bolly Mtns. bird's-foot trefoil | None | None | 1B.2 | Jun-Aug           | Yes       |
| Howellia aquatilis                    | water howellia                        | None | FT   | 2B.2 | Jun               | Yes       |
| Iliamna latibracteata                 | California globe mallow               | None | None | 1B.2 | Jun-Aug           | Yes       |

## **Attachment B: Potential Rare Plant Details**

### **1. Scabrid alpine tarplant (*Anisocarpus scabridus*)**

**Status:** CRPR 1B: Rare or Endangered in California and elsewhere, .3 not very endangered in CA. Not federally or state listed. State rank S3: imperiled, global rank G4: apparently secure.

**Family:** Asteraceae

**Flowering:** (Jun)Jul-Aug(Sep)

**Habitat:** Upper montane coniferous forest (metamorphic, rocky).

**Habitat within Area:** Potential habitat exists on rocky outcroppings.

### **2. Konocti manzanita (*Arctostaphylos manzanita* ssp. *elegans*)**

**Status:** CRPR 1B: Rare or Endangered in California and elsewhere, .3 not very endangered in CA. Not federally or state listed. State rank S3: imperiled, global rank G3: vulnerable.

**Family:** Ericaceae

**Flowering:** (Jan)Mar-May(Jul)

**Habitat:** Chaparral, Cismontane woodland, Lower montane coniferous forest.

**Habitat within Area:** Potential in lower montane coniferous forest.

### **3. Bald mountain milk vetch (*Astragalus umbraticus*)**

**Status:** CRPR 2B: Rare or Endangered in California, but more common elsewhere, .3 not very endangered in CA. Not federally or state listed. State rank S2: imperiled, global rank G3: vulnerable.

**Family:** Fabaceae

**Flowering:** May-Aug

**Habitat:** Cismontane woodland, Lower montane coniferous forest, sometimes roadside

**Habitat within Area:** Potential habitat exists along roads and in disturbed wooded areas.

### **4. Small-flowered calycadenia (*Calycadenia micrantha*)**

**Status:** CRPR 1B: Rare, threatened or endangered in California and elsewhere, .2 moderately threatened in CA. Not federally or state listed. State rank S2: imperiled, global rank G2: Imperiled.

**Family:** Asteraceae

**Flowering:** Jun-Sep

**Habitat:** Chaparral, Meadows and seeps (volcanic), Valley and foothill grassland.

**Habitat within Area:** Potentially in open meadows.

### **5. Northern meadow sedge (*Carex praticola*)**

**Status:** CRPR 2B: Rare or Endangered in California, but more common elsewhere, .2 moderately threatened in CA. No state or federal listing. State rank S2: imperiled. Global rank G5: secure.

**Family:** Cyperaceae

**Flowering:** May – July

**Habitat:** Meadows and seeps (mesic)

**Habitat within Area:** Habitat might exist in mesic areas of the property.

6. Oregon fireweed (*Epilobium oreganum*)  
**Status:** CRPR 1B: rare, threatened, or endangered; .2 fairly endangered in CA. State rank S2: imperiled. Global rank G2: imperiled. No state or federal listing.  
**Family:** Onagraceae  
**Flowering:** Jun - Sept  
**Habitat:** mesic. Bogs and fens, Lower montane coniferous forest, Meadows and seeps  
**Habitat within Area:** Habitat might exist in mesic areas of the property.

7. Mad River fleabane daisy (*Erigeron maniopotamicus*)  
**Status:** CRPR 1B: rare, threatened, or endangered; .2 fairly endangered in CA. State rank S2: imperiled. Global rank G2: imperiled. No state or federal listing.  
**Family:** Asteraceae  
**Flowering:** May-Aug  
**Habitat:** Lower montane coniferous forest, Meadows and seeps (open, dry).  
**Habitat within Area:** Potential habitat on NTMP in forested and wet meadows.

8. Pink-margined monkeyflower (*Erythranthe trinitensis*)  
**Status:** CRPR 1B: rare, threatened, or endangered; .2 not very endangered in CA. State rank S2: imperiled. Global rank G2: imperiled. No state or federal listing.  
**Family:** Phrymaceae  
**Flowering:** Jun-Jul(Aug)  
**Habitat:** Cismontane woodland, Lower montane coniferous forest, Meadows and seeps, Upper montane coniferous forest.  
**Habitat within Area:** Potential habitat exists in both open and forested sections of the NTMP.

9. Coast fawn lily (*Erythronium revolutum*)  
**Status:** CRPR 2B: or Endangered in California, but more common elsewhere, .2 fairly endangered in CA. No state or federal listing. State Rank S3: vulnerable. Global Rank G4: apparently secure.  
**Family:** Liliaceae  
**Flowering:** Mar - Aug  
**Habitat:** Mesic, streambanks, Bogs and fens, Broadleafed upland forest, North Coast coniferous forest  
**Habitat within Area:** Potential habitat exists in the NTMP in forested and wet areas.

10. Pacific gilia (*Gilia capitata ssp. pacifica*)  
**Status:** CRPR 1B: rare, threatened, or endangered, .2 fairly endangered in CA. Not federally or state listed. State rank S3: vulnerable, global rank G5: secure.  
**Family:** Polemoniaceae  
**Flowering:** Apr-Aug  
**Habitat:** Coastal bluff scrub, Chaparral (openings), Coastal prairie, Valley and foothill grassland.  
**Habitat within Area:** Potential habitat in the meadows on the property.

11. Niles' harmonia (*Harmonia doris-nilesiae*)

**Status:** CRPR 1B: Rare or Endangered in California and elsewhere, .1 seriously threatened in California. S2: imperiled. Global rank G2: imperiled. No state or federal listing.

**Family:** Asteraceae

**Flowering:** May-Jul

**Habitat:** Chaparral, Cismontane woodland, Lower montane coniferous forest

**Habitat within Area:** Potential habitat in the woodland and coniferous forests on the property.

12. Yolla Bolly Mtns. bird's-foot trefoil (*Hosackia yollabollensis*)

**Status:** CRPR 1B: rare, threatened, or endangered, .2 fairly endangered in CA. Not federally or state listed. S2: imperiled. Global rank G2: imperiled.

**Family:** Fabaceae

**Flowering:** Jun-Aug

**Habitat:** Meadows and seeps, Upper montane coniferous forest (openings).

**Habitat within Area:** Potential habitat in forest clearings and meadows on the property.

13. Water howellia (*Howellia aquatilis*)

**Status:** CRPR 2B: or Endangered in California, but more common elsewhere, .2 fairly endangered in CA. No state or federal listing. S2: imperiled. Global rank G3: vulnerable.

**Family:** Campanulaceae

**Flowering:** Jun

**Habitat:** Marshes and swamps (freshwater).

**Habitat within Area:** Potential habitat in the freshwater ponds on the property.

14. California globe mallow (*Iliamna latibracteata*)

**Status:** CRPR 1B: rare, threatened, or endangered, .2 fairly endangered in CA. Not federally or state listed. S2: imperiled. Global rank G2: imperiled.

**Family:** Malvaceae

**Flowering:** Jun-Aug

**Habitat:** Often in burned areas. Chaparral (montane), Lower montane coniferous forest, North Coast coniferous forest (mesic), Riparian scrub (streambanks)

**Habitat within Area:** Potential habitat may exist in the area.

## Attachment C. Plant Species Observed

|                   | Species Name                          | Common Name                  | Family          | Date      |
|-------------------|---------------------------------------|------------------------------|-----------------|-----------|
| Trees             | <i>Abies grandis</i>                  | Grand fir                    | Pinaceae        | 5/22/2019 |
|                   | <i>Acer macrophyllum</i>              | Bigleaf maple                | Sapindaceae     | 7/14/2019 |
|                   | <i>Alnus rhombifolia</i>              | White alder                  | Betulaceae      | 7/14/2019 |
|                   | <i>Arbutus menziesii</i>              | Madrone                      | Ericaceae       | 5/22/2019 |
|                   | <i>Calocedrus decurrens</i>           | Incense cedar                | Cupressaceae    | 7/19/2019 |
|                   | <i>Pinus ponderosa</i>                | Ponderosa pine               | Pinaceae        | 5/22/2019 |
|                   | <i>Populus trichocarpa</i>            | Black cottonwood             | Salicaceae      | 7/14/2019 |
|                   | <i>Pseudotsuga menziesii</i>          | Douglas fir                  | Pinaceae        | 5/22/2019 |
|                   | <i>Quercus chrysolepis</i>            | Canyon live oak              | Fagaceae        | 5/22/2019 |
|                   | <i>Quercus garryana</i>               | Oregon white oak             | Fagaceae        | 5/22/2019 |
|                   | <i>Quercus kelloggii</i>              | California black oak         | Fagaceae        | 5/22/2019 |
|                   | <i>Sequoia sempervirens</i> (planted) | Coast redwood                | Cupressaceae    | 5/22/2019 |
| Shrubs            | <i>Amelanchier utahensis</i>          | Western serviceberry         | Rosaceae        | 5/22/2019 |
|                   | <i>Arctostaphylos canescens</i>       | Hoary manzanita              | Ericaceae       | 5/22/2019 |
|                   | <i>Arctostaphylos manzanita</i>       | Whiteleaf manzanita          | Ericaceae       | 5/22/2019 |
|                   | <i>Berberis aquifolium</i>            | Oregon grape                 | Berberidaceae   | 5/22/2019 |
|                   | <i>Ceanothus arcuatus</i>             | Arching ceanothus            | Rhamnaceae      | 7/14/2019 |
|                   | <i>Ceanothus integerrimus</i>         | Deer brush                   | Rhamnaceae      | 5/22/2019 |
|                   | <i>Frangula californica</i>           | California coffeeberry       | Rhamnaceae      | 5/22/2019 |
|                   | <i>Holodiscus discolor</i>            | Oceanspray                   | Rosaceae        | 7/14/2019 |
|                   | <i>Phoradendron leucarpum</i>         | American mistletoe           | Viscaceae       | 5/22/2019 |
|                   | <i>Ribes sanguineum</i>               | Red flowering currant        | Grossulariaceae | 7/14/2019 |
|                   | <i>Rosa pisocarpa</i>                 | Cluster rose                 | Rosaceae        | 5/22/2019 |
|                   | <i>Rubus leucodermis</i>              | White-stem raspberry         | Rosaceae        | 5/22/2019 |
|                   | <i>Salix lasiolepis</i>               | Arroyo willow                | Salicaceae      | 7/14/2019 |
|                   | <i>Salix scouleriana</i>              | Scouler willow               | Salicaceae      | 5/22/2019 |
|                   | <i>Sambucus</i> sp.                   | Elderberry                   | Adoxaceae       | 7/14/2019 |
|                   | <i>Symphoricarpos albus</i>           | Common snowberry             | Caprifoliaceae  | 5/22/2019 |
|                   | <i>Toxicodendron diversilobum</i>     | Poison oak                   | Anacardiaceae   | 5/22/2019 |
|                   | <i>Vaccinium ovatum</i>               | Evergreen huckleberry        | Ericaceae       | 5/22/2019 |
| Herbaceous Plants | <i>Achillea millefolium</i>           | Common yarrow                | Asteraceae      | 5/22/2019 |
|                   | <i>Achyrachaena mollis</i>            | Soft blow wives              | Asteraceae      | 5/22/2019 |
|                   | <i>Acmispon americanus</i>            | American bird's foot trefoil | Fabaceae        | 5/22/2019 |
|                   | <i>Acmispon brachycarpus</i>          | Short podded lotus           | Fabaceae        | 5/22/2019 |
|                   | <i>Agoseris retrorsa</i>              | Spear leaved agoseris        | Asteraceae      | 5/22/2019 |
|                   | <i>Aira caryophyllea</i>              | Silver hairgrass             | Poaceae         | 5/22/2019 |
|                   | <i>Allium hoffmanii</i>               | Beegum onion                 | Alliaceae       | 5/22/2019 |

|                                           |                           |                 |           |
|-------------------------------------------|---------------------------|-----------------|-----------|
| Anisocarpus madioides                     | Woodland madia            | Asteraceae      | 5/22/2019 |
| Anthoxanthum odoratum                     | Sweet vernal grass        | Poaceae         | 5/22/2019 |
| Anthriscus caucalis                       | Bur chevril               | Apiaceae        | 5/22/2019 |
| Arnica discoidea                          | Rayless arnica            | Asteraceae      | 7/14/2019 |
| Aspidotis densa                           | Cliffbrake                | Pteridaceae     | 5/22/2019 |
| Athysanus pusillus                        | Common sandweed           | Brassicaceae    | 5/22/2019 |
| Avena barbata                             | Slender oat               | Poaceae         | 5/22/2019 |
| Briza minor                               | Small quaking grass       | Poaceae         | 7/14/2019 |
| Brodiaea elegans                          | Harvest brodiaea          | Themidaceae     | 7/14/2019 |
| Bromus carinatus                          | California brome          | Poaceae         | 7/14/2019 |
| Bromus diandrus                           | Ripgut grass              | Poaceae         | 5/22/2019 |
| Bromus hordeaceus                         | Soft chess                | Poaceae         | 5/22/2019 |
| Bromus tectorum                           | Cheatgrass                | Poaceae         | 7/19/2019 |
| Calandrinia menziesii                     | Red maids                 | Montiaceae      | 7/19/2019 |
| Callitriche sp.                           | Starwort                  | Plantaginaceae  | 7/14/2019 |
| Calochortus tolmiei                       | Hairy star tulip          | Lilaceae        | 5/22/2019 |
| Calochortus vestae                        | Yellow mariposa           | Liliaceae       | 7/19/2019 |
| Calypso bulbosa                           | Fairy slipper             | Orchidaceae     | 5/22/2019 |
| Calystegia occidentalis ssp. occidentalis | Western morning glory     | Convolvulaceae  | 7/14/2019 |
| Campanula scouleri                        | Scouler's harebell        | Campanulaceae   | 7/14/2019 |
| Capsella bursa-pastoris                   | Shepherd's purse          | Brassicaceae    | 5/22/2019 |
| Cardamine oligosperma                     | Bittercress               | Brassicaceae    | 5/22/2019 |
| Carduus pycnocephalus                     | Italian thistle           | Asteraceae      | 5/22/2019 |
| Carex globosa                             | Round fruit sedge         | Cyperaceae      | 5/22/2019 |
| Carex subfusca                            | Pale broom sedge          | Cyperaceae      | 7/14/2019 |
| Carex utriculata                          | Beaked sedge              | Cyperaceae      | 7/14/2019 |
| Castilleja densiflora                     | Dense flower owl's clover | Orobanchaceae   | 5/22/2019 |
| Centaurea solstitialis                    | Yellow star thistle       | Asteraceae      | 7/14/2019 |
| Cerastium glomeratum                      | Large mouse ears          | Caryophyllaceae | 5/22/2019 |
| Chlorogalum pomeridianum                  | Soap plant                | Agavaceae       | 5/22/2019 |
| Cirsium occidentale                       | Cobweb thistle            | Asteraceae      | 5/22/2019 |
| Cirsium vulgare                           | Bull thistle              | Asteraceae      | 7/14/2019 |
| Clarkia rhomboidea                        | Diamond clarkia           | Onagraceae      | 7/14/2019 |
| Claytonia perfoliata                      | Miner's lettuce           | Montiaceae      | 5/22/2019 |
| Clinopodium douglasii                     | Yerba buena               | Lamiaceae       | 5/22/2019 |
| Collomia grandiflora                      | Large flowered collomia   | Polemoniaceae   | 7/14/2019 |
| Collomia heterophylla                     | Variable leaved collomia  | Polemoniaceae   | 5/22/2019 |
| Convolvulus arvensis                      | Bindweed                  | Convolvulaceae  | 7/14/2019 |
| Corallorhiza maculata                     | Spotted coralroot         | Orchidaceae     | 7/14/2019 |
| Crepis sp.                                | Hawksbeard                | Asteraceae      | 5/22/2019 |
| Croton setiger                            | Turkey-mullein            | Euphorbiaceae   | 7/19/2019 |
| Cynoglossum grande                        | Giant hound's tongue      | Boraginaceae    | 5/22/2019 |
| Cynosurus echinatus                       | Hedgehog dogtail grass    | Poaceae         | 7/14/2019 |
| Cyperus eragrostis                        | Tall nutsedge             | Cyperaceae      | 7/14/2019 |
| Cystopteris fragilis                      | Bladder fern              | Woodsiaceae     | 5/22/2019 |

|                              |                         |               |           |
|------------------------------|-------------------------|---------------|-----------|
| Dactylis glomerata           | Orchard grass           | Poaceae       | 5/22/2019 |
| Danthonia californica        | California oatgrass     | Poaceae       | 7/14/2019 |
| Delphinium decorum           | Larkspur                | Ranunculaceae | 5/22/2019 |
| Delphinium nudicaule         | Canyon larkspur         | Ranunculaceae | 5/22/2019 |
| Deschampsia elongata         | Hairgrass               | Poaceae       | 7/14/2019 |
| Dichelostemma capitatum      | Blue dicks              | Themidaceae   | 5/22/2019 |
| Dichelostemma congestum      | Fork-toothed ookow      | Themidaceae   | 7/14/2019 |
| Dichelostemma ida-maia       | Firecracker flower      | Themidaceae   | 7/14/2019 |
| Eleocharis macrostachya      | Spike rush              | Cyperaceae    | 7/19/2019 |
| Eleocharis palustris         | Common spikerush        | Cyperaceae    | 7/19/2019 |
| Elymus glaucus               | Blue wild rye           | Poaceae       | 7/14/2019 |
| Epilobium brachycarpum       | Annual fireweed         | Onagraceae    | 7/14/2019 |
| Epilobium ciliatum           | Slender willowherb      | Onagraceae    | 7/14/2019 |
| Epilobium densiflorum        | Willow herb             | Onagraceae    | 7/19/2019 |
| Epilobium foliosum           | California willowherb   | Onagraceae    | 7/19/2019 |
| Equisetum telmateia          | Giant horesetail        | Equisetaceae  | 7/14/2019 |
| Ericameria nauseosa          | Rubber rabbitbrush      | Asteraceae    | 7/19/2019 |
| Eriogonum compositum         | Arrowleaf buckwheat     | Polygonaceae  | 7/19/2019 |
| Eriogonum nudum var. nudum   | Nude buckwheat          | Polygonaceae  | 7/19/2019 |
| Eriophyllum lanatum          | Common woolly sunflower | Asteraceae    | 5/22/2019 |
| Erodium botrys               | Big heron bill          | Geraniaceae   | 5/22/2019 |
| Erodium cicutarium           | Coastal heron's bill    | Geraniaceae   | 5/22/2019 |
| Erysimum capitatum           | Western wallflower      | Brassicaceae  | 5/22/2019 |
| Erythranthe cardinalis       | Cardinal monkey flower  | Phrymaceae    | 7/14/2019 |
| Erythranthe guttata          | Yellow monkey flower    | Phrymaceae    | 5/22/2019 |
| Erythronium californicum     | California fawn lilly   | Liliaceae     | 5/22/2019 |
| Festuca californica          | California fescue       | Poaceae       | 5/22/2019 |
| Fragaria vesca               | Woodland strawberry     | Rosaceae      | 5/22/2019 |
| Fritillaria affinis          | Checker lily            | Lilaceae      | 5/22/2019 |
| Galium ambiguum              | Yolla bolly bedstraw    | Rubiaceae     | 7/19/2019 |
| Galium aparine               | Common bedstraw         | Rubiaceae     | 5/22/2019 |
| Gilia capitata ssp. capitata | Blue field gilia        | Polemoniaceae | 7/19/2019 |
| Gnaphalium palustre          | Cudweed                 | Asteraceae    | 7/14/2019 |
| Heuchera micrantha           | Alumroot                | Saxifragaceae | 7/14/2019 |
| Hieracium albiflorum         | White hawkweed          | Asteraceae    | 5/22/2019 |
| Hordeum marinum              | Seaside barley          | Poaceae       | 5/22/2019 |
| Hordeum murinum              | Foxtail barley          | Poaceae       | 5/22/2019 |
| Hydrophyllum occidentale     | California waterleaf    | Boraginaceae  | 5/22/2019 |
| Hypericum perforatum         | St. John's wort         | Hypericaceae  | 5/22/2019 |
| Juncus bufonius              | Common toad rush        | Juncaceae     | 7/19/2019 |
| Juncus covillei              | Coville's rush          | Juncaceae     | 7/14/2019 |
| Juncus effusus               | Bog rush                | Juncaceae     | 5/22/2019 |
| Juncus occidentalis          | Western rush            | Juncaceae     | 5/22/2019 |
| Juncus patens                | Common rush             | Juncaceae     | 5/22/2019 |
| Lactuca saligna              | Willow lettuce          | Asteraceae    | 7/14/2019 |
| Lathyrus vestitus            | Common pacific pea      | Fabaceae      | 5/22/2019 |

|                                               |                            |                 |           |
|-----------------------------------------------|----------------------------|-----------------|-----------|
| <i>Leontodon saxatilis</i>                    | Hawkbit                    | Asteraceae      | 5/22/2019 |
| <i>Leucanthemum vulgare</i>                   | Ox-eye daisy               | Asteraceae      | 7/14/2019 |
| <i>Ligusticum apiifolium</i>                  | Celery leaved lovage       | Apiaceae        | 7/19/2019 |
| <i>Limnanthes douglasii</i> ssp. <i>nivea</i> | Snow white meadowfoam      | Limnanthaceae   | 5/22/2019 |
| <i>Linum bienne</i>                           | Pale flax                  | Linaceae        | 7/14/2019 |
| <i>Lithophragma affine</i>                    | Common woodland star       | Saxifragaceae   | 5/22/2019 |
| <i>Lomatium dasycarpum</i>                    | Hog fennel                 | Apiaceae        | 5/22/2019 |
| <i>Lomatium dissectum</i>                     | Fern leaved lomatium       | Apiaceae        | 5/22/2019 |
| <i>Lomatium macrocarpum</i>                   | Large fruited lomatium     | Apiaceae        | 5/22/2019 |
| <i>Lupinus albifrons</i>                      | Silver bush lupine         | Fabaceae        | 5/22/2019 |
| <i>Lupinus bicolor</i>                        | Miniature lupine           | Fabaceae        | 5/22/2019 |
| <i>Luzula comosa</i>                          | Common wood rush           | Juncaceae       | 5/22/2019 |
| <i>Madia gracilis</i>                         | Gumweed                    | Asteraceae      | 7/19/2019 |
| <i>Marah oregana</i>                          | Coast man-root             | Cucurbitaceae   | 5/22/2019 |
| <i>Medicago sativa</i>                        | Alfalfa                    | Fabaceae        | 5/22/2019 |
| <i>Micropus californicus</i>                  | Q-tips                     | Asteraceae      | 7/14/2019 |
| <i>Moehringia macrophylla</i>                 | Large leaved sandwort      | Caryophyllaceae | 5/22/2019 |
| <i>Monardella odoratissima</i>                | Desert mint                | Lamiaceae       | 7/14/2019 |
| <i>Montia fontana</i>                         | Water montia               | Montiaceae      | 5/22/2019 |
| <i>Myriopteris gracillima</i>                 | Lace lip fern              | Pteridaceae     | 5/22/2019 |
| <i>Navarretia intertexta</i>                  | Needle leaved navarretia   | Polemoniaceae   | 7/14/2019 |
| <i>Navarretia sinistra</i>                    | Alva day's pincushionplant | Polemoniaceae   | 7/14/2019 |
| <i>Nemophila menziesii</i>                    | Baby blue eyes             | Boraginaceae    | 5/22/2019 |
| <i>Nemophila parviflora</i>                   | Small flowered nemophila   | Boraginaceae    | 5/22/2019 |
| <i>Osmorrhiza berteroi</i>                    | Sweet cicely               | Apiaceae        | 7/14/2019 |
| <i>Pectocarya pusilla</i>                     | Little combseed            | Boraginaceae    | 5/22/2019 |
| <i>Pellaea mucronata</i>                      | Bird's foot fern           | Pteridaceae     | 5/22/2019 |
| <i>Penstemon heterophyllus</i>                | Foothill penstemon         | Plantaginaceae  | 7/19/2019 |
| <i>Perideridia kelloggii</i>                  | Yampah                     | Apiaceae        | 7/19/2019 |
| <i>Phacelia egena</i>                         | Rock phacelia              | Boraginaceae    | 7/19/2019 |
| <i>Phacelia heterophylla</i>                  | Varileaf phacelia          | Boraginaceae    | 5/22/2019 |
| <i>Phoradendron leucarpum</i>                 | American mistletoe         | Viscaceae       | 5/22/2019 |
| <i>Piperia transversa</i>                     | Mountain piperia           | Orchidaceae     | 5/22/2019 |
| <i>Piperia unalascensis</i>                   | Alaska piperia             | Orchidaceae     | 7/14/2019 |
| <i>Plagiobothrys</i> sp.                      | Popcornflower              | Boraginaceae    | 5/22/2019 |
| <i>Plectritis congesta</i>                    | Sea blush                  | Valerianaceae   | 5/22/2019 |
| <i>Poa pratensis</i>                          | Kentucky blue grass        | Poaceae         | 5/22/2019 |
| <i>Polygonum aviculare</i>                    | Prostrate knotweed         | Polygonaceae    | 7/14/2019 |
| <i>Polypodium glycyrrhiza</i>                 | Licorice fern              | Polypodiaceae   | 5/22/2019 |
| <i>Polystichum munitum</i>                    | Western swordfern          | Dryopteridaceae | 5/22/2019 |
| <i>Primula hendersonii</i>                    | Mosquito bill              | Primulaceae     | 5/22/2019 |
| <i>Psilocarphus oregonus</i>                  | Woolly marbles             | Asteraceae      | 7/19/2019 |
| <i>Pyrola picta</i>                           | White veined wintergreen   | Ericaceae       | 7/19/2019 |
| <i>Ranunculus occidentalis</i>                | Western buttercup          | Ranunculaceae   | 5/22/2019 |
| <i>Rorippa curvisiliqua</i>                   | Curvepod yellow cress      | Brassicaceae    | 7/19/2019 |
| <i>Rumex acetosella</i>                       | Common sheep sorrel        | Polygoniaceae   | 5/22/2019 |

|                           |                          |                 |           |
|---------------------------|--------------------------|-----------------|-----------|
| Rumex crispus             | Curly dock               | Polygonaceae    | 5/22/2019 |
| Rupertia physodes         | Common rupertia          | Fabaceae        | 7/14/2019 |
| Sanicula crassicaulis     | Pacific sanicle          | Apiaceae        | 5/22/2019 |
| Scutellaria californica   | California skullcap      | Lamiaceae       | 7/14/2019 |
| Sedum lanceolatum         | Lance leaf stonecrop     | Crassulaceae    | 7/19/2019 |
| Senecio integerrimus      | Lambstongue ragwort      | Asteraceae      | 5/22/2019 |
| Silene laciniata          | California Indian pink   | Caryophyllaceae | 7/14/2019 |
| Sonchus asper             | Prickly sow thistle      | Asteraceae      | 5/22/2019 |
| Stellaria media           | Chickweed                | Caryophyllaceae | 5/22/2019 |
| Streptanthus tortuosus    | Jewelweed                | Brassicaceae    | 5/22/2019 |
| Thlaspi arvense           | Field pennycress         | Brassicaceae    | 5/22/2019 |
| Torilis arvensis          | Tall sock destroyer      | Apiaceae        | 7/14/2019 |
| Toxicoscordion micranthum | Small flowered star lily | Melanthiaceae   | 5/22/2019 |
| Tracyina rostrata (1B.2)  | Beaked tracyina          | Asteraceae      | 7/14/2019 |
| Tragopogon dubius         | Goat's beard             | Asteraceae      | 7/14/2019 |
| Trichostema laxum         | Terpentine weed          | Lamiaceae       | 7/14/2019 |
| Trifolium albopurpureum   | Indian clover            | Fabaceae        | 5/22/2019 |
| Trifolium fucatum         | Bull clover              | Fabaceae        | 5/22/2019 |
| Trifolium oliganthum      | Few flowered clover      | Fabaceae        | 5/22/2019 |
| Trifolium willdenovii     | Tomcat clover            | Fabaceae        | 5/22/2019 |
| Trillium albidum          | Giant white wakerobin    | Melanthiaceae   | 5/22/2019 |
| Triteleia hyacinthina     | White brodiaea           | Themidaceae     | 7/14/2019 |
| Triteleia laxa            | Ithuriel's spear         | Themidaceae     | 7/19/2019 |
| Turritis glabra           | Tower rockcress          | Brassicaceae    | 7/14/2019 |
| Verbena lasiostachys      | Western vervain          | Verbenaceae     | 7/19/2019 |
| Vicia americana           | American vetch           | Fabaceae        | 5/22/2019 |
| Vicia gigantea            | Giant vetch              | Fabaceae        | 7/14/2019 |
| Vicia sativa              | Garden vetch             | Fabaceae        | 5/22/2019 |
| Viola glabella            | Pioneer violet           | Violaceae       | 7/14/2019 |
| Viola purpurea            | Goosefoot violet         | Violaceae       | 5/22/2019 |

## Attachment D. Botanical Survey Maps

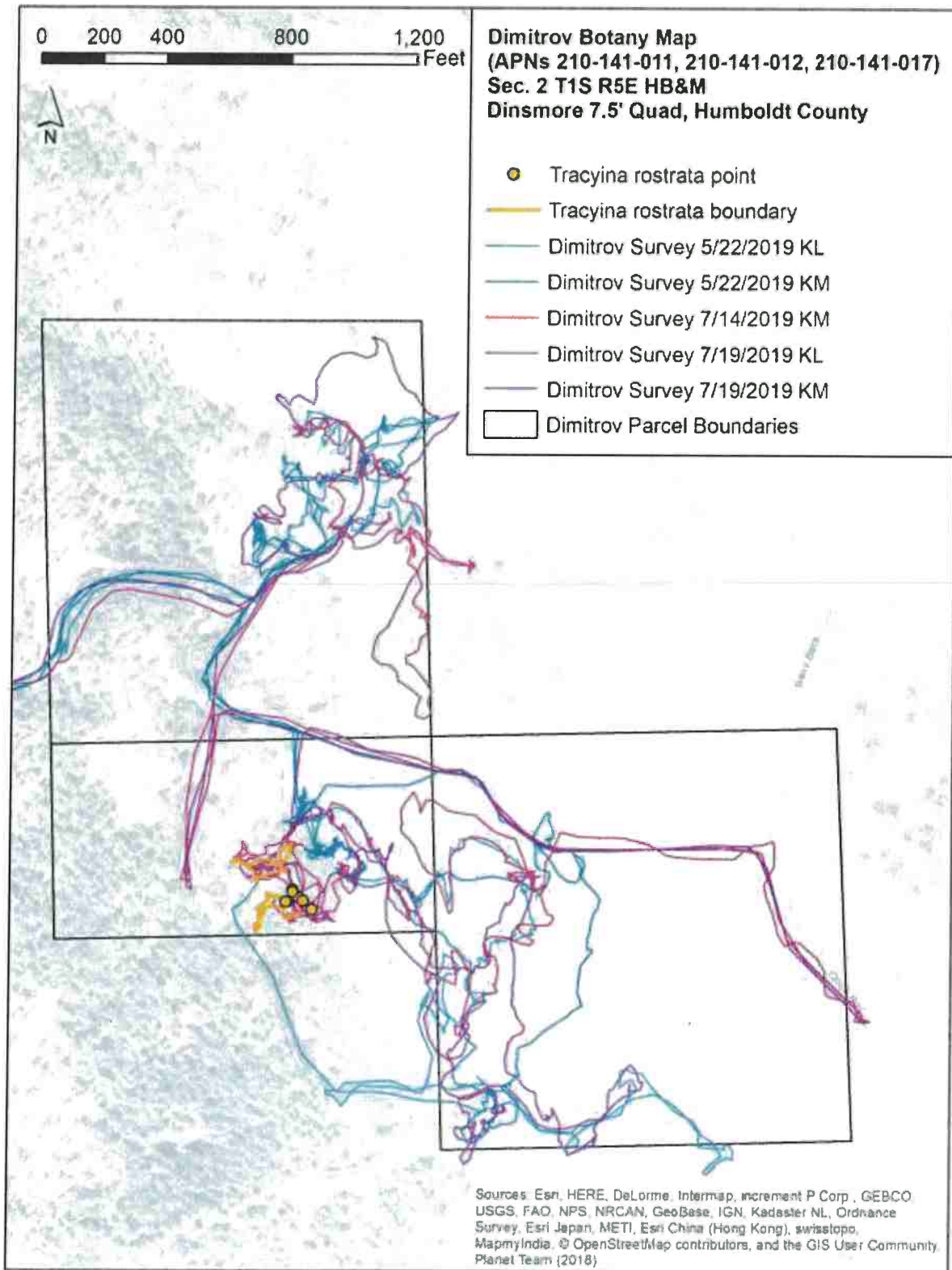
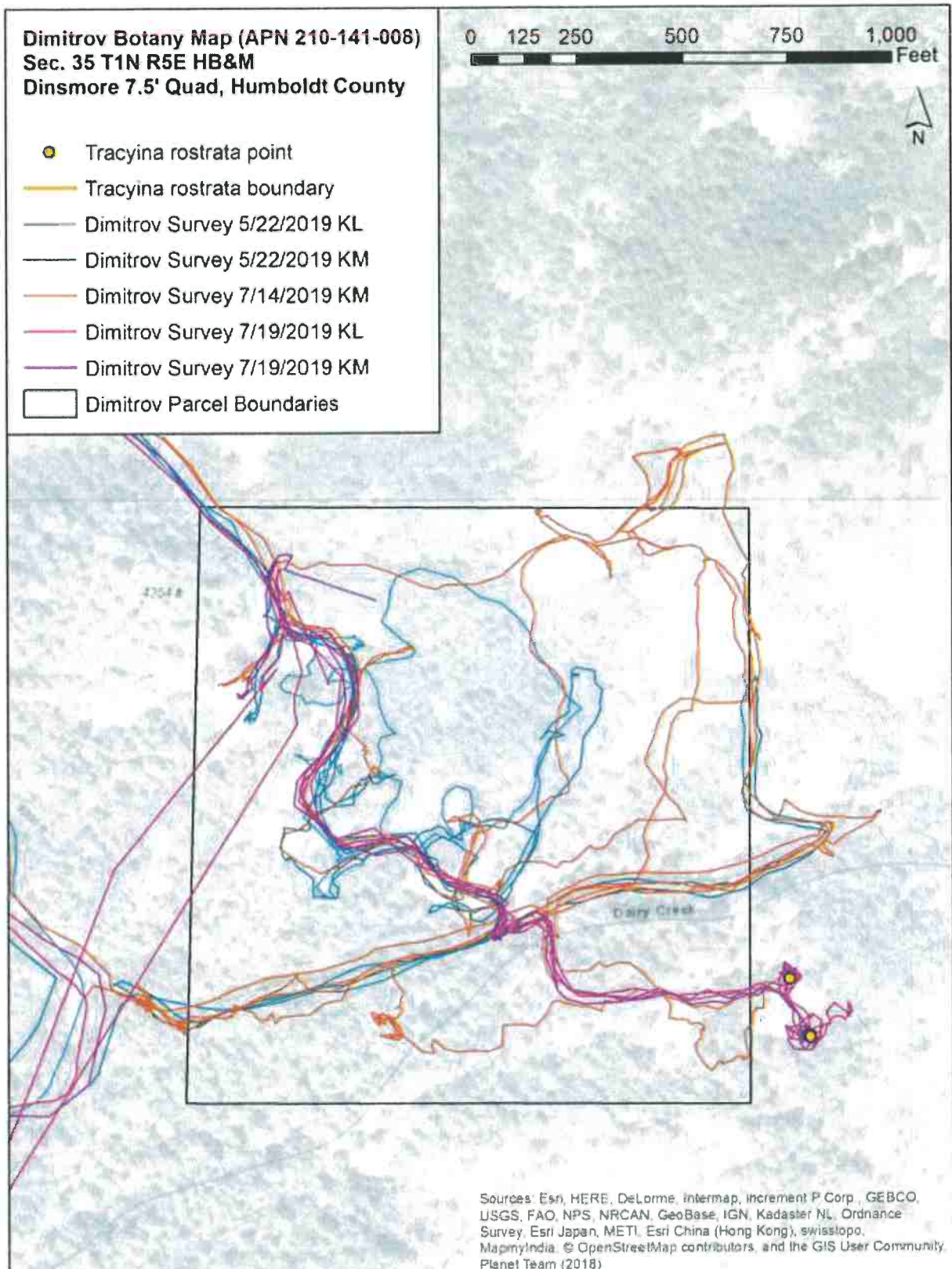


Figure 1. Southern parcel.



**Figure 2.** Northern parcel.

## Attachment E. Habitat Photos



**Figure 3.** Grasslands bordered by oak woodland typical of the southern parcel.



**Figure 4.** Large hoop houses on the edge of the grasslands on the southern property.



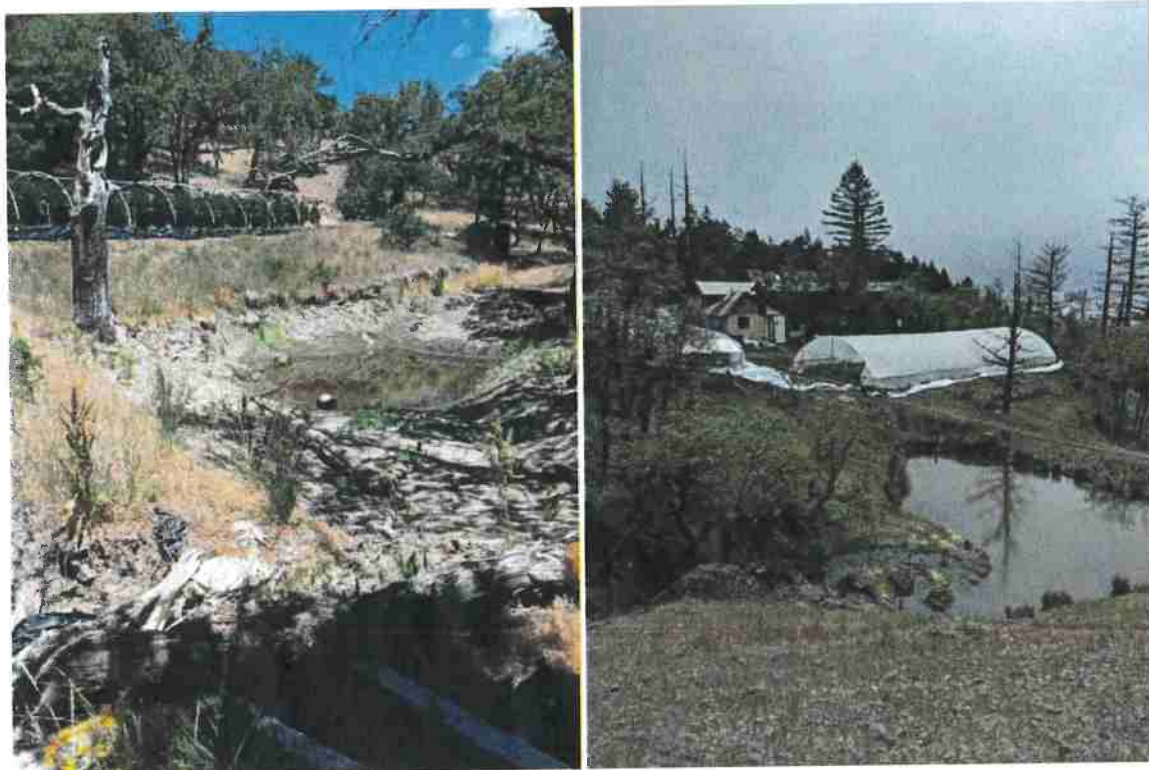
**Figure 5.** The *Tracyina rostrata* population in the northern parcel. Flags showing the extent of the population (above).



**Figure 6.** The large *Tracyina rostrata* population in the southern parcel.



**Figure 7.** Approximately 35 Oregon white oaks (*Quercus garryana*) were recently cut around the cultivation area on parcel APN 210-144-011.



**Figure 8.** Erosion from the dug-out stream beds and adjacent cultivation areas on APN 210-144-011 and APN 210-144-012 has the potential to negatively impact riparian plant communities and facilitate the spread of invasive plants.

## Attachment F. Rank Definitions Global Conservation Status Definition

Listed below are definitions for interpreting NatureServe global (range-wide) conservation status ranks. These ranks are assigned by NatureServe scientists or by a designated lead office in the NatureServe network.

- G1**      **Critically Imperiled** – At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.
- G2**      **Imperiled** – At high risk of extinction or elimination due to very restricted range, very few populations, steep declines, or other factors.
- G3**      **Vulnerable** – At moderate risk of extinction or elimination due to a restricted range, relatively few populations, recent and widespread declines, or other factors.
- G4**      **Apparently Secure** – Uncommon but not rare; some cause for long-term concern due to declines or other factors.
- G5**      **Secure** – Common; widespread and abundant.
- G#G#**    **Range Rank** – A numeric range rank (e.g. G2G3, G1G3) is used to indicate the range of uncertainty about the exact status of a taxon or ecosystem type. Ranges cannot skip more than two ranks (e.g., GU should be used rather than G1G4).

### Intraspecific Taxon Conservation Status Ranks

- T#**      **Intraspecific Taxon** (trimonial) – The status of intraspecific taxa (subspecies or varieties) are indicated by a “T-rank” following the species global rank. Rules for assigning T-ranks follow the same principles outlined above. For example, the global rank of a critically imperiled subspecies of an otherwise widespread and common species would be G5T1. A T subrank cannot imply the subspecies or variety is more abundant than the species. For example, a G1T2 subrank should not occur. A vertebrate animal population, (e.g., listed under the U.S. Endangered Species Act or assigned candidate status) may be tracked as an intraspecific taxon and given a T-rank; in such cases a Q is used after the T-rank to denote the taxon’s informal taxonomic status.

### Subnational (S) Conservation Status Ranks

- S1**      **Critically Imperiled** – Critically imperiled in the jurisdiction because of extreme rarity or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the jurisdiction.
- S2**      **Imperiled** – Imperiled in the jurisdiction because of rarity due to very restricted range, very few populations, steep declines, or other factors making it very vulnerable to extirpation from jurisdiction.
- S3**      **Vulnerable** – Vulnerable in the jurisdiction due to a restricted range, relatively few populations, recent and widespread declines, or other factors making it vulnerable to extirpation.
- S4**      **Apparently Secure** – Uncommon but not rare; some cause for long-term concern due to declines or other factors.
- S5**      **Secure** – Common, widespread, and abundant in the jurisdiction.
- S#S#**    **Range Rank** – A numeric range rank (e.g., S2S3 or S1S3) is used to indicate any range of uncertainty about the status of the species or ecosystem. Ranges cannot skip more than two ranks (e.g., SU is used rather than S1S4).

### Rank Qualifiers

- ?**      **Inexact Numeric Rank** – Denotes inexact numeric rank; this should not be used with any of the Variant Global Conservation Status
- Q**      **Questionable taxonomy that may reduce conservation priority** – Distinctiveness of this entity as a taxon or ecosystem type at the current level is questionable; resolution of this uncertainty may result in change from a species to a subspecies or hybrid, or inclusion of this taxon or type in another taxon or type, with the resulting taxon having a

lower-priority (numerically higher) conservation status rank. The “Q” modifier is only used at a global level and not at a national or subnational level.

### **The California Rare Plant Ranks**

- 1A. Presumed extirpated in California and either rare or extinct elsewhere
- 1B. Rare or Endangered in California and elsewhere
- 2A. Presumed extirpated in California, but more common elsewhere
- 2B. Rare or Endangered in California, but more common elsewhere
- 3. Plants for which we need more information – Review list
- 4. Plants of limited distribution – Watch list

#### **1A: Plants Presumed Extirpated in California and either rare or extinct elsewhere**

The plants of Rank 1A are presumed extirpated because they have not been seen or collected in the wild in California for many years. This rank includes those plant taxa that are both presumed extinct, as well as those plants which are presumed extirpated in California and rare elsewhere. A plant is extinct if it no longer occurs anywhere. A plant that is extirpated from California has been eliminated from California, but may still occur elsewhere in its range.

#### **1B: Plants Rare, Threatened or Endangered in California and Elsewhere (Includes Rare Plant Ranks 1B.1, 1B.2, 1B.3)**

The plants of Rank 1B are rare throughout their range with the majority of them endemic to California. Most of the plants that are ranked 1B have declined significantly over the last century. California Rare Plant Rank 1B plants constitute the majority of plant taxa tracked by the CNDDB, with more than 1,000 plants assigned to this category of rarity.

#### **2A: Plants Presumed Extirpated in California, but more common elsewhere**

The plants of Rank 2A are presumed extirpated because they have not been seen or collected in the wild in California for many years. This rank includes only those plant taxa that are presumed extirpated in California, but that are more common elsewhere in their range. Note: Plants of both Rank 1A and 2A are presumed extirpated in California; the only difference is the status of the plants outside of the state.

#### **2B: Plants Rare, Threatened or Endangered in California, but More Common Elsewhere (Includes Rare Plant Ranks 2B.1, 2B.2 2B.3)**

The plants of Rank 2B are rare, threatened or endangered in California, but more common elsewhere. Plants common in other states or countries are not eligible for consideration under the provisions of the Federal Endangered Species Act; however they are eligible for consideration under the California Endangered Species Act. This rank is meant to highlight the importance of protecting the geographic range and genetic diversity of more widespread species by protecting those species whose ranges just extend into California. Note: Plants of both Rank 1B and 2B are rare, threatened or endangered in California; the only difference is the status of the plants outside of the state.

#### **Threat Ranks:**

The California Rare Plant Ranks (CRPR) use a decimal-style threat rank. The threat rank is an extension added onto the CRPR and designates the level of threats by a 1 to 3 ranking with 1 being the most threatened and 3 being the least threatened. So most CRPRs read as 1B.1, 1B.2, 1B. 3, etc. Note that some Rank 3 plants do not have a threat code extension since there are no known extant populations of the plants in California.

#### **Threat Code extensions and their meanings:**

- .1 – Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
- .2 – Moderately threatened in California (20-80% of occurrences threatened / moderate degree and immediacy of threat)
- .3 – Not very threatened in California (<20% of occurrences threatened / low degree of immediacy of threat or no current threats known)

## Revised Attachment G.

Table G-1 below compares the traits of the *Crepis* species found by Claire Brown on June 19, 2020 with the trait descriptions of *Tracyina rostrata* from the Jepson Manual (Baldwin et.al 2012) and those of *Crepis puchra* from the eFlora of North America (eFNA2020).

At time of collection on June 19, 2020, the *Crepis sp.* specimens were 100% in flower, with none having yet set mature fruit. However, the corollas of almost all individuals were somewhat gummy and withered. Some heads still had immature flowers with rolled-up corollas at their center, while most heads contained flowers that were all mature with expanded ligules. All flowers in all heads were bisexual. Collected specimens were allowed to dry, and fruit did at least partially mature on these plants. These fruits were used for keying and the description below.

The main difference between *Crepis pulchra* and the specimens collected is the lack of viscid stipitate glands on the proximal stem and leaf faces. According to Alison Colwell of the UC Davis Center for Plant Diversity, "The Lactuceae tend to have apomictic swarms so lots of confusing microvariation that makes ID unsatisfactory" (Colwell, pers.comm. July 2020). Digitized herbarium specimens of *Crepis pulchra* found in CCH2 are visually similar (CCH2 2020).

Table G-1. Specimen Trait Comparison Chart (Jepson eFlora 2020, eFNA 2020)

| Trait                | <i>Tracyina rostrata</i><br>(Jepson eFlora 2020)                                                                                                                                                                                                                                                                                                       | <i>Crepis sp. specimans</i> found<br>6-19-2020                                                                                                                                                                                                                                                              | <i>Crepis pulchra</i> (eFNA 2020)                                                                                                                                                                                                                                                                                           |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Habit:</b>        | Annual 5--30+ cm, from slender taproot; generally self-pollinated.                                                                                                                                                                                                                                                                                     | Annual, most are mostly between 40 cm and 80 cm in height.                                                                                                                                                                                                                                                  | Annuals, 5--100 cm (taproots slender)                                                                                                                                                                                                                                                                                       |
| <b>Stem:</b>         | erect, simple or branched distally, branches often exceeding main stem, glabrous                                                                                                                                                                                                                                                                       | Erect, branched distally, forming compound cyme/corymb. Proximal stem coarsely white non-glandular hairy, distal glabrous                                                                                                                                                                                   | erect, simple, proximally hispid and stipitate-glandular (viscid), distally glabrous.                                                                                                                                                                                                                                       |
| <b>Leaf:</b>         | basal and at flower mostly cauline, alternate, +- sessile, 10--25(35+) mm, 1--2(5+) mm wide, narrowly lanceolate to linear, entire, ciliate, glabrous or sparsely, minutely coarse-hairy.                                                                                                                                                              | Almost all leaves >5 mm wide, coarsely toothed, coarsely white- hairy on adaxial and abaxial surfaces, semi-clasping base. Basal 50 to 80 mm long, proximal cauline 50 to 75 mm, distal cauline much reduced.                                                                                               | Leaves basal and cauline; petiolate; blades oblanceolate or runcinate, 1--24 × 1--5 cm, (bases attenuate) margins deeply pinnately lobed to denticulate (lobes triangular, terminal lobes largest), apices obtuse to acute, faces densely stipitate-glandular (viscid)                                                      |
| <b>Inflorescence</b> | heads radiate, 1 at branch tips; peduncle +- minutely soft-hairy near heads; involucre 5--7+ mm, 1--3+ mm diam, +- cylindric to obconic; phyllaries (6)20--30+, graduated in (2)3--4+ series, appressed, linear to awl-shaped, green, flat, glabrous or sparsely and minutely coarse-hairy, persistent; receptacle convex, pitted or smooth, epaleate. | Heads 10-30, arranged in more or less flat topped loose, compound cyme/corymb. Involucre 9 mm, Phyllaries are in 3 series, lanceolate (outermost ovate to almost deltate) distinctly keeled, green with white-translucent margins, glabrous except ciliate at tip. Receptacle epaleate. heads liguliflorous | Heads 10--40, in loose, corymbiform arrays. Calyculi of 5--7, ovate or lanceolate, glabrous bractlets 1--2 mm. Involucres cylindric (turbinate in fruit), 8--12 × 3--5 mm. Phyllaries 10--14, (green medially) lanceolate, 8--10 mm, (bases strongly keeled and thickened, margins scarious), apices acute, faces glabrous. |
| <b>Ray Flower:</b>   | (3)12--15(20+); corolla +- yellow, often purple-tinged, tube 2.5--3+ mm, ray inconspicuous, 1--1.5+ mm, narrowly elliptic.                                                                                                                                                                                                                             | None, all flowers ligulate. Corolla tube 3.5mm, ligule 3-4 mm. 15 to 25 flowers total per head. All flowers bisexual                                                                                                                                                                                        | Florets 15--30; corollas light yellow, 5--12 mm                                                                                                                                                                                                                                                                             |
| <b>Disk Flower:</b>  | (4)15--25+; corolla pale yellow to +- purple, tube 1--1.5 mm, < throat, throat 2--2.5 mm, lobes erect, 0.1--0.3 mm, lance-deltate; anther tip reduced, +- triangular; style branch tips long-tapering distally.                                                                                                                                        | None, heads liguliflorous                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                             |
| <b>Fruit:</b>        | : 5--6 mm, +- spindle-shaped, long-tapered distally (almost beaked), glabrous or (ray fruit) glabrous in age or (disk fruit) +- minutely coarse-hairy; pappus of (12)30--40 long-tapered bristles in 1(2) series, 1--4+ mm, +- equal or outer shorter, minutely barbed, persistent, fragile.                                                           | Fusiform but not long-tapered distally, not beaked. Outer longer than inner (none totally mature at collection). Outer 5.5 mm, inner 5 mm                                                                                                                                                                   | Cypselae (monomorphic or dimorphic) green to yellowish brown, subcylindric, outer 5--6 mm, inner 4--5 mm, apices attenuate (not beaked), ribs 10--12; pappi dusky white (very fine, fluffy), 4--5 mm. 2n = 8.                                                                                                               |

## Speciman Photos



Taken onsite 6-19-2020



Taken onsite 6-19-2020



Taken onsite 6-19-2020



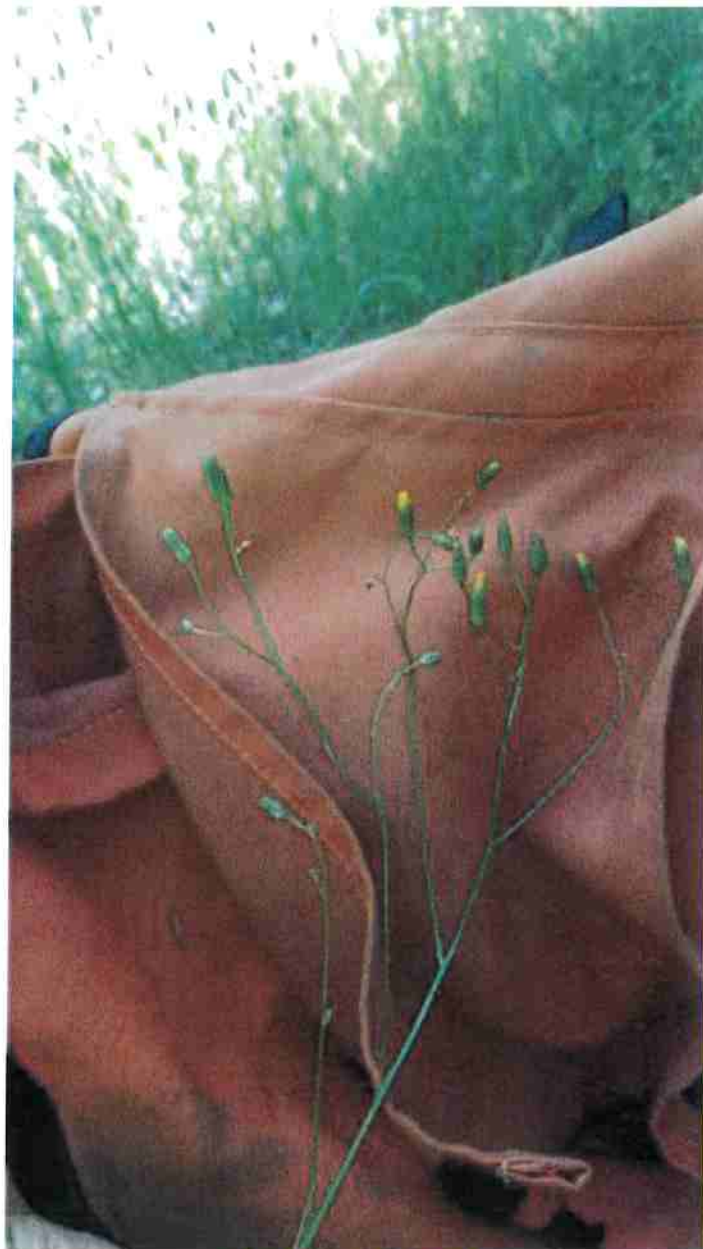
Taken onsite 6-19-2020



Taken onsite 6-19-2020



Taken onsite 6-19-2020



Taken onsite 6-19-2020



Taken onsite 6-19-2020



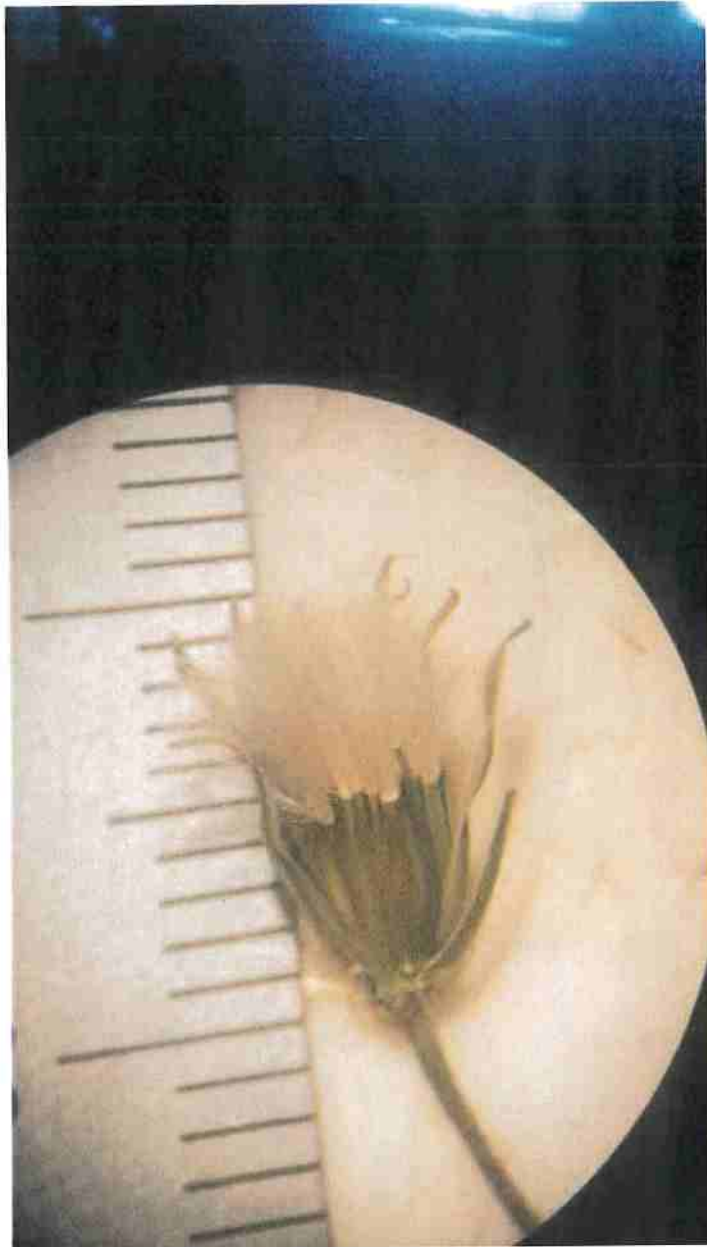
Taken under scope 6-24-2020



Taken under scope 6-24-2020



Taken in office 6-24-2020



Taken under scope 6-24-2020



Taken under scope 6-24-2020



Taken under scope 6-24-2020