

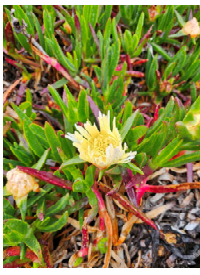
A photograph of a plant with several bright yellow flowers and green leaves. The background is a soft-focus view of many thin, vertical branches, likely from the same plant, creating a dense, textured backdrop. The overall lighting is natural and slightly diffused.

**Invasive Plants
of
Del Norte County**

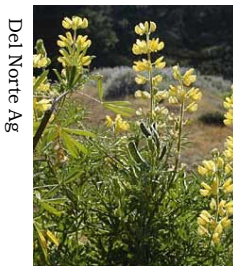


Mike Richter

European Bunch Grass

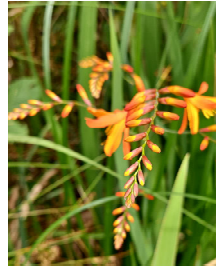


Iceplant



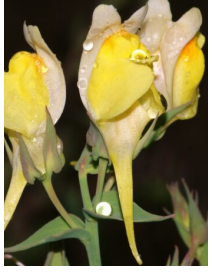
Del Norte Ag

Yellow Bush Lupin



Will Elder, NPS

Crocosmia



Bob Case

Dalmatian Toadflax



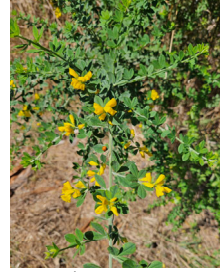
Joseph DiTomaso

Fennel



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Foxglove



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French Broom



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Gorse



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Himalayan Blackberry



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Jubata Grass



Joseph DiTomaso

Pampas Grass



Bob Sweatt

Rush Skeletonweed



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Scotch Broom



Dr. Amadej Timkoczy

Shiny Geranium



Del Norte Ag

Spanish Heath



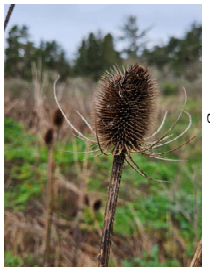
Bob Case

Spurge



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Tansy Ragwort



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Teasel



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Bull Thistle

Table of Contents

Introduction	5
What are Invasive Weeds.....	5
Knowledge is Power.....	5
Get Involved.....	5
Plants that Invade Coastal Sand Dunes	6
European Bunchgrass.....	6
Iceplant.....	6
Yellow Bush Lupine.....	6
Plants that Invade Grasslands, Fields, and Roadsides	7
Crocoshmia.....	7
Dalmatian Toadflax.....	7
Fennel.....	8
Foxglove.....	8
Frenchbroom.....	9
Gorse.....	9
Himalayan Blackberry.....	10
Jubata Grass and Pampas Grass.....	10
Spanish Heath.....	11
Rush Skeleton Weed.....	11
Scotch Broom.....	12
Shiny Geranium.....	13
Spurge.....	13
Tansy Ragwort.....	14
Teasel.....	14
Bull Thistle.....	15
Canada Thistle.....	15
Milk Thistle.....	16
Italian Thistle.....	16
Knapweeds.....	17
Yellow Star Thistle.....	18

Plants that Invade Forest Habitat	19
Acacia.....	19
Butterfly Bush.....	19
Cape Ivy.....	20
Cotoneaster.....	20
Darwin Barberry.....	21
English Holly.....	21
English Ivy.....	22
Three Cornered Onion.....	22
Tree of Heaven.....	23
Plants that Invade Wetlands and Riparian Habitats	24
Knotweeds.....	24
Giant Reed.....	25
Parrotfeather.....	25
Periwinkle.....	25
Poison Hemlock.....	26
Spartina.....	26
Sources.....	28

Del Norte County Invasive Plant Guide

Introduction

This brochure is intended to help people recognize and identify invasive weeds in Del Norte County. Concerned citizens can use this knowledge to help limit the spread of these problematic pests and even possibly eradicate species that are of limited distribution.

What Are Invasive Weeds?

Invasive weeds are non-native plants that proliferate rapidly and out-compete native species for nutrients, water, and sunlight. Their effects on agriculture and the greater environment can be highly detrimental as they disrupt ecosystems by contributing to the decline of native plants, alter food webs, restrict movement of wildlife by forming dense thickets, clog waterways, change soil composition, contribute to the risk of wildland fires through prolific growth of particularly flammable species, and encroach on agricultural and pasture lands. Some of these plants, such as Tansy Ragwort, are toxic to people and livestock. It is estimated that the annual cost to US agriculture and our environment is in the billions of dollars.

Knowledge is Power

In addition to this brochure, there are many online resources for learning to identify invasives and where they grow. Some of our favorites are Calflora.org, Cal-IPC.org, and Invasive.org.

Get Involved

There are many ways to take action against these pests: controlling and removing weeds on your own property, joining a local concerned citizens group, participating in community-based weed pulling events, or even starting a weed pulling event of your own! And don't forget, please report highly concerning species concern to your local Ag Department.

Plants that Invade Coastal Sand Dunes:

European Beachgrass

Ammophila arenaria (Grass Family)

European Beachgrass grows along coastal sand dunes. It is a perennial grass, growing in clumps 1 to 4 feet tall with stiff, narrow, rolled leaves that turn brown in the fall. Conversely, the native dune grass *Leymus mollis* has broad, flat, blue-green leaves.

The European beachgrass is responsible for nearly wiping out native dune plant communities along the west coast. It was introduced to stabilize dunes and prevent sand from blowing. It creates a steepened fore-dune and cuts off sand flow, starving native plants that need moving sand to thrive. Dig out the roots about three feet deep, and use a rake to thoroughly remove rhizome fragments. Remove new re-sprouts every few weeks spring through fall.

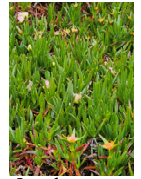


European
Bunchgrass
Photo: Mike
Richter

Iceplant

Carpobrotus edulis (Fig-Marigold Family)

Iceplant inhabits coastal dunes, bluffs, prairies, beaches, and sandy areas. The Iceplant has succulent leaves 2 to 4 inches long, mostly opposite, and triangular shaped. They have yellow or pink flowers 3 to 4 inches wide, with numerous, narrow petals.



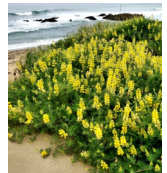
Iceplant

Iceplant forms dense mats and reduces soil pH. It causes organic matter to increase, causing the soil to become unsuitable for native plants. Iceplant fruit is eaten by wildlife that spread the seeds. Iceplant can be rolled up like a mat to remove; use a rake to remove as much root matter as you can. It will be necessary to follow-up to remove new growth.

Yellow Bush Lupine

Lupinus arboreus (Legume Family)

Yellow bush lupine is found in sandy areas, usually near the coast. It is an evergreen shrub and grows 4 to 6 feet tall. Yellow pea-shaped flowers grow in spikes at the ends of the stems. The leaves are green, palmate-shaped with 5 to 12 leaflets.



Yellow Bush
Lupine Photo:
Patrick Furtado

Yellow bush lupine causes dune stabilization and increases nitrogen levels in soils allowing other non-natives to become established and outcompete natives. Yellow bush lupine also is believed to be hybridizing with native lupines. Remove small seedlings before mature plants go to seed. For larger plants cut at the base and split the trunk to discourage re-sprouting. Seeds remain viable in the soil for many years, and seedlings will need to be removed yearly.

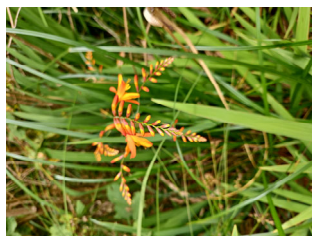
Plants that Invade Grasslands, Fields, and Roadsides:

Crocosmia (aka Montbretia)

Crocosmia x crocosmilifora (Iris Family)

Crocosmia is found throughout Del Norte County. It is a perennial that grows from corms up to two feet tall. It has sword-shaped, alternating leaves with parallel veins. The flowers are bright red-orange inflorescences of 4 to 20 alternating flowers.

Crocosmia is a superior competitor for resources and creates dense patches crowding out native plants. It reproduces by seed and underground corms allowing it to spread quickly forming a dense deep mat. Dig out the corms and roots to about one foot deep; use a rake to thoroughly remove corm fragments. Chemical control may be necessary for large infestations.



Crocosmia



Dalmatian Toadflax

Photo: Joseph DiTomaso

Dalmatian Toadflax (Report new sightings by calling 707-464-0878)

Linaria dalmatICA ssp. (Figwort Family)

Dalmatian toadflax is found in open fields, pastures, rangeland, disturbed areas, roadsides, and agricultural lands. It is approximately 3 feet tall. It is an erect, multi-stemmed perennial herb. The leaves are alternate, bluish-green, waxy, heart-shaped, approximately 1/2 to 2 inches long, and attached at the base. The flowers are bright yellow, 1 to 2 inches long, five-lobed, with orange or white fuzz on the lower two lobes, and a 1/3 to 3/4 inches long, straight downward pointed spur on the back of the flower resembling a snapdragon.

Dalmatian toadflax forms dense colonies from seeds and creeping roots. This displaces native grasses and perennials, and food and habitat for wildlife and livestock. Remove by pulling young plants making sure to get the roots. If the plant is flowering, bag and remove flowers to prevent seed spread. Mowing or grazing will reduce seed production but will not eradicate the plant. For large populations, clean cultivation is recommended, which includes complete removal of vegetation and never allowing more than 7 to 10 days of growth for up to two years. Chemical control may be necessary.

Fennel

Foeniculum vulgare (Carrot Family)

Fennel is found in disturbed areas, coastal scrub, prairies, and along roadsides. Fennel is a perennial herb that grows upward, 2 to 10 feet tall. Fennel has a strong licorice scent. The leaves are feathery and carrot-like. The flowers are yellow in umbrella-like clusters.

Fennel is native to the Mediterranean but has widely become naturalized in many parts of the world. It prefers moist soil near the coast or river beds. It quickly outcompetes native plants for resources creating dense populations. Fennel plants propagate by seed and root. It also produces a large seed bank in the soil that requires ongoing removal. To remove, bag any flowering seed heads, and dig out the remaining plant and roots.



Fennel



Foxglove

Foxglove

Digitalis purpurea (Plantain Family)

Foxglove can be found growing in disturbed areas, especially after logging. It is a perennial herb that grows erect stems 1 to 5 feet tall when mature. Young plants grow leaves in a rosette. Leaves are oval-shaped, 4 to 12 inches long, and covered in soft hairs. Flowers grow 1 to 3 inches long nodding from the stem, they are bell-shaped, and are pink, lavender, or white with pink to purple spots inside. They are very pretty and hard to miss.

Foxglove has been planted widely as an ornamental. It escaped into the wild where it grows so densely it crowds out native species. Foxglove is toxic to both humans and animals and skin contact should be avoided. Fox glove should be hand-pulled before it goes to seed. Wear gloves as they can cause numbness in the hands.

French Broom

Genista monspessulana (Pea Family)

French broom is found throughout Del Norte County. It is a shrub that grows 6 to 10 feet tall. Leaves are alternate and compound with three oval-shaped leaflets. The flowers are yellow, shaped like pea flowers, and are usually in clusters at the end of branches. The stems are upright, leafy, and covered in silver hairs. The seeds grow in pods.

French broom spreads quickly and outcompetes native plants. It increases fire danger. A French broom plant can produce over 8,000 seeds a year. Plants can resprout from cut stumps. To remove plants use a weed wrench or cut, and dig out as much root as possible. Hand-pull young plants. The seed bank can remain viable for up to 30 years, and yearly management will be necessary.



French Broom



Gorse

Gorse (Report new sightings by calling 707-464-0878)

Ulex europaeus (Legume Family)

Gorse grows in disturbed sites, dunes, gravel bars, pastures, and logged areas. It is an evergreen shrub growing 6 to 10 feet tall. Similar to Scotch broom, gorse has yellow, pea-like flowers. Unlike broom species, gorse has long, sharp spines and forms impenetrable thickets.

Gorse aggressively displaces native plants, acidifies soils, and creates a fire hazard. It is best removed by its roots with a weed wrench, or it will re-sprout. Remove plants before they go to seed, as the seed bank can persist for many decades. Burning followed by goats grazing for 4 to 5 years has proven to be effective. Chemical treatment may be necessary.

Himalayan Blackberry

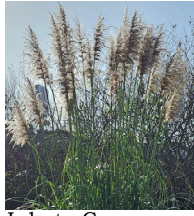
Rubus armeniacus (Rose Family)

Himalayan blackberry is widely distributed on disturbed sites, along roadsides, and streambanks. It is an evergreen, sprawling shrub, forming dense mounds. It is distinguished from native blackberries by its stout arching stems, broad-based spines, and larger blackberries. Native blackberry has three leaflets with slightly paler, green undersides and slender trailing stems with small, numerous thorns, whereas Himalayan blackberry has three and often five leaflets with greyish-green undersides, squarish-ribbed canes, and fewer, heavier, recurved thorns.

Despite its tasty berries, Himalayan blackberry poses a threat to the environment by creating dense thickets that shade out native plants and reduce the forage value of pastures. To remove thoroughly grub the root-stock out. Himalayan blackberries will re-sprout from any remaining roots and regenerate from seed, so infested sites need persistent treatment. Repeated mowing can be an effective control method. Grazing by goats has been used with some success.



Himalayan Blackberry



Jubata Grass



Pampas Grass Photo:
Joseph DiTimaso

Jubata Grass and Pampas Grass

Cortaderia jubata and *C. selloana* (Grass Family)

These grasses grow on disturbed sites near the coast, logged forestland, and coastal dunes. They are perennial, growing 6 - 15 feet tall. Jubata grass is often confused with Pampas grass. Jubata Grass has flowering stems twice as long as the leaves with pink to violet plumes. Pampas grass has stems about the same length as the leaves, with light-violet to white plumes. Leaves are flat and folded, with sharply serrated margins. They have shallow, fleshy, mop-string-like roots. All jubata grass plants are female; however, each plant can produce prolific viable seeds without pollination, making this species highly invasive. True Pampas grass needs to have both male and female plants present to successfully reproduce.

Cortaderia plants can completely smother small, native annuals and perennials. Remove and place any seed plumes in a sealed plastic bag for disposal. Stems can be chopped down with a Pulaski or an axe, while the root ball must be dug out using a combination of chopping and digging, or you can cover the root ball with black plastic until it dies. Seeds do not persist long in the soil. Burning is not very effective. Chemical treatment may be necessary.

Rush Skeletonweed (Report new sightings by calling 707-464-0878)

Chondrilla juncea (Sunflower Family)

Skeletonweed grows in disturbed areas, agricultural fields, pastures, rangeland, and forestland. It is a perennial growing from 1 to 4 feet tall with a long, slender, seven-foot-deep taproot. Plants begin and winter as a basal rosette of leaves, resembling a common dandelion. They produce bright yellow flowers in spring. Stems are highly branched and have a few narrow, linear leaves with brown, downward-pointing hairs at their base.

Skeletonweed is spread by seed as well as shoot buds along lateral roots and near the top of the main root. Root fragments approximately 1/4 to 1/2 inches in length can produce new plants even when buried three feet deep. Rangeland infestations displace native and beneficial forage species grazed by livestock and wildlife. Hand-pulling can be effective for small infestations but areas must be controlled 2 to 3 times per year for 6 to 10 years to remove seedlings and re-sprouting roots. Removal of deep tap roots is easiest when soils are damp. Planting competitive plants can be helpful and chemical control may be necessary.



Rush Skeletonweed Photo: Joseph DiTomaso

Scotch Broom

Cytisus scoparius (Pea Family)

Scotch broom is found throughout Del Norte County, especially along roadsides, agricultural fields, grasslands, and any disturbed area. It prefers full sun. Scotch broom is a shrub that grows 3 to 10 feet tall. The branches are green and angled upward with five ridges. The sparse leaves are small, oblong, pointed on both ends and compound in sets of three. The pea-shaped flowers are bright yellow or yellow-red. The seeds grow in pods.

Scotch broom is a prolific seed producer and colonizes anywhere it can get established. It increases fire danger and the seeds are toxic to livestock. The seeds can remain viable for 30 years, retreatment is a must for the foreseeable future. The best way to remove them is with a weed wrench, large plants can be cut but roots will need to be dug up as the broom will sprout from the stumps. Young plants can be hand-pulled.



Scotch Broom



Shiny Geranium Photo:
Dr. Amadej Timkoczy

Shiny Geranium (Report new sightings by calling 707-464-0878)

Geranium lucidum (Geranium Family)

Shiny geranium grows on roadsides, grasslands, woodland understories, and urban areas. A low-growing annual forb or winter annual with leaves approximately 1 1/2 inches wide, shiny, waxy, and round to kidney-shaped with 5 to 7 lobes. Stems are often reddish, up to 20 inches tall with small, pink, 5-petaled flowers.

Shiny Geranium is a threat to native understory habitats. High seed production and fall emergence enable the plant to become a dense carpet before later emerging native herbaceous plants have a chance to grow. Hand pulling can provide control, but treating every plant is essential to reducing the potential future population. Regardless of the control method used, all plants must be killed before or when flowers first bloom, and multiple treatments are required per year. There are multiple generations per year.

Spanish Heath (Report new sightings by calling 707-464-0878)

Erica lusitanica (Heath Family)

Spanish heath grows in disturbed open sites near the coast, especially on sandy soils, and along roadsides. It is an evergreen, erect shrub, 3 to 8 feet tall. Spanish heath has leathery, needle-like leaves less than one inch long. It has white to pink flowers with four petals often growing in clusters.

The Spanish heath plant alters soil pH, making it difficult for native plants to survive. It can dominate the shrub layer, forming dense thickets with virtually no understory. A single plant may produce more than 100,000 seeds per year. Younger plants may be easily hand-pulled or uprooted with a weed puller. For larger plants, chop down the shrub and grub out the roots or they will re-sprout. Regeneration from the seed bank will also require follow-up treatment.



Spanish Heath



Oblong Spurge Photo: Bob Case

Spurge (Leafy and Oblong)

Euphorbia esula and *E. oblongata* (Spurge Family)

Spurge grows in disturbed areas, roadsides, fields, and forests. They are erect perennials growing up to 3 feet tall. They have milky white sap, with smooth elliptical to oblong leaves. Leafy spurge forms an extensive system of creeping roots and oblong spurge forms a vertical tap root. Spurges form umbel-like flower clusters in the summer. The flowers have yellow-green bracts with three-chambered seed capsules that project seeds several feet away from the parent plant.

The milky sap of the spurge plant is toxic to humans and animals. Spurge forms dense patches that displace native plants. Mechanical removal before seeding works for small populations but must be repeated multiple times a year. Goats are good methods of control. Chemical control may be necessary.

Tansy Ragwort

Jacobaea vulgaris (Sunflower Family)

Tansy grows on disturbed sites, roadsides, pastures, fields, rangeland, and forestland. A noxious, cool-season annual, biennial, or perennial, tansy grows to approximately 4 feet tall. It has erect single or branched stems near the top. Leaves are deeply dissected. The flowers are yellow and clustered at the stem tips.

The tansy plant contains alkaloids that are toxic to humans and livestock and cause liver damage when ingested. Cattle, horses, goats, and young animals are susceptible, while sheep are more tolerant. Populations have been reduced significantly since the introduction of natural predators including the cinnabar moth and tansy flea beetle. Plants can be hand-pulled. Mowing can enhance survival by stimulating vegetative growth. Managing pastures to maintain continuous vegetative cover can decrease the survival of tansy seedlings.



Tansy Ragwort



Teasel

Teasel

Dipsacus fullonum (Teasel Family)

Teasel can be found in coastal prairies, grasslands, moist sites, and disturbed areas. Teasel is a biannual herb with erect stems that grow 3 to 6 feet tall. The stems are topped with cone-shaped, spiny flower heads. Tiny purple flowers will grow in rings around the flower head. Long leaf-like bracts with spiny edges form at the base of the flower head. The leaves are lance-shaped, clasping the stem opposite each other.

Teasel is used to process wool and used in floral arrangements. It was likely introduced in California through crop-seed contamination. Teasel will invade disturbed sites, preferring moist areas and streambanks. Before it goes to seed, pull the whole plant up by the roots. Repeated cutting will exhaust the root reserve, eventually killing the plant.

Bull Thistle

Cirsium vulgare (Sunflower Family)

Bull thistle grows in disturbed sites, logged areas, riparian habitats, and rangeland. It is a biennial, herbaceous plant, growing 2 to 7 feet tall. It grows upright, multi-branched, with spiny, spreading stems. The leaves are deeply lobed, hairy, and have spines. The flower heads are pink-magenta to purple with gumdrop-shaped bases that are covered with spines.

Bull thistle plants can form dense thickets, displacing other vegetation. The spiny nature of the plant renders it unpalatable to wildlife and livestock and reduces the forage potential of pastures. Bull thistle can be dug up with a shovel. Usually removing the top couple of inches of root is sufficient to kill the plant, especially after it has produced stems. Flowering stems should be collected and destroyed to keep them from forming viable seeds. Chemical control is effective.



Bull Thistle Photo: Joseph DiTomaso



Canada Thistle Photo: Joseph DiTomaso

Canada Thistle

Cirsium arvense (Sunflower Family)

Canada thistle grows in open disturbed sites, roadsides, pastures, and agricultural fields. A multi-stemmed perennial, growing 1 to 5 feet tall with extensive creeping roots, its stems are slender, smooth to slightly hairy. Leaves are lobed, toothed, and prickly. Flowers are pink to purplish, 1/2 to 1 inch wide, bristly, and lack prickles.

Canada Thistle is a serious agricultural pest, lowering the forage value of pasture and rangelands and competing with crops for nutrients and water. Dense thistles can also limit access to recreational areas and invade wildlands. Canada thistle can reproduce from tiny root fragments and seeds. Repeated mowing during the growing season can drain the plants' reserves and eventually kill the plants. Chemical may be necessary.

Milk Thistle

Silybum marianum (Sunflower Family)

Milk thistle is found in disturbed areas, pastures, roadsides, and ditches. Milk thistle is a biennial herb, that grows 1 to 7 feet tall. In its first year of growth, it forms a rosette, in the second year it forms the flower stalks. The leaves are oblong to lanceolate-shaped, 5 to 24 inches long, shiny green with white variegation, hairless, with spiny edges. The flowers are pink to purple on long stalks with bristly bracts.

Milk thistle is an agricultural pest. It outcompetes native plants for resources and creates dense areas of impenetrable thistles. Milk thistle is toxic to cattle and sheep. Milk thistle can be controlled by cultivation by mowing before flowers open. Clip and securely dispose of flowering seed heads. Hand-pull or dig up plants.



Milk Thistle



Italian Thistle Photo: Bob Case

Italian Thistle

Carduus pynoccephalus (Sunflower Family)

Italian thistle is found in disturbed areas, pastures, roadsides, and agricultural fields. Italian thistle is an erect-formed winter annual growing up to seven feet tall. Stems are hairless to slightly woolly, winged, and have spines. Leaves are lobed, prickly, with pale veins. The flowers grow in clusters of 1 to 5 per stalk. They are hairy with bracts at the base. The flowers are pink to purple and about a half-inch long.

Italian thistle grows densely, crowding out native vegetation. Its spiny leaves and stems make it undesirable as forage and prevent animals from being able to forage near it. It increases wildfire hazards. Remove plants when young, cutting plants with a sharp tool 2 to 4 inches below the ground. Mowing before flowering will help reduce seed production.

Spotted, Diffuse, and Meadow Knapweed (Report new sightings by calling 707-464-0878)

Centaurea maculosa, *C. diffusa*, and *C. debeauxii* (Sunflower Family)
Knapweeds grow in open disturbed sites, roadsides, meadows, and agricultural fields. Knapweeds are herbs that grow 3 to 4 feet tall. Spotted knapweed has divided leaves and pink to purple flowers, with black tips on the bud bracts, and lacks a vertical spine (diagnostic feature). Diffuse knapweed produces many-branched stems with lobed leaves and white to purple flowers; flower bracts have 4 to 5 pairs of horizontal spines and one long vertical spine. Meadow knapweed is bushy, with simple leaves and slightly larger, bright pink to purple flowers with fringed bracts that lack a vertical spine.

Knapweeds severely decrease forage quality for livestock and wildlife on grazing lands. Hand-pull small plants, and grub out deep roots. Hand-pulling will have to be repeated 2 to 4 times a year for several years.



Spotted Knapweed Photo: Bob Case



Diffuse Knapweed Photo:
Joseph DiTomaso



Meadow Knapweed Photo:
Joseph DiTomaso

Yellow Star Thistle (Report new sightings by calling 707-464-0878)

Centaurea solstitialis (Sunflower Family)

Yellow star thistle grows in open disturbed sites and is more prevalent inland on dry soils. It is a very prickly annual herb, growing 1 to 3 feet tall, with gray to blue-green stems, with deeply-lobed, white-wooly leaves. It has solitary yellow flowers at the end of the branches with stiff, lateral inch-long spines.

The yellow star thistle plant has devastated many acres of land in interior regions of California, forming impenetrable stands and displacing desirable vegetation. It reduces the forage value of rangeland and contains toxins that are poisonous to horses, causing chewing disease. Yellow star thistle reproduces by seed and production is prolific. The seeds can persist in the soil for up to 10 years. It is best to treat new infestations early when manual pulling is still effective. Established populations are problematic to control, and generally, a combination of methods is best, which could include burning, chemical control, and manual or mechanical removal.



Yellow Star Thistle Photo: Neal Kramer

Plants that Invade Forest Habitats:

Acacia

Acacia dealbata (Pea Family)

Acacia can be found in disturbed areas, forests, old homesteads, and roadsides. Acacias are fast-growing evergreen trees that can grow up to 90 feet tall. The leaves are bipinnately compound with grayish-green foliage. The flowers grow in clusters of mini yellow Pompoms. The fruit grows in a pod.

Acacia plants are nitrogen fixers and alter the soil so that native plants are unable to grow. Acacias have an aggressive root system and high seed production that allows them to invade areas and crowd out native plants. Their pollen is a strong allergen. To remove pull small plants with a weed puller. Chemical control may be necessary for larger trees.



Acacia Photo: Joseph DiTomaso



Butterfly Bush Photo: Ron Vanderhoff

Butterfly Bush

Buddleja davidii (Buddleja Family)

The butterfly bush can be found in open disturbed sites, woodlands, and streambanks. It can grow up to 15 feet tall. The long branches arch over from the weight of the showy flower spike on the tip. The leaves are lance or egg-shaped, up to 10 inches long. They are green to bluish-green on top and whitish and fuzzy below. The flowers have four petals and are commonly purple with an orange center. There are varieties with pink, orange, or white flowers. They have a nice fragrance when blooming.

The butterfly bush produces copious amounts of winged seeds. One cultivar can produce over 40,000 seeds per flower head. These seeds are dispersed by wind, water, animals, clothing, and vehicles. They have a high rate of germination allowing them to move into an area and out-compete native plants. To control, remove the entire plant, cut large plants, and cover the area with black plastic. Buddleja can resprout from stems and root materials.

Cape Ivy

Delairea odorata (Sunflower Family)

Cape Ivy can be found in coastal forests, streambanks, and shady areas. It is a perennial vine and grows up to 30 feet long. It has waxy ivy-like leaves with 5 to 9 lobes and sharp points. The stems are light green with some purple areas. The flowers are yellow and bloom in the winter.

Cape Ivy vines grow over other trees and shrubs smothering out native plants. It reproduces from rhizomes, stems, plant fragments, and in some areas by seed. It contains liver toxins and can be toxic to animals and fish. To remove, cover the area with dense black plastic, or dig up removing as much plant matter as possible.



Cape Ivy



Orange Cotoneaster

Cotoneaster (Orange and Silverleaf)

Cotoneaster franchetii and *C. pannosus* (Rose Family)

Cotoneaster is found all over Del Norte County. Cotoneaster is an ever-green shrub that grows 4 to 10 feet tall. Orange cotoneaster has pink rose-like flowers and orange fruits. They have gray-green leaves with felty hair below. Silverleaf cotoneaster has white rose-like flowers and red berries. The leaves are dull grey-green and felty silver underneath.

Cotoneaster seeds are widely distributed by the birds that eat its fruit. Cotoneasters also reproduce from suckers when their canopies are damaged. This allows them to spread quickly crowding out native plants. To control cotoneaster, remove the plant and as much of the roots as possible. Plant removal should be done before the berries form. Continual treatment will be required.

Darwin Barberry (Report new sightings by calling 707-464-0878)

Berberis darwinii (Barberry Family)

Darwin barberry can be found in forests and woodlands. It is a broad-leaf evergreen shrub with yellow-orange flowers, small spiny leaves, and spines on the stem. It produces small dark purple to black berries.

Darwin barberry spreads by underground runners or by animals that eat the fruit. It forms dense, impenetrable thickets that can exclude native plant species and block the movement of animals and livestock. Seed production is prolific and seeds are dispersed long distances by birds. To remove, grub out small plants and leave them on-site to decay. Chemical control may be necessary.



Darwin Barberry



English Holly

English Holly

Ilex aquifolium (Holly Family)

English holly is found throughout Del Norte County's forests. English holly is an evergreen shrub or tree that grows up to 40 feet tall. Holly leaves are dark green, and shiny, with spiny tipped lobes. Female plants have white to pale green flowers with four petals and grow bright red berries that birds love to eat. The male plants have round, white to pale green flowers with four anthers in the center.

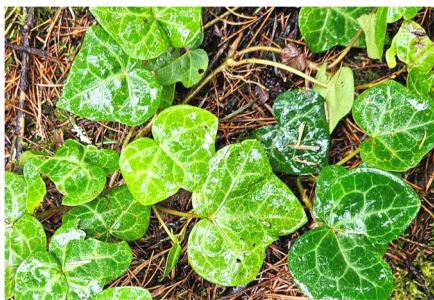
English holly will move into healthy forests and establish themselves. They spread rapidly displacing native plants. Remove plants and roots of smaller shrubs before they produce seeds. Chemical treatment may be needed for larger trees.

English Ivy

Hedera helix (Ginseng Family)

English ivy grows in forests and streambanks. It is an evergreen perennial vine. Vines can grow up to 99 feet and younger vines can anchor to vertical surfaces. Young leaves are triangular with 3 to 5 lobes. Mature plants have round or egg-shaped leaves, usually lacking lobes, and produce clusters of small white flowers and dark blue to black berry-like fruit.

English ivy smothers plants, it climbs and damages structures and trees. It also adds weight to trees causing them to topple. English ivy can kill alders, spruce, and redwoods. Ivy will reproduce from stems and seeds. To remove, pull as much of the vines and remove as much roots as possible. To treat tree infestations, cut a foot-wide section of ivy around the tree near the base, being careful not to damage the tree. The ivy in the tree will die and be easier to remove later.



English Ivy



Three-Cornered Garlic

Three-Cornered Garlic or Onion

Allium triquetrum (Onion Family)

Three-cornered garlic can be found in moist, shaded areas in forests, meadows, and streambanks. It is a perennial herb that grows from bulbs, 1 to 2 feet tall, with grass-like leaves and white drooping flowers. Flowering stems are sharply three-cornered and topped with groups of 3 to 15 bell-shaped flowers. Plants have a strong onion/garlic odor when crushed.

Three-cornered garlic reproduces from seed and bulb, helping it spread quickly, forming dense populations, and crowding out native plants. It is toxic to dogs and cats when ingested. To remove dig up as many bulbs as you can. Chemical control may be necessary. Repeat treatment for several years.

Tree of Heaven (Report new sightings by calling 707-464-0878)

Ailanthus altissima (Quassia Family)

Tree of heaven can be found in disturbed areas, roadsides, and home-steads. It is a deciduous tree that grows 30 to 70 feet tall. It has large pinnately compound leaves up to three feet long that resemble sumac. The flowers are greenish-colored and grow in clusters. Tree of Heaven is a prolific seed producer, the seeds are wind-dispersed winged samara.

The tree of heaven spreads rapidly by seed, sprouts from roots and stumps, it can even root from cut branches when left on moist ground. The tree of heaven releases a chemical that inhibits seed germination and growth in other plants. The tree is also tolerant to drought and pol-lutants. Remove tree of heaven when it is young and you can remove the whole plant. Older trees will produce suckers from roots and cut stumps. Repeated treatments with the use of chemicals may be neces-sary.



Tree of Heaven



Tree of Heaven

Plants that Invade Wetland and Riparian Habitats:

Japanese, Giant, and Himalayan Knotweed

(Report new sightings by calling 707-464-0878)

Fallopia japonica, *F. sachalinensis* and *Persicaria wallichii* (Buckwheat Family)

NOTE: CONTROLLING THIS PLANT BY MANUAL REMOVAL CAN INADVERTENTLY CAUSE THE WEED TO SPREAD AS IT CAN PROPAGATE FROM VERY SMALL STEM AND RHIZOME FRAGMENTS. PLEASE EXERCISE EXTREME CAUTION WHEN ATTEMPTING MANUAL REMOVAL.

Knotweeds are found in grasslands, meadows, riparian areas, stream-banks, freshwater wetlands, and moist roadsides. They are perennial herbs with large, alternate leaves set on hollow, zig-zagging stems, and grow in height of approximately 6 to 16 feet with stalks of small pale flowers. They have long creeping rhizomatous roots that grow 6 to 9 feet deep and 15 to 20 feet in length.

Knotweeds suppress native plants with thick uniform growth; fragments can grow into new plants. Very young infestations may be controlled manually (remove ALL portions of the plant, especially the roots). In older or more dense infestations, chemical control may be necessary and must be repeated to keep plants from reemerging.



Japanese Knotweed Photo: CDFA



Giant Knotweed Photo: CDFA



Himalayan Knotweed Photo: Dean Kelch

Giant Reed (Report new sightings by calling 707-464-0878)

Arundo donax (Grass Family)

Giant reed grows in freshwater wetlands, riverbeds, ditches, and estuaries. It is a bamboo-like perennial, growing to 25 feet tall, has thick rhizomes, and broad, alternate, flat leaves 2 feet long by 2 inches wide. Flowers are purplish and panicle.



Giant Reed Photo:
Joseph DiTomaso

Giant reed plants displace natives, are fire-adapted, and large stands significantly increase water loss. Rhizomes must be completely killed to eradicate infestation; tarping may work if it extends past the length of any rhizome growth; chemical treatment may be necessary.

Parrotfeather (Report new sightings by calling 707-464-0878)

Myriophyllum aquaticum (Water Milfoil Family)

Parrotfeather is a perennial aquatic herb found in freshwater ponds, ditches, and slow-moving streams. It has emergent and submersed leaves. Long rhizomes and stems that intertwine to form dense mats. Stems can grow up to 16 feet long. Feather-like leaves form whorls around the stem. The emergent leaves are bright green and resemble little fir trees.



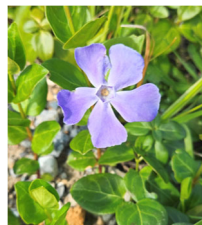
Parrotfeather

Parrotfeather was introduced as an aquatic ornamental. It spreads by vegetative propagation and forms dense mats that clog waterways, impede flows, and alter food webs. It creates the ideal habitat for mosquito larvae. Manually remove plants from waterways, and be sure not to let plant pieces fall into natural waterways.

Periwinkle

Vinca major (Dogbane Family)

Periwinkle is found on streambanks, forests, marshes, and old homesites. It is a spreading perennial vine or ground cover. It has dark green stems and dark green leaves in pairs. It grows bluish-purple flowers with five petals that resemble a windmill.



Periwinkle

Periwinkle was introduced as an ornamental. It spreads rapidly rooting at stem nodes as it grows. It also roots from stem fragments. The best removal is digging, be sure to get all the fragments or they will root. Covering small infestations with black plastic for 1 to 2 seasons is also recommended.

Poison Hemlock

Conium maculatum (Carrot Family)

Poison hemlock can be found on streambanks and disturbed sites, especially in moist or shady areas. It is a biennial herb that grows 2 to 10 feet tall. Poison hemlock has large triangular carrot-like leaves. The flowers are umbrella-shaped clusters of small white flowers. Purple blotches on the stem are a diagnostic feature.

Poison hemlock reproduces by seed and crowds out native plants. It is fatally toxic to humans, pets, livestock, and wildlife. Be extremely careful when weeding out this plant as it can poison humans via oral contact with a small amount of seed, leaves, or roots. Additionally, direct contact with the skin can cause dermatitis. Using gloves, pull up plants before they go to seed. Repeated mowing close to the ground will also work.



Poison Hemlock Photo: Neal Kramer



Spartina Photo: Joseph DiTomaso

Spartina or Cordgrass

Spartina densiflora (Grass Family)

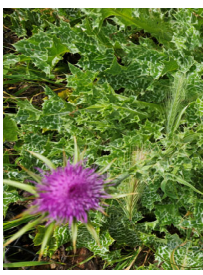
Spartina is found in coastal salt marsh areas. It is a perennial grass, 1 to 5 feet tall, growing from tufted clumps. The leaves are stiff, grayish in color, narrow, long, and in-rolled. The flower stalks grow in spikes that rise above the leaves.

Spartina alters the physical structure and biological composition of tidal marshes, and it is difficult to restore the native salt marsh communities without further intrusion of the weeds. Local researchers at the Humboldt Bay National Wildlife Refuge adopted an effective method of repeated, sub-surface root cutting using brush-cutters, and cutting or burning new seedlings. Seedlings can be pulled, making sure to remove the entire plant, chemical control may be necessary.



Canada Thistle

Joseph DiTomaso



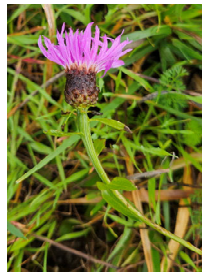
Milk Thistle

Del Norte Ag



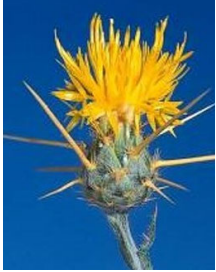
Italian Thistle

Bob Case



Meadow Knapweed

Del Norte Ag



Yellow Star Thistle

Bob Case



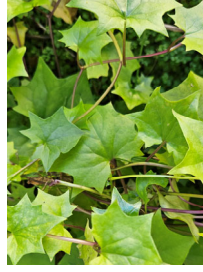
Acacia

Joseph DiTomaso



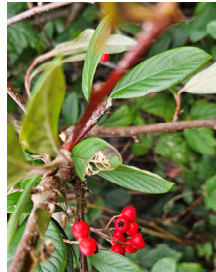
Butterfly Bush

Ron Vanderhoff



Cape Ivy

Del Norte Ag



Silverleaf Cotoneaster

Del Norte Ag



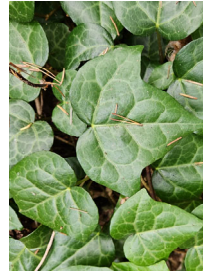
Darwin Barberry

Del Norte Ag



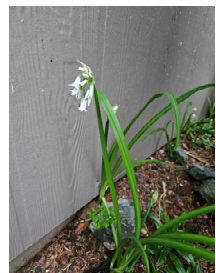
English Holly

Del Norte Ag



English Ivy

Del Norte Ag



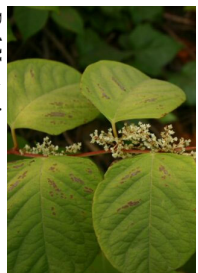
Three Cornered Garlic

Del Norte Ag



Tree of Heaven

Del Norte Ag



Japanese Knotweed

CDFG



Giant Reed

Joseph DiTomaso



Parrotfeather

Del Norte Ag



Periwinkle

Del Norte Ag



Poison Hemlock

Joseph DiTomaso



Spartina

Joseph DiTomaso

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<https://www.invasivespeciesinfo.gov/>

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Humboldt County Weed Management Area. 2010. **Invasive Weeds of Humboldt County: A Guide for Concerned Citizens (2nd Edition)**. Arcata, California

Plant Wrench Loan Program

The Department of Agriculture wants to help citizens and organizations with invasive plant removal by lending a highly effective tool at no cost. The Weed Wrench™ is used to remove invasive brooms and other woody species. Keep in mind that invasive plants disperse large amounts of seed and after removing weeds from an area, seedlings will need to be removed yearly to keep the weed infestation from returning. Wrenches are available to borrow at:

Del Norte County
Department of Agriculture
236 Williams Drive
Crescent City, CA 95531
(707) 464-0878

This booklet is produced by the Del Norte County Department of Agriculture