Overview of Central Coast regional strategy

Cal-IPC works with local land managers to:

1. Translate information from CalWeedMapper to regionwide opportunities for surveillance & eradication

2. Draft Strategic Plan for review by land managers

3. Eradication targets: apply for funding to address top regional species. Learn and survey for early detection and rapid response.

4. Surveillance targets: learn and survey for early detection and rapid response

5. Watch for new detections of these species and respond rapidly!
## Central Coast Eradication & Surveillance targets

### ERADICATION

<table>
<thead>
<tr>
<th>Species</th>
<th>Common Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aegilops triuncialis</td>
<td>barb goatgrass</td>
</tr>
<tr>
<td>Centaurea stoebe ssp. micranthos (= C. maculosa)</td>
<td>spotted knapweed</td>
</tr>
<tr>
<td>Lythrum salicaria</td>
<td>purple loosestrife</td>
</tr>
<tr>
<td>Asparagus asparagoides</td>
<td>bridal creeper</td>
</tr>
<tr>
<td>Fallopia japonica (= Polygonum cuspidatum)</td>
<td>Japanese knotweed</td>
</tr>
<tr>
<td>Centaurea diffusa</td>
<td>diffuse knapweed</td>
</tr>
<tr>
<td>Chondrilla juncea</td>
<td>rush skeletonweed</td>
</tr>
<tr>
<td>Watsonia meriana</td>
<td>bulbil watsonia</td>
</tr>
<tr>
<td>Eichhornia crassipes (more present than known?)</td>
<td>water hyacinth</td>
</tr>
<tr>
<td>Kochia scoparia (historical record; still there?)</td>
<td>kochia</td>
</tr>
</tbody>
</table>

### SURVEILLANCE

<table>
<thead>
<tr>
<th>Species</th>
<th>Common Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brachypodium sylvaticum</td>
<td>perennial false-brome</td>
</tr>
<tr>
<td>Carthamus lanatus</td>
<td>woolly distaff thistle</td>
</tr>
<tr>
<td>Emex spinosa</td>
<td>spiny emex, devil's-thorn</td>
</tr>
<tr>
<td>Helichrysum petiolare</td>
<td>licoriceplant</td>
</tr>
<tr>
<td>Hydrilla verticillata</td>
<td>hydrilla</td>
</tr>
<tr>
<td>Linaria dalmatica ssp. dalmatica (= L. genistifolia ssp. dalmatica)</td>
<td>Dalmatian toadflax</td>
</tr>
<tr>
<td>Sesbania punicea</td>
<td>red sesbania, scarlet wisteria</td>
</tr>
<tr>
<td>Spartina alterniflora hybrids</td>
<td>smooth cordgrass and hybrids</td>
</tr>
</tbody>
</table>
| **Aegilops triuncialis**  
| **barbed goat grass** |

### Weed Rating
**CDFA B**

### General Description
Stems branching at the base and erect, spreading, or abruptly bent near the base.

### Dispersal
Livestock (esp. sheep), human activities, water and wind. Long barbed awns allow the seeds to be transported by hair, fur, wool, shoes or clothes.

### Control
Mowing reduces seed production but must be timed after flowering but prior to seed maturity, when the seed is very soft. Roots must be completely removed to kill mechanically.

### Origin
Mediterranean Europe and western Asia

### Similar Species
Triticum aestivum (winter wheat) or sterile wheat, often planted for erosion control; Aegilops neglecta (Neglected goatgrass)

### Size
17 - 45 cm tall

### Ecology
Found in disturbed sites, fields and roadways. Tolerant of serpentine, hard, dry, shallow and gravelly soils. Primarily infests rangelands and pastures, including grasslands and oak woodlands, but usually not chaparral.
**Flower**
Inflorescence: 2–5.5 cm; vestigial basal spikelets 2–3; ± cylindrical distally; axis breaking at base of spikelets at maturity; spikelets not sunken in axis. Fertile spikelet: 7–13 mm, lance-ovate, glumes 2–3 awned; florets 3–5, lower 2 fertile; lemma 2–3-toothed, central tooth occasionally extended as an awn to 10 mm. Distal spikelet: 7–9 mm, glumes 3-awned or 1-awned with 2 lateral teeth, awns gen 1–8 cm.

**Leaf**
Blade 1.5–7 cm, 2–3 mm wide. Blades flat, spreading, ciliate, about 2–3 mm wide; lower surface and sometimes upper surface sparsely covered with fine hairs. Sheaths open.

**Flower Color**
green

**Bloom Time**
May - July

**Fruit & Seed**
Glumes and rachis enclose each floret and harden at maturity. Typically there are two 1-seeded fruits per joint (a spikelet and its associated node and rachis).

**Key Identifying Characteristics**
Spikelets cylindric to more or less ovate, typically with 4 florets, the upper 2 sterile. Disarticulated joint ends are sharp and can injure livestock. Culms solid when young, but become hollow with age. Blades rigid. Immature spikes often reddish or purplish. Inflorescences and spikelets of dried grasses on the ground help identification.

Content derived in part from the Jepson Manual and used here with permission from the Jepson Herbarium.

**Sources**
http://www.cdfi.ca.gov
Eradication Target # 1
CURRENT DISTRIBUTION / SUITABLE RANGE

TO DO:
- Learn.
- Train.
- Consult Central Coast Eradication list on regions page of CalWeedMapper for photos and information.
- Print and/or download to smart phone.
- Train staff to recognize species.
- Consider Suitable Range now and in the future.
- Map populations in Calflora, if found.
- Coordinate response, if found!!
**Spotted knapweed**

*Centauraea stoebe* ssp. *Micranthos*

**forbs & herbs**

---

**Centauraea maculosa**

**spotted knapweed**

**Weed Rating**

**CDFA A**

**General Description**

Plants exist as basal rosettes until erect, highly branched flowering stems with are produced late spring/summer.

**Origin**

Europe

**Size**

0.3 - 1 m tall

**Ecology**

Fields, roadsides, disturbed open sites, grasslands, overgrazed rangelands, and logged areas. Serious infestations mostly occur on light, well-drained soils in areas that receive some summer rainfall. < 2000 m.

**Dispersal**

Variable. Most seeds or seed heads of all *Centauraea* species fall near the parent plant, and some can disperse to greater distances with human activities, vehicles, heavy machinery, water, soil movement, and by clinging to shoes, clothing, tires, and feet, fur, or feathers of animals.

**Control**

Hand pulling is successful so long as the entire plant is removed and follow-up is conducted 2-4 times/year. Hand pulling is easiest when the plants have begun to bolt in the late spring.

**Similar Species**

Other less common knapweeds with fringed or comb-like phyllaries that lack spines include *C. nigra*, *C. pratensis*, and *C. cyanus*. Unlike *Centauraea* species, *Acreptilon repens* and *Crupina vulgaris* have phyllaries that are ovate and narrowly lanceolate respectively, with papery margins and seeds 3-4 mm long that lack a lateral notch near the base.
Spotted knapweed (Centaurea stoebe ssp. Micranthos)

**forbs & herbs**

**Flower**
Flowers 30–40; corollas 12–25 mm, sterile corollas ± slender. Inflorescence open; heads generally many; involucre 10–13 mm, ovoid; phyllaries pale green or pink-tinged, prominently parallel-veined, appendages fringed with slender, dark teeth.

**Leaf**
Foliage variously covered with short to medium interwoven gray hairs. Leaves alternate. Lower stem leaves deeply 1- or 2-pinnate-lobed, ~10-20 cm long. Spotted knapweed: Leaves resin-dotted. Upper leaves mostly pinnate-divided. Leaves resin-dotted; lower 10–15 cm, more or less deeply 1–2-lobed.

**Flower Color**
pink or white

**Bloom Time**
June - October

**Fruit & Seed**
Fruit 3–3.5 mm, ± pale brown, finely hairy; pappus bristles 1–2 mm, white seed: Achenes pale brown, finely hairy, ~30 per head. Pappus bristles 1-2 mm long.

**Key Identifying Characteristics**


Sources
http://www.cifl.ca.gov
Spotted knapweed (Centaurea stoebe ssp. Micranthos)

Eradication Target # 2
CURRENT DISTRIBUTION / SUITABLE RANGE
Purple loosestrife

*Lythrum salicaria*

**Weed Rating**
CDFA B

**General Description**
Prostrate to erect, often 4-angled; gray-puberulent; branches few.

**Dispersal**
Reproduce primarily by seed. Stem fragments can develop roots under favorable conditions. Seeds disperse with water, mud, human activities, and by clinging to feathers, fur, and feet of animals.

**Control**
Cutting flowering stems followed by flooding can help control but not eliminate infestations. Cut stems may re-root. Use systemic herbicide during the late flowering stage.

**Origin**
Europe

**Size**
0.5 - 1.5 m tall

**Ecology**
Wetlands. Especially invasive on disturbed sites. Tolerates some shade and most soil types, including infertile soils. Grows best in slightly acid to neutral soils. Does not tolerate being submerged during growing season.

**Similar Species**
*Lythrum californicum* (California loosestrife)
Purple loosestrife (Lythrum salicaria)

**Flower**
Inflorescence: flowers more than 2 per axil, in dense, ± sessile cymes; pedicel 0–2 mm. Flower of 3 style forms; hypanthium 4–6 mm, cylindric, 2+ x longer than wide; sepals less than 1 mm, epicalyx lobes linear, >= sepals; petals 7–14 mm, red-purple; stamens 12, incl. or exserted; style incl. or exserted.

**Leaf**
5–14 cm, sessile, truncate at base, lanceolate to ± ovate.

**Flower Color**
purple

**Bloom Time**
June - September

**Fruit & Seed**
Fruit: ovoid, < hypanthium. 2n=30, 50, 60. Generic Ex: FR: capsule, gen cylindric, rarely spheric, valves 2. Seed: many, less than 1 mm.
Eradication Target # 3
CURRENT DISTRIBUTION / SUITABLE RANGE

Purple loosestrife (Lythrum salicaria)

LEGEND

- EXPERT KNOWLEDGE BY QUAD

Abundance
- Low
- Medium
- High

Trend
- Spreading
- Managed, spreading
- Managed, decreasing
- Eradicated

Verification Needed
- Verify Quad
- Verify Species

Adjust transparency:

SUITABLE RANGE
- 2010
- 2050
- Change 2010 - 2050
  - Suitable range
  - Expanded range
  - Reduced range

OCCURRENCE OBSERVATIONS
- Consortium of California Herbaria
- Calflora
Bridal creeper (Asparagus asparagoides)

Asparagus asparagoides  
African asparagus fern, bridal creeper

<table>
<thead>
<tr>
<th>Weed Rating</th>
<th>Dispersal</th>
</tr>
</thead>
<tbody>
<tr>
<td>not rated</td>
<td>Bridal creeper can produce more than 1000 berries per m². Birds feed on the berries and later excrete the seeds at perch sites, usually within 100 m of source plants. The plant can spread as the root system slowly expands in area. Movement of soil containing roots can spread plants further.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>General Description</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Climbing or sprawling; roots tuberous</td>
<td>Hand removal is difficult as stems easily break, and any remaining tubers and roots will resprout. Herbicide spot-spraying can be effective if applied in several consecutive years.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Origin</th>
<th>Similar Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Africa</td>
<td>wandering Jew</td>
</tr>
</tbody>
</table>

Size  
1 - 5 m tall

Ecology  
Fields, riparian woodlands of California’s central and south coast; colonizes both disturbed areas and undisturbed areas. Plant colonies may also form a dense tuberous mat underground.

<table>
<thead>
<tr>
<th>Liliaceae</th>
<th>USDA Code</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ASAS4</td>
</tr>
</tbody>
</table>
Bridal creeper
(Asparagus asparagoides)

Flower
Inflorescence: axillary umbels. FL: Bisexual; perianth 5–7 mm, bell-shaped. green-white

Leaf
Branchlets 6–20 mm wide. Leaves not spurred.

Flower Color
white

Bloom Time
December - April

Fruit & Seed
Fruit: 6–8 mm, red or blue or purple. Seeds: 2 mm, brown.

Key Identifying Characteristics


Sources
www.cal-iptc.org
http://www.heir.org/pier
Eradication Target # 4
CURRENT DISTRIBUTION / SUITABLE RANGE

Bridal creeper (Asparagus asparagoides)
Forbs & Herbs

Japanese knotweed
(Fallopia japonica = Polygonum cuspidatum)

Polygonum cuspidatum
Japanese knotweed

Weed Rating
CDFA B

General Description
Herb. Annual - perennial; erect

Dispersal
In the US, spread is predominantly through rhizomes rather than seeds. Seeds develop ~ 2 weeks after flowering. Seedling survival is usually low, but plants are persistent once established. Seedlings rarely establish under shady conditions.

Control
Carefully digging out rhizomes and cutting of stems 4 or more times per season, especially in conjunction with shading by black plastic or heavy shade cloth.

Origin
Japan

Similar Species
Philadelphus lewisii (Lewis's mock-orange)

Size
1 - 2 m tall

Ecology
Disturbed moist sites, roadsides, riparian and wetland areas, < 1000 m. Plants typically grow in open, sunny areas on moist soils in cool temperate climates. Grows on a wide range of soil types. Tolerates some soil dryness.
Japanese knotweed
(Fallopia japonica
= Polygonum cuspidatum)

**Flower**
Inflorescence: open panicle, in most upper axils; branches < 15 cm, longer in fruit, ± drooping. Flower: perianth 2–8 mm, ± white, 3 outer lobes keeled in flower, winged in fruit; fertile stamens exserted

**Leaf**
petioled; blade generally 10–15 cm, widely ovate to wider than long, tip abruptly pointed

**Flower Color**
white

**Bloom Time**
August - October

**Fruit & Seed**
Fruit ± 4 mm, brown, shiny

**Key Identifying Characteristics**
Leaves broadly ovate, ~ 10-15 cm long, sometimes wider than long. Bases truncate to tapered.
Eradication Target # 5
CURRENT DISTRIBUTION / SUITABLE RANGE

Japanese knotweed (Fallopia japonica = Polygonum cuspidatum)
**forbs & herbs**

---

**Diffuse knapweed**

*(Centaurea diffusa)*

**Weed Rating**

CDFA A

**General Description**

Shrub-like. Typically biennial, occasionally annual or triennial. Usually forms large, dense infestations.

**Dispersal**

Most seeds or seed heads of all *Centaurea* species fall near the parent plant, and some can disperse to greater distances with human activities, vehicles, heavy machinery, water, soil movement, and by clinging to shoes, clothing, tires, and feet, fur, or feathers of animals.

**Control**

Hand pulling is successful so long as the entire plant is removed and follow-up is conducted 2-4 times/year. Hand pulling is easiest when the plants have begun to bolt in the late spring.

**Origin**

southeast Eurasia

**Similar Species**

Other less common knapweeds with fringed or comb-like phyllaries that lack spines include *C. nigra*, *C. pratensis*, and *C. cyanus*. Unlike *Centaurea* species, *Achiptilon repens* and *Crupina vulgaris* have phyllaries that are ovate and narrowly lanceolate respectively, with papery margins and seeds 3-4 mm long that lack a lateral notch near the base.

---

**Size**

0.8 m tall

**Ecology**

Fields, roadsides, disturbed open sites, grasslands, overgrazed rangelands, and logged areas. Fields, roadsides Elevation: < 2300 m.

---

**Asteraceae**

USDA Code CED13
Diffuse knapweed (Centaurea diffusa)

Flower
Flowers few; corollas 12–13 mm, equal, sterile corollas slender. Inflorescence panicle-like; involucre 10–13 mm, cylindric to narrowly ovoid; main phyllaries pale green, prominently parallel-veined, appendages fringed with slender, straw-colored spines, central spine 1–3 mm. Flowers average 12-13 per head.

Flower Color
Pink or white

Bloom Time
June - September

Fruit & Seed
Fruit ± 2.5 mm, dark brown; pappus 0 or scales < 1 mm, white Achenes (1-seeded fruits) oblong, 2.5-3.5 mm long, apex flattened, tapered to a rounded, laterally notched base. Achenes dark brown, ~13 per head. Pappus scales less than 1 mm long or lacking.

Leaf
Lower 10–20 cm, more or less deeply 2-lobed.

Key Identifying Characteristics

Forb/herb

Content derived in part from the Jepson Manual and used here with permission from the Jepson Herbarium.


Sources
http://www.cdfw.ca.gov
Eradication Target # 6
CURRENT DISTRIBUTION / SUITABLE RANGE

Diffuse knapweed
(Centaurea diffusa)
**Chondrilla juncea**
Rush skeletonweed

**Weed Rating**
CDFA A

**General Description**
Basal rosettes at first, then sending up erect and spreading stems.

**Origin**
west Eurasia, Mediterranean, northwest Africa

**Dispersal**
Reproduces only by clones produced vegetatively from adventitious buds on roots and asexually by apomictic seed. Seeds primarily disperse with wind, but also by water, animals, and human activity.

**Control**
Tillage will effectively eliminate seedlings and older plants. However, new plants will rapidly reestablish from severed rootstocks as small as 2 cm and from a depth of 120 cm.

**Similar Species**
**yellowspine thistle**
Unlike rush skeletonweed, *Taraxacum officinale* (dandelion) has unbranched, leafless, hollow, non-persistent, fleshy flowering stems and seeds without small scales at the apex. Chicory (*Cichorium intybus*) is similar but has rosette leaf lobes pointing outwards or forwards and not always opposite, and basal leaves with a few rough coarse hairs.

**Size**
0.4 - 1.0 m tall

**Ecology**
Found in disturbed soils 0–600 m. Grows best on well-drained, sandy or gravelly soils in climates with cool winters and hot, relatively dry summers without prolonged drought but tolerates a wide variety of environmental conditions.
forbs & herbs

Rush skeletonweed
(Chondrilla juncea)

*Flower*
Flowers 7–12; corollas 12–18 mm. Inflorescence: heads subsessile, mostly in interrupted spike-like clusters; involucre 9–12 mm; phyllaries linear-lanceolate, glabrous or sparsely tomentose.

*Leaf*
Basal and lower cauline wing-petioled, oblong to obovate, shallowly lobed, lobes pointed, often reflexed; upper cauline linear, entire.

*Flower Color*
yellow

*Bloom Time*
July - October

*Fruit & Seed*
Fruit 6–12 mm, glabrous. Achene oblong, tapered at both ends, hairless, brown, and 3-4 mm long, with many lengthwise ribs. Beak slender, 5-6 mm long. Pappus: 5–6 mm, many equal, fine, white bristles; beak 5–6 mm, tip expanded; pappus bristles 40–50+ in 1 series.

*Key Identifying Characteristics*
Rosette leaves oblanceolate, 4-12 cm long, 1-5 cm wide, prostrate, and typically lacking hairs. Margins often purple-tinged and irregularly shallow-lobed. Lobes opposite one another. Terminal lobe more or less sharp-pointed. Stem leaves often absent or bract-like, but when present resemble reduced rosette leaves.


*Sources*
http://www.cdfw.ca.gov
Eradication Target # 7
CURRENT DISTRIBUTION / SUITABLE RANGE

Rush skeletonweed
(Chondrilla juncea)

LEGEND

EXPERT KNOWLEDGE BY QUAD

Abundance
- Low
- Medium
- High

Trend
- Spreading
- Managed, spreading
- Managed, decreasing
- Eradicated

Verification Needed
- Verify Quad
- Verify Species

Adjust transparency:

SUITABLE RANGE
- 2010
- 2050
- Change 2010 - 2050
  - Suitable range
  - Expanded range
  - Reduced range

OCCURRENCE OBSERVATIONS
- Consortium of California Herbaria
- Calflora
**Bulbil watsonia**
*(Watsonia meriana)*
(Iridaceae)

**Weed Rating:**
CDFA: B  
Cal-IPC: Moderate

**General Description:**
Herbaceous perennial emerges each year from corm (enlarged underground stem).

Erect flowering stem with basal grass-like leaves

**Origin:**
Native to southern Africa.  
Currently known distribution: North and Central Coast.  
Collected in SLO Co. 2011 on coastal terrace @ Ragged Point

**Size:**
1-1.5m tall

**Ecology:**
Disturbed roadsides, fields, waste places. Elev. < 50 m.

**Dispersal:**
Reproduces by bulblets, can be invasive.

**Control:**
The quick brown fox jumped over the lazy dogs. The quick brown fox jumped over the lazy dogs.

**Similar Species:**
?
**Bulbil watsonia**

*(Watsonia meriana)*

**(Iridaceae)**

**Flower Color:** Brick-red

**Bloom Time:** May-July

**Flower Description:**
Infl. a spike of 10-15 sessile flowers. Flower (perianth) lobes 2.5cm long, lower portions fused into 4-5cm long tube above (inferior) ovary; stamens 3; style 1, with 3, 2-lobed branches.

**Fruit & Seed:**
Reproduces by bulblets, can be invasive.

**Leaf:**
± 5–6 per stem and up to 60 cm long and 6 cm wide; axils with bulblets after flower

**Key Identifying Characteristics:**
Brick-red flower color, large flower size, and wide, grass like leaves near bottom of stem. Long flowering stems with clusters of dry bulblets.

---


**Sources**
http://www.cdfa.ca.gov
Eradication Target # 8
CURRENT DISTRIBUTION / SUITABLE RANGE

Bulbil watsonia (Watsonia meriana) (Iridaceae)

LEGEND

- EXPERT KNOWLEDGE BY QUAD

- Abundance
  - Low
  - Medium
  - High

- Trend
  - Spreading
  - Managed, spreading
  - Managed, decreasing
  - Eradicated

- Verification Needed
  - Verify Quad
  - Verify Species

- Adjust transparency:

- SUITABLE RANGE
  - 2010
  - 2050
  - Change 2010 - 2050
    - Suitable range
    - Expanded range
    - Reduced range

- OCCURRENCE OBSERVATIONS
  - Consortium of California Herbaria
  - Califlora
Water hyacinth
(Eichhornia crassipes)
Water hyacinth
(Eichhornia crassipes)
Eradication Target # 9
CURRENT DISTRIBUTION / SUITABLE RANGE

Water hyacinth (Eichhornia crassipes)

LEGEND

- EXPERT KNOWLEDGE BY QUAD
- Abundance
  - Low
  - Medium
  - High
- Trend
  - Spreading
  - Managed, spreading
  - Managed, decreasing
  - Eradicated
- Verification Needed
  - Verify Quad
  - Verify Species

Adjust transparency:

SUITABLE RANGE
- 2010
- 2050
- Change 2010 - 2050
  - Suitable range
  - Expanded range
  - Reduced range

OCCURRENCE OBSERVATIONS
- Consortium of California Herbaria
- Calflora
Kochia scoparia
Mexican burning bush
(Chenopodiaceae)

Weed Rating:
CDFA: none
Cal-IPC: Moderate

Size: 0.2-1.2m tall

Ecology:
Predominately upland sites. Found most commonly on saline soils of California's Central Valley, southern desert, and coastal growing areas. Disturbed places, fields, roadsides. < 2300 m.

General Description:
Summer annual forb/herb (Family Chenopodiaceae)

Origin:
Native to Eurasia

Dispersal:
Dead/dying plants break apart and spread seed by tumbling.

Control:
Manual removal before seed is produced can help control small populations.

Similar Species:
Immature plants much like Bassia hyssopifolia (see below photo) but flowers are densely tan-wooly in B. hyssopifolia. Also similar in form and vegetative state to common lambsquarters (Chenopodium album).
Flower: Lacks petals. Calyx glabrous to sparse, appressed-hairy, lobe margins generally bristly (glabrous); bisexual flowers with tubercles or wings < 2 mm in fruit.

Flower Color: Creamy green or white but not that important for this species.

Bloom Time: July - October

Fruit & Seed: Fruit with wings or tubercles < 2 mm long. Seed horizontal.

Leaf: 8–50 mm long, 1–6 mm wide, flat, glabrous to appressed-hairy, generally 3–5-veined below middle.

Key Identifying Characteristics: Leaf much longer than wide. Overall tumble weed appearance.


Sources
http://www.cdfa.ca.gov
Eradication Target # 10

CURRENT DISTRIBUTION / SUITABLE RANGE

Kochia scoparia
Mexican burning bush
(Chenopodiaceae)
Grasses & Grass-like Plants

**Brachypodium sylvaticum**
slender false brome

<table>
<thead>
<tr>
<th>Weed Rating</th>
<th>Dispersal</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDFA A</td>
<td>Can produce seed year-round. Seeds on roadside patches disperse on passing vehicles, people, and wildlife.</td>
</tr>
</tbody>
</table>

**General Description**
Erect, perennial, generally cespitose.

**Control**
If there are no seed heads present, dig out as much of the root as possible and allow entire plant to decay on site. Bag seed heads. Spraying with glyphosate may be effective.

**Origin**
Europe and northern Africa

**Similar Species**
Bromus catharticus or Bromus laevipes

**Size**
30 - 200 cm tall

**Ecology**
Forest, woodland, upland prairies. < 600 m. Of limited wildlife palatability.
Perennial false-brome (Brachypodium sylvaticum)

Flower
Inflorescence: 2–20 cm; spikelets 3–12 per st., gen distant. Spikelet: glumes 6–11 mm; florets 6–16(22); lemma 6–12 mm, awn 7–15 mm, >= lemma, straight or weakly flexuous; palea ciliate.

Leaf
Leaf sheaths smooth, 8–35 cm long, 4–15 mm wide, flat and droopy. Veins are not prominent. Short regularly spaced hairs occur along edges. The base of the leaves are covered with many soft white hairs.

Flower Color
green

Bloom Time
November – December

Fruit & Seed

Key Identifying Characteristics
Stays a distinctive bright green longer than many other grasses (through fall and into winter). A single row of ciliate-pliose hairs fringes the leaf blade and similar hairs cover the leaf sheath and are accentuated at the collar. The leaf sheath is open to the base.
Perennial false-brome
**(Brachypodium sylvaticum)**

**Surveillance Target # 1**

**CURRENT DISTRIBUTION / SUITABLE RANGE**
Woolly distaff thistle
(*Carthamus lanatus*)
(*Asteraceae*)

**Weed Rating:**
CDFA: B
Cal-IPC: moderate

**General Description:**
Winter annual forb (family *Asteraceae*) found in disturbed open sites, roadsides, pastures, annual grasslands, and waste areas. Its spiny foliage can injure livestock.

**Size:**
0.4-1 meter tall

**Origin:**
Mediterranean area

**Ecology:**
Disturbed ground, grassland, oak woodland; < 1100 m. elev.

**Dispersal:**
Most seeds fall near parent plant. Others dispersed via animals, tractors and other human machinery, and water or mud.

**Control:**
Mowing just before flower bud stage can prevent most seed production.

**Similar Species:**
Other *Carthamus* species and blessed thistle (*Cnicus benedictus*) shown in photo below.
Woolly distaff thistle
(*Carthamus lanatus*)
(*Asteraceae*)

**Flower:**
Flower heads solitary at stem tips, 25-35mm long.

**Flower Color:**
Bright yellow

**Bloom Time:**
July - August

**Fruit & Seed:**
4–6 mm long, brown; pappus 10–13 mm long.

**Leaf:**
Stem leaves sessile, alternate, stiff, deeply lobed. Basal leaves lobed and spine-tipped (see above photo)

**Key Identifying Characteristics:**
Bright yellow flowers in spiny heads, spiderweb-like woolly hair in lower portion of flower heads.


Sources
http://www.cdfa.ca.gov

Need your fruit and seed photo here!
Surveillance Target # 2

CURRENT DISTRIBUTION / SUITABLE RANGE

Woolly distaff thistle (Carthamus lanatus) (Asteraceae)
Devil's-thorn
(Emex spinosa)

**Weed Rating:**
- CDFA: none
- Cal-IPC: Moderate

**General Description:**
Ugly, nasty plant. Glabrous (hairless) annual. Stem 0.1-0.8 m. long, decumbent to erect, base often ± red.

**Size:**
0.3-0.6 m. tall

**Ecology:**
Dry, sandy, disturbed places that are classless like dirty road pullouts < 500 m. elev.

**Origin/Distribution:**
Mediterranean region. Numerous recent collections in SLO County near Morro Bay so watch for it in a disturbed area near YOU!

**Dispersal:**
Emex spinosa's spiny seed pods stick to people and animals, so it spreads quickly along trails and then into undisturbed areas, especially in coastal habitats.

**Control:**
Give it up! There is no controlling this plant! (More info may be needed here). Likely manual removal several years in a row before seed set or spraying in vegetative-only stages.

**Similar Species:**
All other nasty brown, dead-looking plants.
Devil's-thorn
(Emex spinosa)

**Flower:**
A mess of clustered female flowers in leaf axils with fused perianth parts, three of which are spine-tipped in fruit. Male flowers

**Flower Color:**
Greenish and unshowy. More info won't help here.

**Bloom Time:**
May-December

**Fruit & Seed:**
included, 2–4.5 mm, ovate, shiny, spines 3; perianth hardened.

**Leaf:**
Stem leaves alternate, arrowhead-shaped, 3-13cm long.

**Key Identifying Characteristics:**
Good luck! Look for an underwhelming plant sprawling on the ground with spiny complicated flower clusters. More info may need to be added here!


Sources
http://www.cdfa.ca.gov
Surveillance Target #3

CURRENT DISTRIBUTION / SUITABLE RANGE

Devil's-thorn

(Emex spinosa)
## Helichrysum petiolare

**licorice-plant**

### Weed Rating
**not rated**

### General Description
Mounding shrub. Loosely branched, straggling or trailing, sometimes rooting at soil contact, loosely gray-tomentose.

### Dispersal
Plants are brittle and break off easily. Stem fragments can root at nodes. Seeds not reported to disperse long distances with individual fragments remaining localized unless dispersed by animals, but this is unknown.

### Control
Hand pulling.

### Origin
South Africa

### Similar Species
Eriogonum latifolium (buckwheat), or certain Salvia spp (sage)

### Size
up to 1 m tall

### Ecology
Escaped into coastal scrub and forest < 200 m.
trees & shrubs

Licorice plant
(Helichrysum petiolare)
(Asteraceae)

Flower
Inflorescence: heads discoid, many, in long-stalked rounded or flat-topped clusters; involucre 3–7 mm diameter; phyllaries in roughly 5 series, proximally appressed, green-centered with transparent margins, loosely tomentose, distally ascending to more or less spreading, creamy white, glabrous, tips rounded; receptacle scales roughly 0.8 mm, linear, dark brown in age. Disk flowers: 18–30, corolla roughly 2.5 mm.

Flower Color
cream

Bloom Time
July-August

Fruit & Seed
Fruit: roughly 1 mm, widely cylindric, 5-ribbed, glabrous; pappus 3–3.5 mm.

Leaf
Rounded heart shaped leaves, up to 1 inch, silvery light green to white with dense white hairs on both sides. LF: blade 1–3.5 cm, ovate to ± round, base widely tapered to truncate or ± cordate, tip obtuse to ± acute, faces silvery green, tomentose.

Key Identifying Characteristics

Content derived in part from the Jepson Manual and used here with permission from the Jepson Herbarium.
Sources
www.cal-ipc.org
Licorice plant
(*Helichrysum petiolare*)
(*Asteraceae*)

Surveillance Target # 4

**CURRENT DISTRIBUTION / SUITABLE RANGE**
**Hydrilla (Hydrilla verticillata)**  
*(Hydrocharitaceae)*

**Weed Rating:**
- CDFA: A  
- Cal-IPC: High

**General Description:**
Perennial aquatic rooted and remaining underwater (submersed)  
Forms large mats that fill the water column and can block or severely restrict water flow.

**Origin/Distribution:**
It has been observed in Calif. deserts, south and central coasts, San Francisco Bay Area, and Central Valley. Currently, isolated infestations in several counties north and east of Central Coast. Mty. County in lily pond (Schulte Rd.) 1978, reported eradicated. None in SC, SBT Cos.

**Size:**
?

**Ecology:**
Freshwater canals, ponds, lakes. Less than 200m. Elev.

**Dispersal:**
Stems root at nodes for vegetative reproduction. Seeds viable and move through water column.

**Control:**
First get your boat unstuck. Raking/seining temporarily reduces biomass before root fragments regrow stems. Herbicide and other physical control measures available.

**Similar Species:**
Other family members such as Egeria and Elodea spp. Mats of hydrilla exposed below in canal when “west main is shut”.

Hydrilla (Hydrilla verticillata) (Hydrocharitaceae)

**Flower:**
Male and female flowers on different individual plants (dioecious). Both floating with 6 perianth parts 3-5mm long. Perianth parts all similar unlike most other species that could be confused with Hydrilla. Bloom Time: June-August

**Leaf:**
5 leaves per node. 1-2 cm long and up to 2mm wide. Leaf edges toothed, mid-vein below with row of small teeth.

**Flower Color:**
?

**Fruit & Seed:**
Floating flowers with all perianth parts appearing similar. Your boat gets stuck in it.

**Key Identifying Characteristics:**
Always 5 leaves per node. Toothed margins and lower mid-rib of leaves.
Surveillance Target # 5
CURRENT DISTRIBUTION / SUITABLE RANGE

Hydrilla (Hydrilla verticillata) (Hydrocharitaceae)
**Linaria genistifolia ssp. dalmatica**

**Dalmatian toadflax**

**Weed Rating**
- CDFA A

**General Description**
- Perennial

**Origin**
- Mediterranean

**Size**
- 20 - 120 cm tall

**Ecology**
- Disturbed open sites, fields, pastures, degraded rangelands, roadsides, agronomic and perennial crops. Grows best in cool, semi-arid climates and dry, coarse well-drained soils at neutral to slightly alkaline pH. Generally < 1000 m.

**Dispersal**
- Reproduces by seed and vegetatively from creeping lateral roots that produce new shoots. Most seed falls near the parent plant. Some seed disperses short distances with wind and to greater distances with water, soil movement, and by clinging to the feet, fur or feathers of animals. Seed production and viability is highly variable.

**Control**
- Eradication has been accomplished by cultivating every 7-10 days during the growing season for two years. Cultivation may inadvertently bury seed, which may remain viable for > 10 years.

**Similar Species**
- butter and eggs
- Linaria vulgaris (yellow toadflax)
Dalmatian toadflax (Linaria dalmatica ssp. dalmatica)
[= Linaria genistifolia]
Surveillance Target # 6
CURRENT DISTRIBUTION / SUITABLE RANGE

Dalmatian toadflax
(*Linaria dalmatica* ssp. *dalmatica*)

## Current Distribution / Suitable Range

A map showing the current distribution and suitable range of Dalmatian toadflax. The map highlights areas with high, medium, and low abundance, and indicates trends such as spreading and managed, decreasing populations. The legend explains the symbols used to indicate different statuses and changes over time.
Red sesbania (Sesbania punicea) (Fabaceae)

**Weed Rating:**
- CDFA: B
- Cal-IPC: High

**General Description:**
Deciduous shrub or small tree

**Size:**
Up to 4 meters tall

**Ecology:**
Mostly found in riparian or areas < 200 m elev. Forms clusters so thick river access is difficult or impossible. Displaces native plants used by wildlife and contributes to bank erosion and flooding.

**Origin/Distribution:**

**Dispersal:**
Seeds fall from pods, often transported by water.

**Control:**
Biocontrol using weavils has been effective in South Africa. Manual removal and cut-stump treatment using tryclopyr (e.g. Remedy) and hortalcultural oil have been used in Calif.

**Similar Species:**
Other Sesbania spp. (e.g. S. exaltata shown below), mesquite (Prosopis spp.), locust (Robinia spp.) and Acacia species.
Red sesbania  
(Sesbania punicea)  
(Fabaceae)

Flower:  
Showy, clusters of pea-like flower, each about 2-3 cm long.

Flower Color:  
Red to orange-red.

Bloom Time:  
Mostly June-August

Leaf:  
Compound leaf of 20–34 leaflets. Each leaflet 0.8–2.5 cm long and elliptic (football-shaped).

Key Identifying Characteristics:  
Large red clustered flowers. Pinnate compound leaves with 20+ leaflets.

Fruit & Seed:  
Fruit pods brown, inflated, 4-angled or winged, open slowly to drop seeds. Seeds 4-10 per pod, smooth and dull brown. 20-30 year seed bank.


Sources
http://www.cdfa.ca.gov
Surveillance Target # 7
CURRENT DISTRIBUTION / SUITABLE RANGE

Red sesbania
(*Sesbania punicea*)
(*Fabaceae*)

LEGEND

**ABUNDANCE**
- Low
- Medium
- High

**TREND**
- Spreading
- Managed, spreading
- Managed, decreasing
- Eradicated

**VERIFICATION NEEDED**
- Verify Quad
- Verify Species

**ADJUST TRANSPARENCY:**

**SUITABLE RANGE**
- 2010
- 2050
- Change 2010 - 2050
- Suitable range
- Expanded range
- Reduced range

**OCCURRENCE OBSERVATIONS**
- Consortium of California Herbaria
- Calflora
**Spartina alterniflora (hybrids)**

*hybrid smooth cord grass*

**Weed Rating**
CDFA B

**General Description**
Erect grass.

**Origin**
Atlantic and Gulf coasts of North America

**Dispersal**
Spreads vegetatively by rhizomes, and by seed that can drift in water to new locations.

**Control**
Repeated hand removal for small accessible locations. Herbicidal treatment with Imazapyr. Cut and cover with tarps is difficult in active tidal settings.

**Similar Species**
- Spartina foliosa (Pacific cordgrass), native sedges and rushes such as Scirpus maritimus (alkali bulrush) and some forbs such as Triglochin maritima (arrow grass)

**Size**
0.6 - 2.5 m tall

**Ecology**
Perennial, salt tolerant grass that grows erect in dense stands. Wind pollinated, spreads vegetatively by below ground rhizomes, and by seed. The plant initially establishes as circular clones which subsequently coalesce into dense stands or meadows.
**Spartina alterniflora hybrids**
smooth cordgrass and hybrids

**Flower**
Inflorescence: 10-40 cm long (vs. 9-25 cm S. foliosa) with dense colorless flowers. Flowering panicle made of many spikes, which are closely appressed and overlapping. Blooms from July through November (vs. June-September of S. foliosa).

**Leaf**
Leaf blades: 20-55 cm long (vs. 15-45 cm S. foliosa), tough, green-gray in color, and 2-25 cm in width (vs. 2-17 cm S. foliosa). Stems range in height from 60-250 cm (vs. 30-120 cm S. foliosa). Culms are 7-12 mm wide at the base. Leaf sheaths of S. alterniflora and hybrids may be maroon at the base of the culms (vs. white-green of S. foliosa).

**Flower Color**
green

**Bloom Time**
July - November

**Key Identifying Characteristics**
Circular clonal patches growing low in mudflats or in channels where native Spartina is not prone to occur. Generally has a larger stature than native cord grass, although the effects of hybridization, and also herbicide-stunted growth make for cryptic traits. Genetic testing can aid field identification.

---

**Sources**
- Mike Perlmutter, personal communication
- www.spartina.org/
Surveillance Target # 8
CURRENT DISTRIBUTION / SUITABLE RANGE

Spartina alterniflora hybrids
smooth cordgrass and hybrids
Use the region’s page for Central Coast info!

1. Go to CalWeedMapper.Calflora.org
2. Select the Regions page
3. Click on the star for Central Coast
Monitor New Occurrences

Track new occurrence reports of surveillance and eradication species and coordinate for a rapid response!
Thank you for your participation in the Central Coast’s regional strategy!
• **TO DO:**
  - Learn.
  - Train.
  - Consult [Central Coast Eradication](link) list on regions page of CalWeedMapper for photos and information.
  - Print and/or download to smart phone.
  - Train staff to recognize species.
  - Consider. Suitable Range now and in the future.
  - Map populations in Calflora, if found.
  - Coordinate response, if found!!
Template slides for species:
<table>
<thead>
<tr>
<th>Scientific name</th>
<th>Common name(s)</th>
</tr>
</thead>
</table>

**Insert photo here**

<table>
<thead>
<tr>
<th>Weed Rating:</th>
<th>Dispersal:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General</strong></td>
<td>The quick brown fox jumped over the lazy dogs. The quick brown fox jumped over the lazy dogs.</td>
</tr>
<tr>
<td><strong>Description:</strong></td>
<td><strong>Control:</strong></td>
</tr>
<tr>
<td>The quick brown fox jumped over the lazy dogs. The quick brown fox jumped over the lazy dogs. The quick brown fox jumped over the lazy dogs.</td>
<td>The quick brown fox jumped over the lazy dogs. The quick brown fox jumped over the lazy dogs.</td>
</tr>
</tbody>
</table>

**Origin:**
The quick brown fox jumped over the lazy dogs. The quick brown fox jumped over the lazy dogs.

**Size:**
Metric units

**Ecology:**
The quick brown fox jumped over the lazy dogs.
### Flower:
The quick brown fox jumped over the lazy dogs. The quick brown fox jumped over the lazy dogs. The quick brown fox jumped over the lazy dogs. The quick brown fox jumped over the lazy dogs.

### Flower Color:
The quick brown fox jumped over the lazy dogs. The quick brown fox jumped over the lazy dogs.

### Bloom Time:
**Month** - **Month**

### Fruit & Seed:
The quick brown fox jumped over the lazy dogs. The quick brown fox jumped over the lazy dogs.

### Leaf:
The quick brown fox jumped over the lazy dogs. The quick brown fox jumped over the lazy dogs. The quick brown fox jumped over the lazy dogs.

### Key Identifying Characteristics:
The quick brown fox jumped over the lazy dogs. The quick brown fox jumped over the lazy dogs. The quick brown fox jumped over the lazy dogs. The quick brown fox jumped over the lazy dogs.

---


Sources
http://www.cdfa.ca.gov