

East Bay Regional Park District
Integrated Pest Management (IPM)

**Invasive Weed
Identification Guide**

*The first step in
Early Detection Rapid Response (EDRR)
is identification!*



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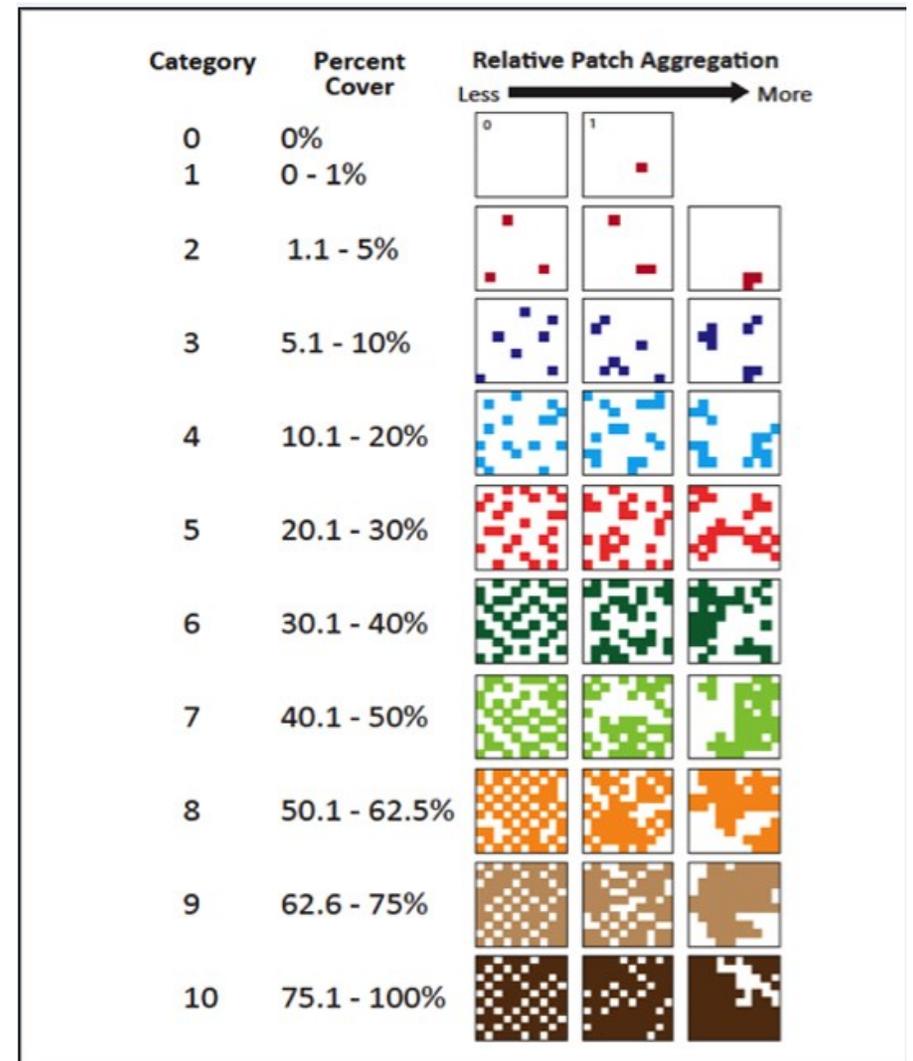
Inquire with your local EBRPD park staff about setting up a work day for your organized group or visit our website at <http://www.ebparks.org/getinvolved/volunteer/operations> for more information and to register for volunteer opportunities. See you in the parks!

References

CalPhotos: A database of photos of plants, animals, habitats and other natural history subjects [web application]. BSCIT, University of California, Berkeley. Available: <http://calphotos.berkeley.edu/>. Accessed: [November 23, 2015]. Photographer listed on each image.

⁽¹⁾ Wikimedia Creative Commons. Available: <https://commons.wikimedia.org>. Accessed: [November 23, 2015]. Photographer listed on each image.

Percent cover diagram for cover estimates while mapping.



When all info is added click the **SAVE** button to publish to Calflora.

LOCATION: Zoom to location on the map, open Point Location, and the next single click on the map will become the location of the record.

If you have known coordinates click on **Enter coordinates as decimal Lat/Long.**

At the top right of the page above the map, there is a Map Layers control, which lets you choose which background layer is shown on the map. Certain layers may help you pick the correct location for your observation. If you change to the "Satellite" view, you may be able to identify certain trees, rock formations, or buildings to help find your exact location.

SCIENTIFIC NAME: After entering the first three letters a list of plant names will start to appear below the field.

If you are not sure what the plant is, enter unknown in the Scientific Name field.

Observer & Observation Date fields are auto filled. If you are uploading data from an earlier trip, remember to change the observation date to the date you were actually in the field.

Minimum requirements needed to create an observation in Calflora:

- Point Location
- Scientific Name
- Observer
- Observation Date

Please provide as much information as possible. Feel free to fill in the Notes section with any miscellaneous information.

Upload **photos** or link to a URL.

When you share a photo with Calflora you continue to own and control all rights to the photo. Whenever your photo appears on Calflora, it will have your name next to it as the copyright holder. You can delete it from Calflora at any time.

The screenshot shows the Calflora Plant Observation Entry form. Key features include:

- Organization:** Independent
- Access by others:** published
- Project:** Advanced data collection
- Point Location:** new point location (highlighted with a red circle)
- ADVANCED DATA COLLECTION:** Scientific Name, Observer (Christie McKaskey), Notes, Location Description, Habitat, Number of Plants, Distribution (choose), Gross Area (Square Meters), Collection Number, Photos (none), Management Status (none), Region, Ownership (Other / Unknown), Elevation (lookup elevation), Phenology (choose), Percent Cover, Infested Area (Square Meters), Natural Status (wild), Collection, Plant Identification (choose), Location Accuracy (error radius in meters or square meters).
- Buttons:** CANCEL, SAVE (circled in red), Add a photo.

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COMMON AND HARMFUL INVASIVE WEEDS

Weeds are plants growing where they are not wanted and in competition with cultivated or native plants. Some weeds are common, and have become naturalized in many of the parks; these weeds are marked with a gray tab in the margin.

Other weeds are particularly invasive and cause ecological harm by aggressively displacing native plants. These weeds are marked with a red tab in the margin as BOLO weeds—be on the lookout! Please alert park staff or the EBRPD IPM department if you find these BOLO weeds in your park.

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*Denotes a native plant.

LOGGING OBSERVATIONS ON A COMPUTER

How do I add a plant observation?

- Register for a Calflora account as a Contributor if you haven't already.
- Sign in.
- Bring up the Plant Observation Entry application
[1. My Observations → 2. Tools → 3. Plant Observation Entry → 4. New Record]

Click on My Observations

2. Click on Tools

3. Click on Plant Observation Entry

4. Select New Record

When the new record page comes up, change:
Organization to East Bay Parks IPM
Project to Advanced data collection
Access by others to Published

Guide for Using Calflora to Report Invasive Weeds

For use by EBRPD Park Staff and Volunteers

Group Purpose

The East Bay Parks IPM group has been set-up for EBRPD staff and volunteers to report non-native, invasive plants that threaten our parklands and their resources.

Making Observations

Calflora observations can include attributes such as: species name, date, photos, notes, location, number of plants, and phenology. Observations can be uploaded with your desktop or laptop computer as well as by using the Observer/Observer Pro apps which are available on iPhone (App Store) and Android (Google Play) platforms.

When you upload observations from your phone, they go into your account in the database in an unpublished state. You can use the My Observations application to edit your observations. The IPM Administrator will then check the entry for quality and publish it to Calflora if all is well.

All records within a group are available to all members of that organization; this includes both *published* and *unpublished* records. Once observations are uploaded to Calflora from a mobile device all members of the group can view the record. Observations should be left unpublished until the “IPM Master Controller” does a quality control check. The “IPM Master Controller” will then publish the record to Calflora to be seen by all Calflora users.

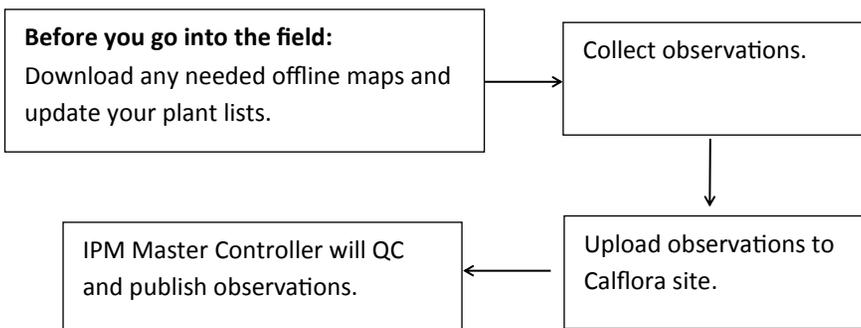


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Algerian sea lavender (*Limonium ramosissimum*)

Perennial herb

BOLO-BE ON THE LOOKOUT!

Habitat: Coastal salt marshes, coastal or riparian scrub, grassland, and disturbed areas.

Timing: Blooms from May to November.

Description: Leaves are 3-10cm long, 7-20mm wide, spoon shaped, and tips are acute to rounded. All branches produce white to pale pink flowers. Not to be confused with the native California sea lavender (*Limonium californicum*), which has larger, spatulate leaves that rise higher above the rosette.

California sea lavender



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Algerian sea lavender



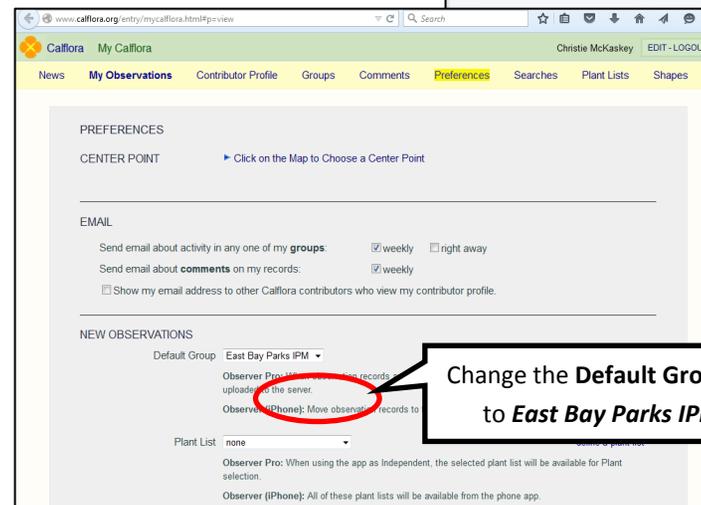
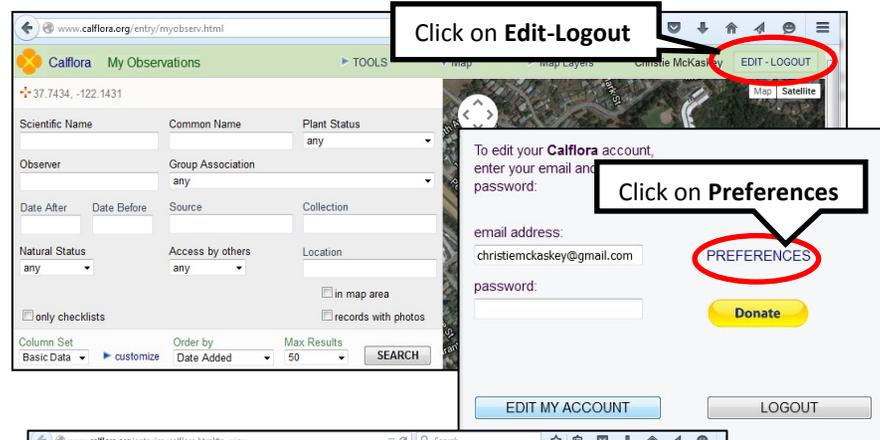
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CHANGE DEFAULT GROUP TO EAST BAY PARKS IPM

Group members can go into the Preferences options and change the Default Group to East Bay Parks IPM. If you do not change this setting you will have to edit the Organization field on each observation you upload.



JOIN OUR GROUP- East Bay Parks IPM

Sign into Calflora

1. Click on **My Calflora** (left side of screen) → 2. **Groups** (top) →
3. Choose **Join** → 4. Look through the group list and click on **East Bay Parks IPM** → 5. On bottom left of the screen under Membership, click on **Join this Group**.

Currently anyone can become a member.

Contact Calflora for support at spprt@calflora.org or call at 510 883-3148.

The screenshot shows the Calflora website interface. Step 1: The 'My Calflora' link in the top left navigation bar is circled in red. Step 2: The 'Groups' link in the top navigation bar is circled in red. Step 3: The 'Join' button in the 'Manage Groups' section is circled in red. Step 4: The 'East Bay Parks IPM' group name in the 'Defined Groups' list is circled in red. Step 5: The 'Join this Group' button in the 'MEMBERSHIP' section is circled in red.

Artichoke thistle

(*Cynara cardunculus*)

Perennial herb

BOLO-BE ON THE LOOKOUT!

Habitat: Disturbed open sites, grassland, and chaparral.

Timing: Forms a rosette with the rains, bolts in spring and flowers between May and July (usually does not flower until the second year). Leaves die back during summer. Skeletons may be seen year-round.

Description: Spiny, lobed, gray-green leaves and grooved stalk with spines. Mature plants can form one or more solitary, spiny, bright purple flowers 2-3 inches in diameter. Mature plants grow up to 8 feet tall.



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Barb goatgrass

(*Aegilops triuncialis*)

Winter annual grass

BOLO-BE ON THE LOOKOUT!

Habitat: Grasslands, rangelands, full sun, tolerates serpentine.

Timing: Germinates in fall after first rains, but germination may continue through spring. Flowers in early summer (later in the season than most annual grasses). In the spring, look for green when everything else has turned brown.

Description: Gray green foliage, with fine hairs. Seed heads are 1-2.5 inches long and have a zigzagged pattern along spike, has long barbed awns. Reddish purple at maturity and dry to a straw color. Mature plants grow up to 20 inches tall.



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REGISTER FOR A CALFLORA ACCOUNT

1. Click on **Login-Register** → 2. **Make a New Account** → 3. Fill in your info and put checkmark next to **"Register as a Contributor"**

The screenshot shows the Calflora website interface. A callout box points to the 'LOGIN - REGISTER' link in the top right corner. Below it, a 'Search for Plants' form is visible. A callout box points to the 'MAKE A NEW ACCOUNT' button in the search form. To the right, a registration form is shown with fields for 'Your Name', 'email address', 'password', and 'password again'. A callout box points to the 'REGISTER AS A CONTRIBUTOR' checkbox, which is checked. Below the checkbox, there are radio buttons for 'EXPERIENCE' (Professional Botanist, Amateur Botanist, Other) and radio buttons for 'Adult', 'Teen 13 - 18', and 'Child <= 12'. There are also checkboxes for 'I agree that' and 'I grant permission to the public to use data I contribute.' A 'MAKE A NEW ACCOUNT' button is at the bottom of the registration form.

Get involved!

Want to play a role in the management of noxious weeds in your parklands?

Get started:

1. Set up a free Calflora account

- Calflora is website used to learn about and record plants that grow in California.

2. Join the East Bay Parks IPM group in Calflora

- The group was set-up for staff & volunteers to report non-native invasive plants that threaten our parklands and their resources.

3. Download the free app

- Observer Pro (Android)
- Observer (iPhone)
- Desktop/laptop version– make observations then upload to Calflora on your computer.

4. Going Hiking? Record observations of invasive weeds seen in any East Bay Regional Park.

You do not need a data plan or Wi-Fi in the field to use either of these applications.

Biddy biddy

(*Acaena novae-zelandiae*)

Perennial herb

BOLO-BE ON THE LOOKOUT!

Habitat: Sand dunes, cliffs, heaths, sandy soils, old gravel workings, roadsides, and railways.

Timing: Blooms from March to May.

Description: Grow in clusters forming large mats. Stems are prostrate to erect. Leaves are alternate and 2-6cm long. Leaflets are elliptic to oblanceolate, 5-15mm long, evenly toothed, and the margins curl downwards. Upper portion of leaflet is shiny and sparsely hairy while the lower portion is densely hairy.



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© 2015 Harry Rose ⁽¹⁾

Blessed thistle (*Centaurea benedicta*)

Annual herb

BOLO-BE ON THE LOOKOUT!

Habitat: Roadsides and disturbed places.

Timing: Blooms from April to June.

Description: Stem is erect to wide-spreading, generally branched throughout with crinkled hairs and finer cobwebby hairs. Leaves are glabrous, resin-dotted, oblanceolate to elliptic, toothed, and coarsely lobed. Flowers are corolla yellow. Has two series of awns on the outer 9-10mm and inner 2-5mm.



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Yellow starthistle (*Centaurea solstitialis*)

Winter annual/occasional biennial herb

Habitat: Grasslands, full sun, clay soils.

Timing: Germinates in winter with rains, possible continuing through spring. Stays as a rosette until spring, then bolts and flowers through summer/fall.

Description: Rosette leaves are lobed. Mature plants have gray-green vegetation and yellow flowers with sharp spines. Leaves have wings along the stems. 6 inches to 5 feet tall, depending on the environment. Deep taproot.



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White horsenettle (*Solanum elaeagnifolium*)

Perennial herb

BOLO-BE ON THE LOOKOUT!

Habitat: Disturbed areas, roadsides, rangelands, and forest openings.

Timing: Flowers May through September.

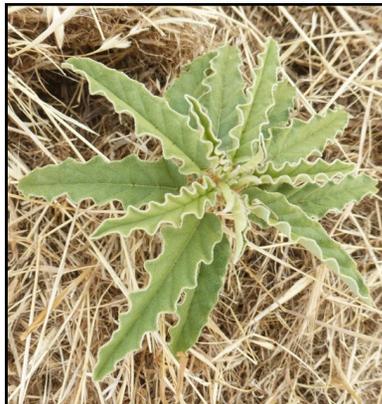
Description: Leaves have spines on the midvein, have wavy edges, and are covered with dense hairs which make leaves look silver to gray-green. Stem has tan to red spines, plant 1 to 4 feet tall. Bright purple flowers and produces orange fruit.



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Bristly oxtongue (*Helminthotheca echioides*)

Annual to biennial herb

Habitat: Crop fields, orchards, vineyards, gardens, landscaped areas, yards, pasture, roadsides and other disturbed areas.

Timing: Flowers bloom from May to September/October.

Description: Mature plants can grow close to 3.5 feet tall and have a milky sap. Flowers have yellow petals with toothed tips. Flower heads resemble dandelions. Leaves are evenly covered with bristly hairs and are alternate to one another along the stem. Leaf edges can be smooth, coarsely toothed, or shallowly lobed.



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Bull thistle

(*Cirsium vulgare*)

Perennial herb

Habitat: Disturbed areas and rangelands.

Timing: Flowers late June through August/September.

Description: Rosettes up to 3 feet wide the first year. Leaves are deeply lobed with rough hairs and large spines on top and wooly hairs underneath. Stem has spiny wings. Produces single or clustered pink-purple flowers 1.5-2 inches wide with spines. Mature plants are 2-6 feet tall.



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Water primrose

(*Ludwigia hexapetala*)

Perennial herb

Habitat: Grow in dense mats along shorelines and out into the water. Margins of lakes, ponds, ditches, and streams.

Timing: Water primrose blooms throughout the summer.

Description: Bright, yellow flowers, usually with 5 petals. Willow-like leaves that are slightly hairy and alternately arranged. Dense, tangled mat of vegetation.



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Wallaby grass (*Rytidosperma* spp.)

Perennial grass **BOLO-BE ON THE LOOKOUT!**

Habitat: Grasslands, open woodland, conifer forests, slopes, and disturbed areas.

Timing: *R. caespitosum* blooms from February to August; *R. penicillatum* blooms from June to July.

Description: *R. caespitosum*: Leaves are flat and can be hairless or hairy. Spikelets are green to purplish then turn straw colored. Seeds with three awns. *R. penicillatum*: Tufted, erect or geniculate. Leaves are hairy and flat or inrolled. Usually as 6-9 florets, purple awns, and a hairy callus.

Rytidosperma caespitosum



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Rytidosperma caespitosum



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Rytidosperma penicillatum



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Rytidosperma penicillatum



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Canada thistle (*Cirsium arvense*)

Perennial herb **BOLO-BE ON THE LOOKOUT!**

Habitat: Grows on many soil types in disturbed areas, riparian areas, roadsides, rangelands, forms dense patches.

Timing: Flowers late June through August (male and female flowers on separate plants)

Description: Smooth green stems, spines along leaf edges, purple to lavender flowers .5-1 inch across, plant grows 1-4 feet tall.



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Cape ivy

(*Delairea odorata*)

Evergreen perennial herb **BOLO-BE ON THE LOOKOUT!**

Habitat: Riparian corridors, woodlands, and disturbed sites.

Timing: Flowers December through February. Some dieback may occur during dry months, July-September.

Description: Leaf is more “star-like” than English ivy. Leaves are bright green, glossy, and have 5-9 lobes. Small, yellow flowers grow in clusters.



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Velvet grass

(*Holcus lanatus*)

Perennial grass

BOLO-BE ON THE LOOKOUT!

Habitat: Pastures, grasslands, wet to mesic meadows, open forests, and woodlands.

Timing: Blooms from June to August.

Description: Stems are erect, hollow, and grow to 12-39 inches tall. Base of the stems are white with pink stripes or veins. Leaf blades are flat, 4-12mm wide, and 2-8 inches long. Produces a compact panicle that can reach 6 inches long. The ligule is hairy and 1-4mm long.



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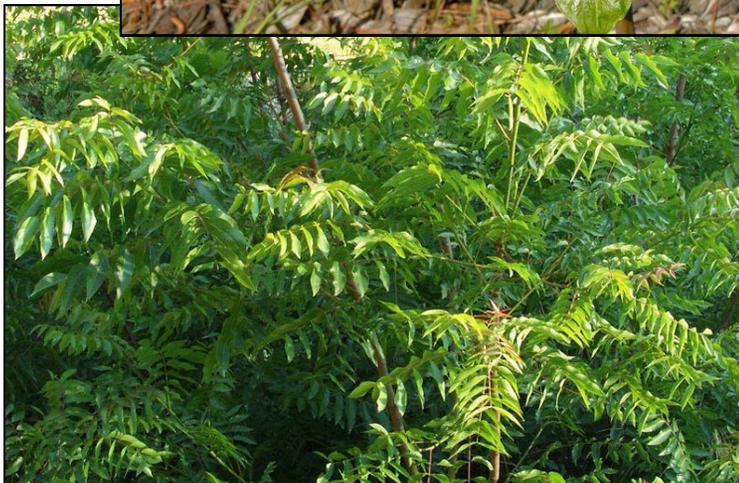
Tree-of-heaven (*Ailanthus altissima*)

Deciduous tree **BOLO-BE ON THE LOOKOUT!**

Habitat: Can grow in most environments, often found around old homesteads, riparian areas.

Timing: Root sprouts may be present anytime.

Description: Many small leaves, with circular glands on the undersides, make up a compound leaf. Leaves have a skunky odor when crushed. Smooth, gray bark with heart shaped scars where leaves attached. Female trees produce a red winged fruit in late summer that disperses over the winter. Mature tree up to 70 feet tall.



©2006 Zeynel Cebeci (1)



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Cape weed (*Arctotheca calendula*)

Annual or perennial herb **BOLO-BE ON THE LOOKOUT!**

Habitat: Coastal areas and urban wildlands. Thrives in seasonally wet meadows.

Timing: Blooms from March to August.

Description: Begins as rosettes then matures to form extensive, dense, mat-like groundcover. The rooting stems, stolons, connect plants. Leaves are lobed, toothed, and covered with white woolly hairs. Flowers have small, yellow petals, which sometimes have a green or purple tint towards the center. Flowers are about 2 inches in diameter and belong to the sunflower family. Landscaping escapee.



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Castor bean

(*Ricinus communis*)

Annual or perennial shrub **BOLO-BE ON THE LOOKOUT!**

Habitat: Found in riparian areas, abandoned fields, drainages, ditches, roadsides, and along railroad tracks. This plant is tolerant of a wide range of soil types and conditions but cannot tolerate low temperatures.

Timing: Bloom period is year round.

Description: Usually 3 to 15 feet tall. Leaves are glossy, long (6 to 18 in), long-stalked, alternated, and palmate with 5 to 12 deep lobes with coarsely toothed segments. Some leaves start off a dark reddish purple when young then change to a dark green, with a reddish tint as the mature. Stems are smooth, round, red, with clear sap. Flowers are small and greenish. The fruit is toxic, quarter-sized, round, and reddish.



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Treasureflower

(*Gazania linearis*)

Perennial herb

BOLO-BE ON THE LOOKOUT!

Habitat: Urban coastal areas, roadsides, and waste places.

Timing: Blooms all year.

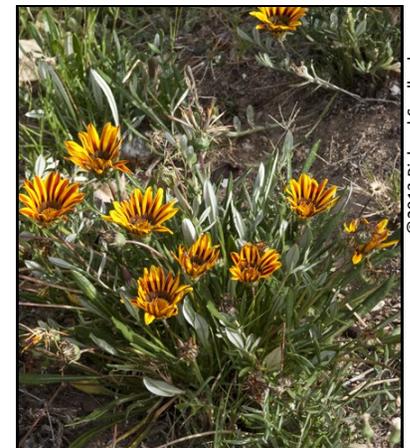
Description: Clumping herb. Leaves are long, oval shaped, dull green in color, and has woolly undersides. Leaves form basal rosettes at the ground around the branching stem. Member of the daisy family. Flower heads are bright yellow to orange and up to 3 inches across. Center is dark red and has an outer fringe of about 20 long petals. Landscaping escapee.



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Teasel

(*Dipsacus fullonum*)

BOLO-BE ON THE LOOKOUT!

Biennial, but may be an annual to short-lived perennial herb

Habitat: Open areas in full sun with access to moisture, grasslands and lowlands, may grow under coyote brush.

Timing: Seeds may germinate throughout the year, as long as there is moisture. Rosettes grow the first year or two, until about 20 inches wide, then plant bolts and flowers April-August.

Description: Rosette leaves are wrinkled looking with veins and stiff prickles underneath. After bolting, plants have straight, hollow stems with ridges and prickles. Flower heads are purple, 1.5-4inches long, and spikey. Mature plants up to 6 feet tall.



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Cotoneaster

(*Cotoneaster* spp.)

Perennial herb

BOLO-BE ON THE LOOKOUT!

Habitat: Urban bushland, grasslands, open woodlands, forest margins, waterways, roadsides, railway lines, disturbed sites and waste areas in temperate and sub-tropical regions.

Timing: Blooms from May to July.

Description: Sprawling shrub to over 5m tall. Leaves are alternate, dull green, oval shaped and have densely hairy, silvery undersides. Flowers are 8 to 10mm across, white, and form in clusters of 6-20 flowers. The fruits are red-orange pomes that are 5-8mm across. Similar invasive weeds include *Pyracantha* species. Not to be confused with the native Toyon (*Heteromeles arbutifolia*), which has red berries and longer, serrated leaves.

Cotoneaster pannosus



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Dalmatian toadflax (*Linaria dalmatica*)

Perennial herb

BOLO-BE ON THE LOOKOUT!

Habitat: Found along disturbed sites, roadsides, clear cuts, railroad right-of-ways, fences, croplands, pastures, and rangelands. This plant prefers dry sites with coarse, well-drained soils.

Timing: Blooms from April to September.

Description: Multiple stems grow from a single woody base. Grows up to 4 feet tall. Flowers are bright yellow and 1-1.5 inches long. Flowers, buds, and seed pods are often present at the same time. Leaves are pale green, waxy or rubbery, dense, alternate, and heart shaped. Extensive root system.



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Tall Wheat Grass (*Elymus ponticus*)

BOLO-BE ON THE LOOKOUT!

Large, non-native perennial bunch grass.

Habitat: Marshy, moist habitats to dry road sides & alkaline soil conditions.

Timing: Grows rapidly in spring, flowers in summer.

Description: Erect, up to 5 feet, coarse textured, grey-green foliage; fast growing, prolific seed producer.



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Taro root (*Colocasia esculenta*)

Perennial herb **BOLO-BE ON THE LOOKOUT!**

Habitat: Moist forests and wet areas in riparian habitats, riverbanks, along streams, marshes, and canals. Also roadsides and disturbed areas near abandoned crop fields.

Timing: Rarely blooms; can reproduce vegetatively.

Description: Glabrous herb growing to a height of 3 feet or more, with a massive, fleshy brown corm at the base, and lateral, thick, edible runners. Large leaves are arranged in a loose rosette, cordate or lanceolate, the margins more or less wavy. Yellow-orange inflorescence; fruit is a many-seeded berry.



Jules Strauss © California Academy of Sciences

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Elmleaf blackberry (*Rubus ulmifolius*)

Perennial shrub **BOLO-BE ON THE LOOKOUT!**

Habitat: Moist disturbed areas.

Timing: Blooms from may to July.

Description: Leaves are palmately compound with 3 or 5 leaflets, green on the upper surface with a dense layer of wooly hairs underneath. Leaflets are oblong to narrow-obovate, double-toothed, and tips are rounded. Flowers are white to pink. Glaucous stems are covered in dense short hairs, sometimes with prickles. See also Himalayan blackberry (*Rubus armeniacus*), page 28. Not to be confused with the native Pacific blackberry (*Rubus ursinus*) which always has three leaflets with a green underside, narrow petals that do not overlap, and prickles that are not stiff.



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Eucalyptus

(*Eucalyptus* spp.)

Evergreen tree

Habitat: Riparian areas, coastal grasslands, forests, old homesteads.

Timing: Under moist conditions, seeds will germinate when released from the capsule in late fall through spring.

Description: Leaves are blue-green to gray in color. Juvenile leaves are oval and are borne in opposite pairs on square stems. Adult leaves are sickle-shaped. The bark sheds and peels off in large strips. The most common invasive species are *E. camaldulensis* and *E. globulus*.



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Stinkwort

(*Dittrichia graveolens*)

Fall-flowering annual herb **BOLO-BE ON THE LOOKOUT!**

Habitat: Disturbed areas, roadsides, pastures, gravel areas.

Timing: Germinates in winter and remains small through spring. In summer, rapidly grows to a shrubby plant, flowers in late August/September. May also germinate after rain event.

Description: Gray-green leaves are narrow and the plant is covered with small hairs and resin, making it sticky to the touch. Flowers are small, bright-yellow and resemble those of a daisy, turning a reddish shade as they mature. Grows up to 3 feet tall. Leaves have a strong odor when crushed.



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Slender false brome (*Brachypodium sylvaticum*)

Perennial grass **BOLO-BE ON THE LOOKOUT!**

Habitat: Found in forests, woodlands, and open areas. Prefers shaded canopies and well drained neutral soils.

Timing: Blooms from November to December.

Description: Tall, tufted bunchgrass, grows up to 3 feet tall. Leaves are droopy, flat, have hairy edges, and are dark green to bright-yellow green in color. Flowerhead is 2.5-7.5 inches long. The leaf blade is joined to the hollow culm by the leaf sheath.



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Fennel (*Foeniculum vulgare*)

Perennial herb

Habitat: Open disturbed areas.

Timing: Germination can occur at any time. Most vegetative growth is from midwinter-early summer. Flowering begins after 1-2 years in April-July and stems die back in fall.

Description: Foliage and seeds have an anise/licorice scent. Leaves are divided into thread-like segments. Plant produces small, yellow flowers in an umbrella shape which is about 4 inches wide. Grows up to 10 feet tall.



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French broom

(*Genista monspessulana*)

Perennial shrub

Habitat: Disturbed sites, coastal scrub, and oak-bay woodlands.

Timing: Seedlings have a wide germination window from December through July. Flowers from March to May. Seeds mature in June to July.

Description: Evergreen, with small, bright green leaves, that grow in clusters of three. Pods are covered with soft, silver hairs. Stems are also covered with silvery, silky hairs. Small, bright yellow flowers are formed in clusters at the end of branch tips. Grows up to 10 feet tall.



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Skeleton weed

(*Chondrilla juncea*)

Perennial herb

BOLO-BE ON THE LOOKOUT!

Habitat: Fields, roadsides, croplands, irrigated grain fields, semi-arid pastures, rangelands, and residential properties.

Timing: Blooms from July to October.

Description: Leaves are smooth and project backwards like barbed spears. Leaves show tinges of reddish-brown and are in general darker than other genera. Exudes latex from cut or broken surfaces. Flowering plants have highly branched flowering stems that produce flat capitula with yellow flowers and dark brown bristle near the base. The fruit is an achene, about 1 cm long and topped with a white pappus.



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Russian thistle/tumbleweed (*Salsola tragus*)

Annual herb

Habitat: Disturbed areas, grasslands, rangelands, particularly sandy soils.

Timing: Flowers July through October. When plants die they become tumbleweeds.

Description: Mature plant has rigid green stem with purplish-red streaks upper portion of plant has spikes on stem and no leaves; lower portion has narrow, blue-green, leaves. Produces very small pink to red flowers. Up to 3 feet tall.



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Giant ragweed (*Ambrosia trifida*)

Summer annual herb

BOLO-BE ON THE LOOKOUT!

Habitat: Disturbed places, wetlands, woodlands, fields, and areas with moist clays.

Timing: Blooms from June to September.

Description: Plant grows up to 12 feet tall. Green stems are covered with white hairs. Smaller leaves near the base are usually hairy on the bottom side. Larger leaves are divided into 3 or 5 lobes, serrated along the margins and have long petioles that are winged. Flowers are yellowish green, have no petals, and occur in drooping cluster.



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Giant reed

(*Arundo donax*)

Perennial grass

Habitat: Riparian areas, floodplains, and ditches.

Timing: Flowers early summer to early fall.

Description: Bamboo-like, up to 25 feet tall, semi-woody stems 1-2 inches thick, with blue-green blades less than 3 feet long. Area where the blade meets the stem is pale-yellowish green. Creates plume-like flowers.



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Russian knapweed

(*Acroptilon repens*)

Perennial herb

BOLO-BE ON THE LOOKOUT!

Habitat: Roadsides, railways, riverbanks, irrigation ditches, pastures, rangelands, fields, and croplands.

Timing: Blooms from May to September.

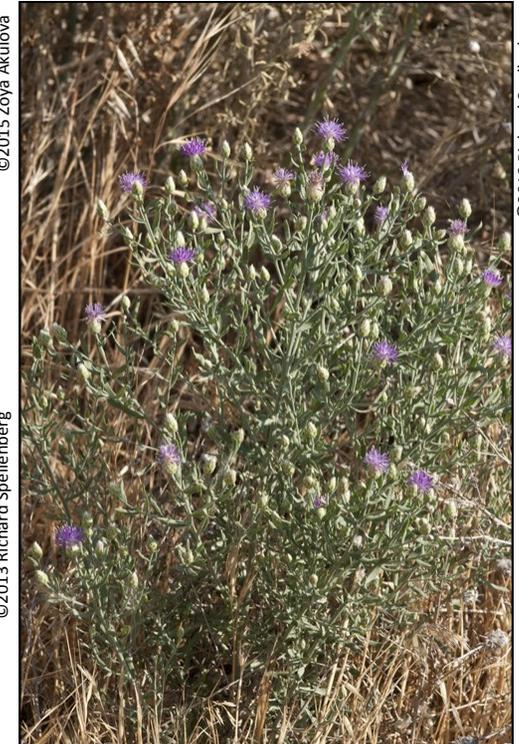
Description: Widely spreading horizontal roots. Roots are scaly and dark-brown to black in color. Stems are thin, erect, openly branched, stand up to 3 feet tall, and covered with fine gray hairs. Flowers are 1/4 to 1/2 inches in diameter and can be pink, white, or purple. Lower leaves are lobed; upper leaves may not be. Leaves do not make wings on stem.



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Rattlebox

(*Sesbania punicea*)

Perennial shrub

BOLO-BE ON THE LOOKOUT!

Habitat: Thrives in swamps or high-moisture areas and requires a mildly acidic soil to grow.

Timing: Blooms from March to September.

Description: Leaves are alternate and compound with between 5 to 20 pairs of elliptical leaflets on a single stalk. Leaflets are oblong with a pointy tip. Branches are thin and green then turn to a darker red brown when mature. Fruits and flowers droop from the stalk tips. Flowers are a bright red-orange to red– purple color. Bark is gray to reddish brown and is covered in small pores.



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When seedpods are shaken by the wind a rattling sound can be heard giving this plant its common name of “rattlebox”.

Glossy privet

(*Ligustrum lucidum*)

Perennial tree or shrub

BOLO-BE ON THE LOOKOUT!

Habitat: Disturbed areas. Thrives in any soil as long as it's not constantly wet.

Timing: Blooms from June to September.

Description: Semi-evergreen shrub or tree that can grow up to 33 feet tall. Leaves are opposite, glossy, dark green, 2.5– 6.5 inches long, and 3-8cm wide. Flowers are white, aromatic, and attract bees; fall-winter drupes attract birds. Landscaping escapee. Similar, potentially invasive species include *Ligustrum ovalifolium*.



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Hairy whitetop (*Lepidium appelianum*)

Annual or perennial herb **BOLO-BE ON THE LOOKOUT!**

Habitat: Riparian areas, wetlands, floodplains, disturbed sites

Timing: Seeds germinate in fall following first rain. Flowers appear spring to summer.

Description: Leaves are gray-green covered with white hairs, whitish undersides with hairs, stem has white hairs. Small white, fragrant flowers. Looks similar to perennial pepperweed, but with leaves clasping the stem. Grows up to 2 feet tall.



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Purple starthistle (*Centaurea calcitrapa*)

Annual or perennial herb **BOLO-BE ON THE LOOKOUT!**

Habitat: Grasslands, riparian areas, open forest, fertile soil, areas with full sun.

Timing: Germinates in winter with rains. Stays as a rosette until spring, then bolts and flowers through summer. Plants don't usually flower the first year.

Description: Rosette leaves are gray-ish with light colored midveins. Mature plants have purple flowers with sharp spines. Lower leaves are deeply divided, upper leaves are narrow and undivided. Stems are branched and angled, not winged; 1-4 feet tall at maturity.



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Purple false brome (*Brachypodium distachyon*)

Annual or perennial grass **BOLO-BE ON THE LOOKOUT!**

Habitat: Disturbed areas and dry slopes.

Timing: Blooms from April to July.

Description: Loosely tufted 15-40cm. Stem is decumbent to erect, nodes are often hairy. Leaf blades are flat, glabrous to short-hairy, has a membranous ligule, 1.5-8cm long, and 3-5cm wide. 1-7 spikelets per stem.



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Hanging sedge (*Carex pendula*)

Perennial grasslike herb **BOLO-BE ON THE LOOKOUT!**

Habitat: Woodland, scrubland, hedges, and stream banks.

Prefers damp clay soils.

Timing: Typically flowers from May to June and fruits from June to July.

Description: Forms large, dense tufts. Grows up to 7 feet tall. Leaves are long, hairless, yellowish green on top and glaucous below. Stems are smooth near the top. Has 1-2 male spikes at the top and 4-5 female spikes below them. The female spikes can grow longer than the male. Simple flowers are produced on the long, drooping spikes. Landscaping escapee.



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Himalayan blackberry (*Rubus armeniacus*)

Evergreen perennial shrub

Habitat: Disturbed, open, and riparian areas.

Timing: Blooms April to August. Berries mature later than native berries.

Description: Stems are green to purplish red, woody, and angled with hooked prickles. Leaves toothed, grow in threes or fives, and have a whitish underside. Flowers are white to pinkish with five petals. See also Elmleaf blackberry (*Rubus ulmifolius*), page 19. Not to be confused with the native Pacific blackberry (*Rubus ursinus*) which always has three leaflets with a green underside, narrow petals that do not overlap, and prickles that are not stiff.



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native Pacific blackberry (*Rubus ursinus*)



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Puncturevine (*Tribulus terrestris*)

Summer annual herb

BOLO-BE ON THE LOOKOUT!

Habitat: Disturbed places, roadways, dry/sandy soils, and in areas with hot summers.

Timing: Seeds germinate in summer with warm temperatures. Flowering begins as early as three weeks after germination.

Description: Low growing, with green to reddish-brown stems. 3-7 pairs of small leaflets make up each “compound leaf.” Produces single yellow flowers and 5-sided spikey burs that separate into nutlets.



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Poison oak (*Toxicodendron diversilobum*)

Deciduous perennial shrub

Habitat: Grows in many environments. **Native plant with beneficial wildlife value.**

Timing: Flowers April through May.

Description: Shrub or a vine up to 13 feet tall. Sets of 3 glossy leaves that turn red in autumn. Poison oak can grow as dense thickets in shaded areas, as tall dense shrubs in sunlight, as a treelike vine, or any form in between. When leaves have fallen off, it can sometimes be identified by black marks where its milky sap may have oozed and dried. Poison oak is an important plant for wildlife habitat and in most cases is not considered to be a weed.



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Iberian knapweed (*Centaurea iberica*)

Perennial herb

BOLO-BE ON THE LOOKOUT!

Habitat: Found in moist areas such as river banks and watercourses.

Timing: Blooms from June to October.

Description: Usually grows between 1 to 6 feet tall and is covered with tiny hairs. Closely resembles purple star thistle. Leaves are divided into narrow linear segments. Rosettes have spines in the center. Flower heads are purple with straw-colored spine-like bracts which are 1 inch long. Seeds are plumed, which is the distinguishing factor between purple star thistle and Iberian knapweed.



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Illyrian thistle (*Onopordum Illyricum*)

Biennial herb

BOLO-BE ON THE LOOKOUT!

Habitat: Urban spaces, agricultural areas, forests, open grasslands, riparian zones, disturbed lands, and shrublands.

Timing: Blooms from June to July.

Description: Stem is erect, branching, winged, and can grow to over 6 feet tall. Leaves are deep toothed, spiny, and grow up to 20 inches long. Flowerheads are about 7cm wide and lined with spiny, wooly phyllaries. Flowers are purple and about 3cm long. The fruit is a cylindrical achene topped with a white pappus (fluffy seedhead).



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Poison hemlock (*Conium maculatum*)

Biennial herb

Habitat: Roadsides, on edges of cultivated fields, along creek beds and irrigation ditches, and in waste areas.

Timing: Flowers from spring to summer in the second year of growth.

Description: Flowers are small, white, and occur in umbrella shaped clusters. Stems are hollow, hairless, and have noticeable purple blotches. Poison hemlock can be confused with wild carrot which is a smaller and doesn't have purple blotches.



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Perennial pepperweed (*Lepidium latifolium*)

Perennial herb

BOLO-BE ON THE LOOKOUT!

Habitat: Riparian areas, wetlands, floodplains, meadows and vernal pools.

Timing: Germinates in early spring or fall, forms rosettes.

Flowering begins in late spring and mature seed is produced by mid-summer. Stem and leaves die back in late fall/winter.

Description: Leaves are green to gray green, often powdery, waxy with a whitish vein, and have a petiole. Flowers are rounded or umbrella shaped clusters of small white flowers, with four petals. Grows up to 6 feet tall with a deep taproot.



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Italian thistle (*Carduus pycnocephalus*)

Winter annual to biennial herb

Habitat: Disturbed open sites and rangelands.

Timing: Germinates in fall with rains. Remains as a rosette until spring then bolts and flowers in May-June.

Description: Prickly leaves emerge from prickly winged stems. Purple flowers are less than 1 inch wide and usually grow in clusters. Leaves are hairless and green, with white spots on the spines. Mature plants can grow up to 6.5 feet tall.



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Ivy: Algerian and English (*Hedera spp.*)

Evergreen perennial vine or shrub

Habitat: Riparian corridors, woodlands, and disturbed sites.

Timing: Flowers in fall.

Description: Three to five lobed leaves, glossy leathery, dark green. Flowers form clusters of small white flowers. It is difficult to distinguish between Algerian ivy (*Hedera canariensis*) and English ivy (*Hedera helix*). The mature stems on Algerian ivy are generally more red in color.

English ivy



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Algerian ivy



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Panic veldtgrass (*Ehrharta erecta*)

Perennial grass

BOLO-BE ON THE LOOKOUT!

Habitat: Grows along California's coastline, commonly in disturbed areas, including riparian, scrub, grass, woodland and turf. It prefers shady and moist conditions. It spreads rapidly and is known to outcompete natives.

Timing: Generally flowers in the spring but larger plants can flower as early as January.

Description: Grows in dense clumps or individually. Blades are flat, smooth and margins often wavy. Sheaths are smooth or hairy. Panicles are erect or nodding, ligules lacerate to 3mm, auricles are ciliate.



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Pampas/Jubata grass (*Cortaderia selloana/jubata*)

Perennial grass

Habitat: Disturbed areas, coastal influenced bluffs, shrublands and grasslands.

Timing: Germination and establishment in spring. Flowers late August-September with large 1-3 feet plumes. (Does not flower until plants are 2-3 years old.)

Description: Large grasses, with thin leaves up to 6 feet long, attached to a center point, with sharp edges. Corkscrew leaves.



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Japanese dodder (*Cuscuta japonica*)

Annual herb or vine

BOLO-BE ON THE LOOKOUT!

Habitat: Grows in a wide range of environments: near fence lines, abandoned lands, and yards. Japanese dodder is a parasitic vine that attacks trees and bushes, then uses its host for water and nutrients.

Timing: Germinates in the spring, flowers in late summer, and fruits in early fall. Grows very rapidly, can grow up to 6 in. a day.

Description: Stems are fleshy, circular, branched, and pale yellow in color with striations and red spots. Leaves are scale-like and flowers are pale yellow, sessile, and abundant.



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Japanese honeysuckle (*Lonicera japonica*)

Perennial vine or shrub **BOLO-BE ON THE LOOKOUT!**

Habitat: Fields, forests, wetlands, barrens, and all types of disturbed lands.

Timing: Blooms from May to June.

Description: Leaves are oblong to oval, sometimes lobed, have short stalks, and occur in pairs along the stem. Flowers are tubular with 5 fused petals. Petals are white to pink and turn to a yellowish color. Hairs may cover the stems and leaves.



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Oblong spurge (*Euphorbia oblongata*)

Perennial herb **BOLO-BE ON THE LOOKOUT!**

Habitat: Disturbed sites, roadsides, riparian areas.

Timing: Flowers bloom in spring and summer. Shoots die back with cold weather.

Description: Yellow-green leaves, smooth, oblong up to 2.5 inches long. Plant stems covered in fine white hairs and leaves have finely toothed edges. Flowers bloom in clusters at stem tips and have yellow bracts (look like petals). Produces milky sap. Shoots turn red before falling. Mature plants up to 3 feet tall and shrub-like.



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Milk thistle

(*Silybum marianum*)

Winter or summer annual herb

Habitat: Often occurs as dense stands in rangeland and fertile soils.

Timing: Seeds usually germinate with the first fall rains, but may continue through spring. Flowers bloom April-July.

Description: Large, variegated rosettes up to 3 feet wide, mature plants bolt up to 6 feet tall. Leaves are shiny, have prickles, and upper surface is variegated with white. Flowers are purple with large spines below. Dried flower heads turn white to brown and dead, upright plants may persist.



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Japanese knotweed

(*Fallopia japonica*)

Perennial herb

BOLO-BE ON THE LOOKOUT!

Habitat: Tolerates many different conditions such as: deep shade, high salinity, high heat, and drought. Usually found along streams, rivers, ditches, waste places, and around old home sites.

Timing: Blooms from August to October.

Description: Upright, shrubby plant with smooth, stout, and hollow stems. Usually about 4-10 feet tall. Stem leaf junctures are swollen and surrounded by a membranous sheath. Leaves are oval to somewhat triangular with a tapered tip and are 6 in long and 3-4 in wide. Flowers are tiny and greenish to white in color. Fruits are winged on three sides.



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Kangaroo thorn (*Acacia paradoxa*)

Perennial shrub **BOLO-BE ON THE LOOKOUT!**

Habitat: Disturbed areas, usually near cultivated plants.

Timing: Bright yellow heads flower around February to March.

Description: Bushy, spiny, shrub grows to 9 feet tall and 9 feet wide. Leaves are alternate, oblong phyllodes that are leathery and evergreen. Flowers are small, about 7-12mm in diameter, bright yellow, and globular. The round, cream to yellow flower heads are common in acacia species, which also include the invasive roadside and backyard trees *A. melanoxylon* and *A. baileyana*.

Kangaroo thorn



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Acacia baileyana ©2016 Zoya Akulova



Acacia melanoxylon



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Medusahead (*Elymus caput-medusae*)

Winter annual grass **BOLO-BE ON THE LOOKOUT!**

Habitat: Full sun, clay soils, and grasslands.

Timing: Germinates in fall after first rains but germination may continue through spring. Flowers in early summer (later in the season than most annual grasses). Look for green when everything else has turned brown in the spring.

Description: Mature plants produce spikes with seeds and long awns. Awns are 1-3 inches long, rough to the touch, with slender stems. Grows up to 2 feet tall. May form dense, feathery looking mats.



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Licorice plant (*Helichrysum petiolare*)

Perennial shrub **BOLO-BE ON THE LOOKOUT!**

Habitat: Found in forested areas and costal scrub on the central coast.

Timing: Blooms from July to August.

Description: Leaves are aromatic, roundish to triangular, and densely matted with soft white hairs. Flowers are cream-colored and form in densely clustered heads that are 1-2 inches.

Landscaping escapee.



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Klamath weed (St. John's wort) (*Hypericum perforatum*)

Perennial herb **BOLO-BE ON THE LOOKOUT!**

Habitat: Sites disturbed sites from impacts like mining, fire, logging, and construction; waste grounds, roadsides, pasture, rangeland, and open woodland; tolerates a variety of soils.

Timing: Blooms from May to September.

Description: Erect perennial herb 30-90cm high reproducing by seeds or from rhizomes at the base of the stem. Branched stems, simple leaves, opposite, pinnately netted. Flowers showy, yellow, in clusters at the top of the plant.



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