

East Bay Regional Park District
Integrated Pest Management (IPM)

**Invasive Weed
Identification Guide**

2022 Version 2

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



www.ebparks.org

Last Updated: 220316

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!

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 EDRR weeds—be on the lookout! Please alert park staff or the EBRPD IPM department if you find these EDRR weeds in your park.

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: [2/25/22]. Photographer listed on each image.

California Department of Boating and Waterways (DBW), Aquatic Invasive Control Program, Floating Aquatic Vegetation Approved for Control (2018 Season). [Division of Boating and Waterways \(ca.gov\)](http://www.dbw.ca.gov/)

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TABLE OF CONTENTS

—African asparagus fern (<i>Asparagus asparagoides</i>)	7
—Algerian sea lavender (<i>Limonium ramosissimum</i>).....	8
—Alligator weed (<i>Alternanthera philoxeroides</i>)	9
—American spongeplant (<i>Limnobiium spongia</i>).....	10
—Artichoke thistle (<i>Cynara cardunculus</i>)	11
—Barb goatgrass (<i>Aegilops triuncialis</i> and <i>A. cylindrica</i>)	12
—Bermuda buttercup (<i>Oxalis pes-caprae</i>)	13
—Biddy biddy (<i>Acaena novae-zelandia</i>)	14
—Blessed thistle (<i>Centaurea benedicta</i>).....	15
—Brazilian water weed (<i>Egeria densa</i>).....	16
—Bristly oxtongue (<i>Helminthotheca echioides</i>).....	17
—Bull thistle (<i>Cirsium vulgare</i>)	18
—Canada thistle (<i>Cirsium arvense</i>).....	19
—Cape ivy (<i>Delairea odorata</i>)	20
—Cape weed (<i>Arctotheca calendula</i>)	21
—Castor bean (<i>Ricinus communis</i>)	22
—Chilean jessamine (<i>Cestrum parqui</i>).....	23
—Cotoneaster (<i>Cotoneaster</i> spp.)	24
—Crispate leaved pondweed (<i>Potamogeton crispus</i>)	25
—Dalmatian toadflax (<i>Linaria dalmatica</i>).....	26
—Elmleaf blackberry (<i>Rubus ulmifolius</i>)	27
—Eucalyptus (<i>Eucalyptus</i> spp.).....	28
—European sealavender (<i>Limonium duriusculum</i>).....	29
—False yellowhead (<i>Dittrichia viscosa</i>)	30
—Fennel (<i>Foeniculum vulgare</i>).....	31
—Fountaingrass (<i>Pennisetum setaceum</i> and <i>P. villosum</i>)	32
—French broom (<i>Genista monspessulana</i>).....	33
—Giant ragweed (<i>Ambrosia trifida</i>).....	34
—Giant reed (<i>Arundo donax</i>).....	35
—Glossy privet (<i>Ligustrum lucidum</i>).....	36
—Gorse (<i>Ulex europaeus</i>).....	37
—Hairy whitetop (<i>Lepidium appelianum</i>).....	38
—Hanging sedge (<i>Carex pendula</i>).....	39
—Himalayan blackberry (<i>Rubus armeniacus</i>)	40
—Iberian knapweed (<i>Centaurea iberica</i>).....	41
—Illyrian thistle (<i>Onopordum illyricum</i>).....	42
—Italian thistle (<i>Carduus pycnocephalus</i>).....	43

TABLE OF CONTENTS

—Ivy: Algerian and English (<i>Hedera</i> spp.)	44
—Japanese dodder (<i>Cuscuta japonica</i>).....	45
—Japanese honeysuckle (<i>Lonicera japonica</i>)	46
—Japanese knotweed (<i>Fallopia japonica</i>)	47
—Kangaroo thorn (<i>Acacia paradoxa</i>)	48
—Klamath weed/St. John's wort (<i>Hypericum perforatum</i>)	49
—Licorice plant (<i>Helichrysum petiolare</i>).....	50
—Mayten (<i>Maytenus boaria</i>)	51
—Medusahead (<i>Elymus caput-medusae</i>)	52
—Mexican feathergrass (<i>Stipa tenuissima</i>)	53
—Milk thistle (<i>Silybum marianum</i>)	54
—Oblong spurge (<i>Euphorbia oblongata</i>)	55
—Old man's beard (<i>Clematis vitalba</i>)	56
—Pampas/Jubata grass (<i>Cortaderia jubata</i>)	57
—Panic Veldtgrass (<i>Erharta erecta</i>).....	58
—Parrot's feather (<i>Myriophyllum aquaticum</i>)	59
—Perennial pepperweeds (<i>Lepidium latifolium</i> , <i>L. draba</i> and <i>L. chalapense</i>)	60
—Poison hemlock (<i>Conium maculatum</i>)	61
—Poison oak* (<i>Toxicodendron diversilobum</i>).....	62
—Portuguese broom (<i>Cytisus striatus</i>)	63
—Puncturevine (<i>Tribulus terrestris</i>).....	64
—Purple false brome (<i>Brachypodium distachyon</i>)	65
—Purple loosestrife (<i>Lythrum salicaria</i>)	66
—Purple starthistle (<i>Centaurea calcitrapa</i>)	67
—Rattlebox (<i>Sesbania punicea</i>)	68
—Rosy sandcrocus (<i>Romulea rosea</i>).....	69
—Russian knapweed (<i>Rhaponticum</i> [<i>Acroptilon</i>] <i>repens</i>).....	70
—Russian thistle/tumbleweed (<i>Salsola tragus</i>).....	71
—Salt cedar (<i>Tamarix parviflora</i> and <i>T. ramosissima</i>)	72
—Saltmeadow rush (<i>Juncus gerardii</i>)	73
—Shining geranium (<i>Geranium lucidum</i>).....	74
—Skeleton weed (<i>Chondrilla juncea</i>).....	75
—Slender false brome (<i>Brachypodium sylvaticum</i>).....	76

*Denotes a native plant.

TABLE OF CONTENTS

—Small leaf spiderwort (<i>Tradescantia fluminensis</i>)	77
—Spanish broom (<i>Spartium junceum</i>)	78
—Stinknet (<i>Oncosiphon pilulifer</i>)	79
—Stinkwort (<i>Dittrichia graveolens</i>)	80
—Stipoid ricegrass (<i>Stipa chaetophora</i>)	81
—Tall wheat grass (<i>Elymus ponticus</i>).....	82
—Taro root (<i>Colocasia esculenta</i>)	83
—Teasel (<i>Dipsacus fullonum</i>).....	84
—Thoroughwort (<i>Ageratina adenophora</i>).....	85
—Treasureflower (<i>Gazania linearis</i>)	86
—Tree-of-heaven (<i>Ailanthus altissima</i>)	87
—Velvet grass (<i>Holcus lanatus</i>)	88
—Wallaby grass (<i>Rytidosperma</i> spp.)	89
—Water hyacinth (<i>Eichhornia crassipes</i>)	90
—Water primrose (<i>Ludwigia hexapetala</i>)	91
—White horsenettle (<i>Solanum elaeagnifolium</i>)	92
—Distaff thistle, wooly & smooth (<i>Carthamus lanatus, creticus</i>)	93
—Yellow glandweed (<i>Parentucellia viscosa</i>).....	94
—Yellow starthistle (<i>Centaurea solstitialis</i>)	95

REPORT INVASIVE WEEDS VIA CALFLORA AND EAST BAY PARKS IPM MOST WANTED GROUP

Get Involved.....	96
Percent Cover Diagram.....	97

TABLE OF CONTENTS

IMPORTANT WEED GROUPS

GRASSES AND SEDGES (POACEAE AND CYPERACEAE FAMILIES)

–Barb goatgrass (<i>Aegilops triuncialis</i> and <i>A. cylindrica</i>)	12
–Fountaingrass (<i>Pennisetum setaceum</i> and <i>P. villosum</i>).....	32
–Giant reed (<i>Arundo donax</i>).....	35
–Hanging sedge (<i>Carex pendula</i>)	39
–Medusahead (<i>Elymus caput-medusae</i>)	52
–Mexican feathergrass (<i>Stipa tenuissima</i>)	53
–Pampas/jubata grass (<i>Cortaderia jubata</i>).....	57
–Panic Veldtgrass (<i>Erharta erecta</i>)	58
–Purple false brome (<i>Brachypodium distachyon</i>).....	65
–Slender false brome (<i>Brachypodium sylvaticum</i>)	76
–Stipoid ricegrass (<i>Stipa chaetophora</i>).....	81
–Velvet grass (<i>Holcus lanatus</i>).....	88
–Wallaby grass (<i>Rytidosperma</i> spp.)	89

THISTLES (ASTERACEAE FAMILY, CYNAREAE TRIBE)

–Artichoke thistle (<i>Cynara cardunculus</i>)	11
–Blessed thistle (<i>Centaurea benedicta</i>).....	15
–Bull thistle (<i>Cirsium vulgare</i>).....	18
–Canada thistle (<i>Cirsium arvense</i>)	19
–Iberian knapweed (<i>Centaurea iberica</i>)	41
–Illyrian thistle (<i>Onopordum illyricum</i>).....	42
–Italian thistle (<i>Carduus pycnocephalus</i>).....	43
–Milk thistle (<i>Silybum marianum</i>)	54
–Purple starthistle (<i>Centaurea calcitrapa</i>)	67
–Russian knapweed (<i>Rhaponticum</i> [<i>Acroptilon</i>] <i>repens</i>).....	70
–Distaff thistle (<i>Carthamus</i> ssp	93
–Yellow starthistle (<i>Centaurea solstitialis</i>)	95

African asparagus fern

(*Asparagus asparagoides*)

Vine

EDRR!

Habitat: Disturbed places, fields; climbing or sprawling on other vegetation.

Timing: Blooms December to April.

Description: Climbing vine with tuberous roots up to 15 feet tall with small white and green flowers in leaf axils; leaf-like branchlets .25-.75 inch wide; round .2-.3 inch red, blue or purple fruits.



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Algerian sea lavender

(Limonium ramosissimum)

Perennial herb

EDRR!

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

Timing: Blooms 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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Alligator weed

(Alternanthera philoxeroides)

Floating aquatic

EDRR!

Habitat: Shallow water in ditches, marshes, pond margins, and slow-moving waterways. May be found terrestrially in wet soils.

Timing: Rapid growth in summer, survives cold winters without long periods of frost; flowers June to October.

Description: Mat-forming, rooted aquatic with opposite, linear leaves 1-5 inches long; young stems and leaf axils white-hairy; small white flowers with yellow anthers in round flower clusters.



Jose Martinez, DBW



Michael Kwong, DBW

American spongeplant

(Limnobium spongia)

Floating aquatic

EDRR!

Habitat: Ponds, sloughs, channels, canals, streams, lakes.

Timing: Active growth spring to late fall; flowers June to September.

Description: Small floating aquatic forming loose rosettes of thick, leathery, rounded or heart-shaped leaves, .7-2.8 inches across; younger leaves glossy bright green above and reddish underneath; small, white, 3-petaled flowers; fruit a fleshy berry.



Michael Kwong, DBW



©Lars Anderson

Artichoke thistle

(*Cynara cardunculus*)

Perennial herb

EDRR!

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* and *A. cylindrica*)

Winter annual grass

EDRR!

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 dries to a straw color. Mature plants grow up to 20 inches tall.



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Bermuda buttercup

(Oxalis pes-caprae)

Perennial herb

Habitat: Disturbed areas, roadsides, grassland, dunes

Timing: Blooms December to June.

Description: Perennial herb with a basal rosette of 3 heart-shaped, purple-spotted leaves; flowers yellow-green on 12 inch tall stalks in clusters of up to 20; bulbs formed on rhizomes and root tips.



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©J.M. DiTomaso



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Biddy biddy

(*Acaena novae-zelandia*)

Perennial herb

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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Blessed thistle

(Centaurea benedicta)

Annual herb

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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Brazilian water weed

(Egeria densa)

Submersed aquatic

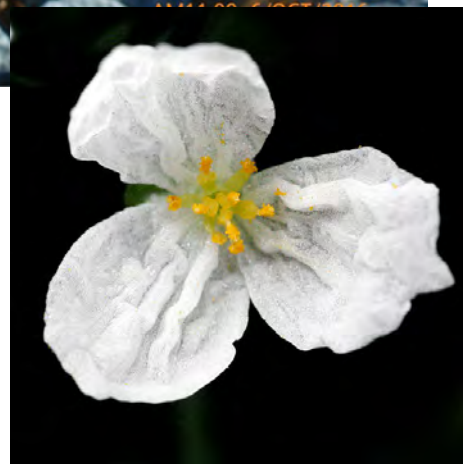
Habitat: Slow-flowing or still water in sloughs, canals, rivers, ponds, lakes, reservoirs; often in nutrient-rich substrates.

Timing: Active growth spring to late fall; flowers June to October

Description: Perennial herb rooted in mud with recurved, narrowly oblong, finely serrate leaves, arranged opposite below and in whorls of 3-6 above; .3-.4 inch long, white male or female flowers on up to 3 inch long stalks.



Jose Martinez, DBW



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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.



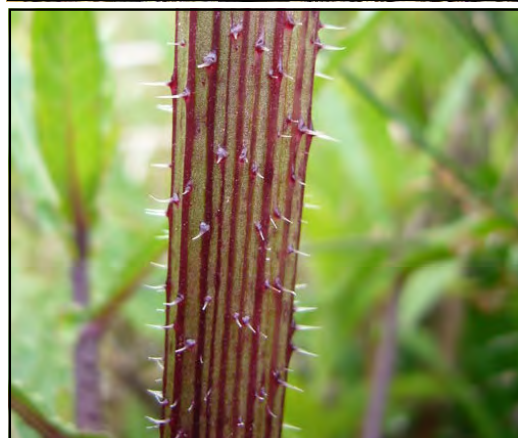
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Bull thistle

(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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Canada thistle

(Cirsium arvense)

Perennial herb

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

Perennial vine

(*Delairea odorata*)

EDRR!

Region Dependent

Habitat: Riparian corridors, woodlands, and disturbed sites.

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

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



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Cape weed

(*Arctotheca calendula*)

Annual or perennial herb

EDRR!

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.



©2011 Thomas Reyes



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Castor bean

(*Ricinus communis*)

Annual or perennial shrub

EDRR!

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: Blooms 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 they 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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Chilean jessamine

(*Cestrum parqui*)

Tree

EDRR!

Habitat: Disturbed areas.

Timing: Blooms July to December.

Description: Tree up to 10 feet tall with 2-4 inch long alternate leaves; clusters of up to 20 tubular yellow flowers and round, dark purple fruits; highly poisonous.



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Cotoneaster

(*Cotoneaster* spp.)

Perennial herb

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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Crispate leaved pondweed (*Potamogeton crispus*)

Submersed aquatic

Habitat: Ponds, lakes, streams, rivers, reservoirs, irrigation ditches, marsh areas.

Timing: Active growth early spring to late summer; flowers May to September.

Description: Wavy, 3 inch long, alternate green or brown leaves; floating to emergent inflorescence; beaked fruit.



©Leslie Mehroff, University of Connecticut

Dalmatian toadflax

(Linaria dalmatica)

Perennial herb

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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Elmleaf blackberry

(*Rubus ulmifolius*)

Perennial shrub

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

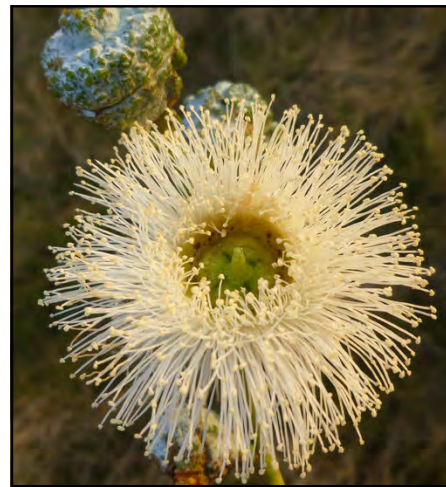
Habitat: Riparian areas, coastal grasslands, forests, old homesteads.

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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European sealavender

(Limonium duriusculum)

Perennial herb

EDRR!

Habitat: Coastal salt marsh, coastal scrub, riparian scrub, disturbed areas

Timing: Blooms September to June.

Description: Perennial to 1 foot tall with basal rosette of spoon-shaped basal leaves up to 1.5 inches long and .1-.4 inch wide with blunt tips; pale lavender flowers on ends of branching stalks above leaves in evenly spaced clusters of 1-3. *L. ramosissimum* has leaves 1.2-3.9 inch long and .3 –.8 inch wide; flowers are in clusters of 2-5 more crowded on ends of branch tips (see below).



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Limonium duriusculum LEFT and *L. ramosissimum* RIGHT

False yellowhead

(Dittrichia viscosa)

Perennial herb

EDRR!

Habitat: Roadsides and other disturbed areas.

Timing: Blooms September to November.

Description: Erect shrub up to 4 feet tall; glandular-hairy with strong odor; alternate, 2 inch long toothed leaves; yellow flowers with 12-18 rays.



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Fennel

(*Foeniculum vulgare*)

Perennial herb

EDRR!

Habitat: Open disturbed areas.

Region Dependent

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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Fountain grass (*Pennisetum setaceum* and *P. villosum*)

Perennial grass

EDRR!

Habitat: Disturbed areas, roadsides, rocky cliffs.

Timing: Blooms June to August, flower stalks persist.

Description: Clumping perennial grasses up to 5 feet tall; flower stalks up to 12 inches; *P. setaceum* has pink to purple inflorescences and *P. villosum* has shorter white inflorescences.



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P. setaceum flowers ©J.M. DiTomaso



P. villosum flowers ©2016 Ron Vanderhoff



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French broom

(*Genista monspessulana*)

Perennial shrub

EDRR!

Region Dependent

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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Giant ragweed

(*Ambrosia trifida*)

Summer annual herb

EDRR!

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 clusters.



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Giant reed

Perennial grass

(*Arundo donax*)

EDRR!

Region Dependent

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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Glossy privet

(Ligustrum lucidum)

Perennial tree or shrub

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

Timing: Blooms 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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Gorse

(Ulex europaeus)

Shrub

EDRR!

Habitat: Disturbed places, especially old fields, pastures

Timing: Blooms April to July.

Description: Spiny-leaved shrub up to 10 feet tall; yellow, 2-lipped, densely hairy flowers; 0.8 inch long, densely hairy pods.



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Hairy whitetop

(*Lepidium appelianum*)

Annual or perennial herb

EDRR!

Region Dependent

Habitat: Riparian areas, wetlands, floodplains, disturbed sites

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

Description: Leaves and stems are gray-green and covered with white hairs. Small white, fragrant flowers. Looks similar to perennial pepperweed, but with leaves clasping the stem and hairy, inflated fruits. Grows up to 2 feet tall.



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Hanging sedge

(*Carex pendula*)

Perennial grasslike herb

EDRR!

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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©2007 Matt Belowx

Iberian knapweed

(*Centaurea iberica*)

Perennial herb

EDRR!

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

EDRR!

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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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



©2001 Tony Morosco

Japanese dodder

(*Cuscuta japonica*)

Annual herb or vine

EDRR!

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

EDRR!

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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Japanese knotweed

(*Fallopia japonica*)

Perennial herb

EDRR!

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

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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©2007 Peripitus (1)



Acacia baileyana ©2016 Zoya Akulova



Acacia melanoxylon

©2008 Neal Kramer



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

Perennial herb

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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Licorice plant

(Helichrysum petiolare)

Perennial shrub

EDRR!

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.



© 2015 Nicholas Stevenson

Mayten

(*Maytenus boaria*)

EDRR!

Tree or shrub

Habitat: Disturbed areas.

Timing: Blooms April and May.

Description: Tree up to 50 feet tall with pendent branches; alternate, leathery, toothed leaves; clusters of 1--5 small white flowers; fruits green to yellow capsules.



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Medusahead

(*Elymus caput-medusae*)

Winter annual grass

EDRR!

Region Dependent

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.



© Wide Legard



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Mexican feathergrass

(*Stipa tenuissima*)

Perennial grass

EDRR!

Habitat: Disturbed areas, roadsides

Timing: Blooms May to August and fruits persist.

Description: Perennial grass up to 3.3 feet tall with many feathery white to yellow flowers; inflorescences up to 20 inches; flowers with 4 inch long, twice-bent awns on the lemmas.



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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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Oblong spurge

(Euphorbia oblongata)

Perennial herb

EDRR!

Region Dependent

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



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Old man's beard

(*Clematis vitalba*)

Vine

EDRR!

Treatment requires species confirmation. See IPM.

Habitat: Forest edges

Timing: Blooms June to August

Description: Deciduous woody vine; pinnate compound leaves with 5 leaflets; Flowers with creamy white petal-like sepals, no actual petals, and both male and female parts on same flower; can be confused with *Clematis ligusticifolia*, they have similar looking leaves and flowers, but *C. vitalba* has flowers with both male and female parts and *C. ligusticifolia* has flowers with either male or female parts, not both. Also, *C. ligusticifolia* leaflets (native) are more coarsely toothed and tend to be narrower.



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Pampas/Jubata grass

(*Cortaderia selloana/jubata*)

Perennial grass

EDRR!

Region Dependent

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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Panic veldtgrass

(Ehrharta erecta)

Perennial grass

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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Parrot's feather

(Myriophyllum aquaticum)

EDRR!

Submersed aquatic

Habitat: Ponds, lakes, rivers, streams, canals, ditches.

Timing: Active growth spring to fall; flowers June to September; plants can die back in winter or remain green.

Description: Submersed and floating aquatic with 1.3 inch long, feathery, whorled leaves; female flowers only, small clusters at ends of branches.



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© 2012 John Morley



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Perennial pepperweeds (*Lepidium latifolium*, *L. draba* and *L. chalapense*)

Perennial herbs

EDRR!

Habitat: Riparian areas, wetlands, floodplains, wet meadows.

Timing: Germinates in early spring or fall, forms rosettes. Flowering begins in late spring and mature seeds produced 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 (*L. latifolium*). Flowers are rounded or umbrella shaped clusters of small white flowers, with four petals. Grows up to 6 feet tall with a deep taproot. Both *L. chalapense* and *L. draba* have clasping leaf bases, and their fruits are different shapes. *L. draba* has flat, heart-shaped fruits and *L. chalapense* has round, inflated, hairless fruits



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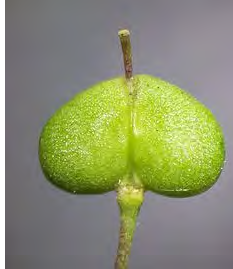


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L. chalapense fruit



© 2016 Stefan Iefnaer

L. draba fruit



© J.M. DiTomaso

L. latifolium seeds and fruit

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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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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Portuguese broom

(Cytisus striatus)

Shrub

EDRR!

Habitat: Disturbed areas.

Timing: Blooms May to August.

Description: Up to 10 foot tall shrub with 8-10 angled, striated stems, yellow flowers, and inflated, densely white-hairy pods up to 1.5 inch long. French broom (*Genista monspessulana*) has stems without striations, silvery-hairy twigs, and pods less than 1 inch long which are not inflated.



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Puncturevine

(*Tribulus terrestris*)

Summer annual herb

EDRR!

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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Purple false brome

(Brachypodium distachyon)

Annual or perennial grass

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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Purple loosestrife

(Lythrum salicaria)

perennial herb

Habitat: Marshes, ponds, streambanks.

Timing: Blooms June to September.

Description: Perennial herb up to 5 feet tall with gray-hairy, 4-angled stems; opposite, clasping leaves; tall spikes of purple flow-



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Purple starthistle

(*Centaurea calcitrapa*)

Annual or perennial herb

EDRR!

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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Rattlebox

(*Sesbania punicea*)

Perennial shrub

EDRR!

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”.

Rosy sandcrocus

(*Romulea rosea*)

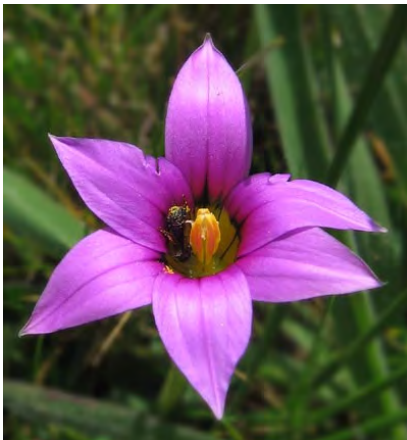
Perennial herb

EDRR!

Habitat: Disturbed areas, dry, sandy or often hard-packed soil, pasture.

Timing: Blooms March to April.

Description: Small bulb with narrow, up to 14 inch long, rounded or elliptic leaves in cross-section; small pink flowers with white throat and yellow anthers; fruits 0.6 inch long, reddish-brown capsules.



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Russian knapweed

(Rhaponticum [Acroptilon] repens)

Perennial herb

EDRR!

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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Russian thistle/tumbleweed

(Salsola tragus)

Annual herb

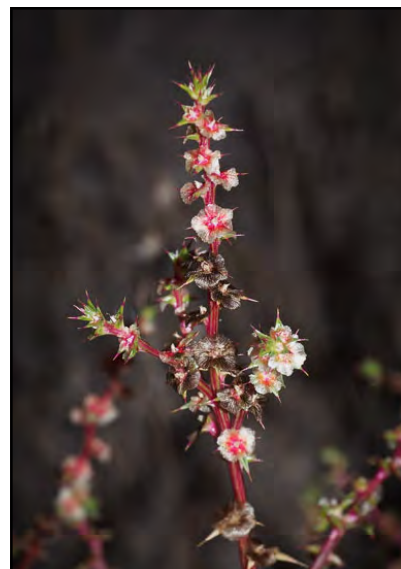
Habitat: Disturbed areas, grasslands, rangelands, particularly sandy soils.

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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Salt cedar (*Tamarix parviflora* and *T. ramosissima*)

Tree, shrub

EDRR!

Region Dependent

Habitat: Washes, streambanks, slopes, roadsides, salty areas.

Timing: Blooms April to August.

Description: Shrub or tree up to 26 feet tall with tiny leaves and pink flowers; *T. parviflora* has flower parts in 4s, *T. ramosissima* in 5s; leaves may be encrusted with salt.



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Saltmeadow rush

(*Juncus gerardii*)

Perennial herb

EDRR!

Habitat: Wetlands, tidal marsh.

Timing: Flowering and fruiting late spring to summer.

Description: Perennial up to 3 feet tall with long creeping rhizomes; brown flowers with black stripes and chestnut-brown, egg-shaped fruits. Plants rhizomatous, leaves basal and cauline, leaf sheaths not swollen.



USDA-NRCS PLANTS Database /
Britton, N.L., and A. Brown. 1913



©2013 Matti Vertala

Shining geranium

(*Geranium lucidum*)

Annual or biennial herb

EDRR!

Habitat: Roadsides and other disturbed areas.

Timing: Blooms in May.

Description: Low-growing annual up to 1.5 feet tall with shiny, rounded, lobed leaves; small purple flowers; sepals awned with transverse flaps between lengthwise keels.



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Skeleton weed

(*Chondrilla juncea*)

Perennial herb

EDRR!

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 1cm long and topped with a white pappus.



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Slender false brome

(Brachypodium sylvaticum)

Perennial grass

EDRR!

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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Small leaf spiderwort

(Tradescantia fluminensis)

Perennial herb

EDRR!

Habitat: Shaded woodland, streambanks.

Timing: Blooms April to July.

Description: Trailing herb with hairless, 1.2 inch long alternate leaves; 3-petaled, white or purple flowers with 6 stamens and



© 2018 Amy Rapport



© 2018 Brian Charles



© 2016 Rachel Kesel

Spanish broom

(*Spartium junceum*)

Shrub

EDRR!

Habitat: Disturbed areas, forest, scrub, chaparral, riparian.

Timing: Blooms April to June.

Description: Tall shrub up to 10 feet tall with rounded, rush-like green stems; fragrant yellow 2-lipped flowers; green, slightly hairy, pea-pod like fruits up to 4 inches long.



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Stinknet

(Oncosiphon pilulifer)

EDRR!

Annual herb

Habitat: Disturbed sites; coastal scrub, chaparral.

Timing: Blooms March to July.

Description: Aromatic plant with yellow globe-like flowers and small, alternate, dissected leaves dotted with glands; up to 2.3 feet tall.



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© 2020 Hailey Laskey



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Stinkwort

(*Dittrichia graveolens*)

Fall-flowering annual herb

EDRR!

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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Stipoid ricegrass

(*Stipa chaetophora*)

Perennial grass

EDRR!

Habitat: Marshy, moist habitats to dry roadsides and alkaline soil conditions. Meadows, open woodland, disturbed areas.

Timing: Blooms May to June.

Description: Perennial grass with stems up to 2 feet tall; inflorescence up to 6 inches with dense flowers with dark brown to black shiny lemmas with bent awns, held closely to the inflorescence stalks.



© 2013 Vernon Smith

Tall wheat grass

(Elymus ponticus)

Perennial bunchgrass

EDRR!

Habitat: Marshy, moist habitats to dry roadsides and 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

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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Teasel

(Dipsacus fullonum)

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, 1.5-4 inches long, and spikey. Mature plants up to 6 feet tall.



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Thoroughwort

(*Ageratina adenophora*)

Perennial herb

EDRR!

Habitat: Disturbed places, streambanks, canyons, hillslopes.

Timing: Blooms April to August.

Description: Perennial subshrub with woody base; purple, glandular-hairy stem up to 5 feet tall; opposite triangular leaves with purple under-sides; white or pink-tinged daisy-like flowers in large clusters; reproduces with asexual seed.



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Treasureflower

(*Gazania linearis*)

Perennial herb

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

Timing: Blooms all year.

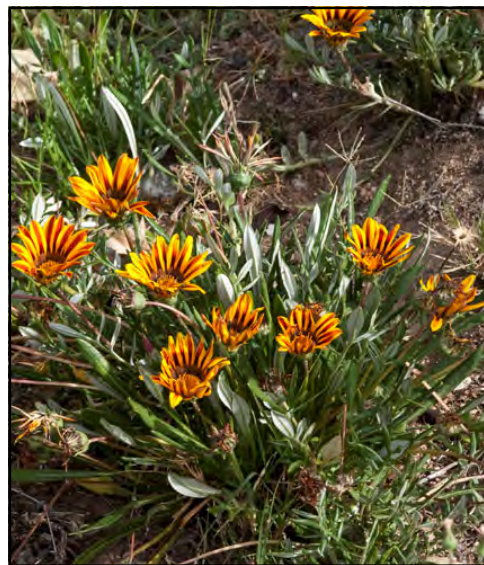
Description: Clumping herb. Leaves are long, oval shaped, dull green in color, and has woolly undersides. Leaves form basal rosettes at the ground around the branching stem. Member of the daisy family. Flower heads are bright yellow to orange and up to 3 inches across. Center is dark red and has an outer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



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Tree-of-heaven

(*Ailanthus altissima*)

Deciduous tree

EDRR!

Region Dependent

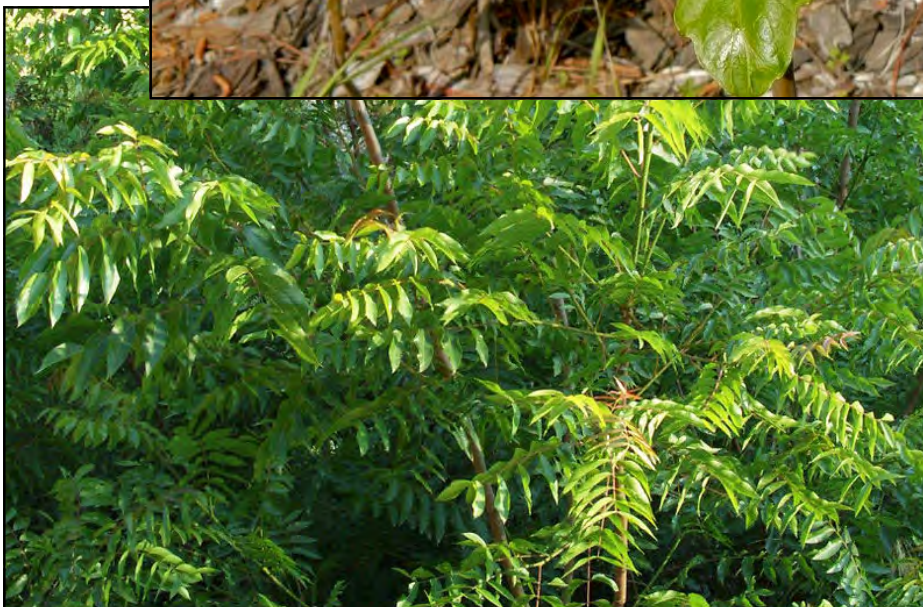
Habitat: Can grow in most environments, often found around old homesteads, riparian areas.

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.



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Velvet grass

(Holcus lanatus)

Perennial grass

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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Wallaby grass

(*Rytidosperma* spp.)

Perennial grass

EDRR!

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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Water hyacinth

(Eichhornia crassipes)

Floating aquatic

Habitat: Ponds, sloughs, channels, canals, streams, rivers, lakes.

Timing: Active growth spring to late fall; flowers June to October.

Description: Free-floating aquatic with distinctive white, 6-petaled flowers with purple and yellow upper petal; ovate leaf blade with inflated petiole; dense root mass with long white root-hairs.



Michael Kwong, DBW



©Ron Vanderhoff

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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White horsenettle

(Solanum elaeagnifolium)

Perennial herb

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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Distaff thistle, wooly & smooth (*Carthamus lanatus, creticus*)

Annual herb

EDRR!

Habitat: Disturbed ground, grassland, oak woodland.

Timing: Blooms May to September.

Description: Tall, spiny thistle with glandular, woolly, straw-colored stems; up to 3 feet tall; deeply lobed, spiny leaves; yellow flowers surrounded by spreading, 2 inch long spiny bracts; brown seeds.



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Yellow glandweed

(*Parentucellia viscosa*)

Annual herb

EDRR!

Habitat: Grassland, pasture, damp, grassy places

Timing: Blooms May to July

Description: Yellow-flowered annual up to 1.6 feet tall with sticky-hairy, 1.6 inch long, opposite leaves; flowers with 1 upper and 3 lower lobes in dense spikes.



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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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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 a 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)
- Calflora 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.

Percent cover diagram for cover estimates while mapping.

