



SCOTCH BROOM / FRENCH BROOM
Cytisus scoparius / Genista monspessulana

Imported into California as ornamental shrubs, these escaped landscape plants become destructive pests along the Pacific Coast and in the Sierra foothills. Brooms rapidly colonize open and disturbed areas, and they invade undisturbed grassland and forest habitats. Brooms add nitrogen to the soil, causing changes that transform landscapes. The flowers and seeds of brooms are toxic or unpalatable to humans, livestock and native browsers. These species increase fire hazards, choke trails, and decrease visibility along roadways. Brooms typically have yellow, pea-like flowers although pink and peach varieties are commonly sold at nurseries.



MEDUSAHEAD
Taeniatherum caput-medusae

This highly competitive annual grass causes major economic damage for California ranchers and severely degrades grassland habitat. It has a high silica content and long, stiff awns, making it very unpalatable for cattle and native browsers. In some areas, it has been estimated that medusahead infestations have lowered the carrying capacity of the rangeland by close to 75%. This grass also decomposes very slowly, often forming dense mats that crowd out more desirable species. Medusahead matures later than most other annual grasses, and is easiest to spot during late spring or early summer.



OBLONG SPURGE
Euphorbia oblongata

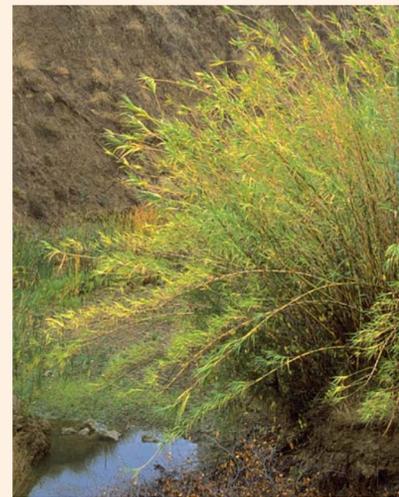


A close relative of leafy spurge, a species that has devastated rangelands across the western plain states, oblong spurge produces a white latex sap, which causes digestive problems for grazing animals as well as skin and eye irritation in humans. This conspicuous perennial plant grows up to three feet tall and has red stems, bright green, oblong leaves, and showy yellow bracts surrounding the small flowers. This species is still uncommon in Marin and Sonoma counties. Controlling small infestations now can stave off intractable problems in the future. Please contact your county Department of Agriculture if you have this species on your property.



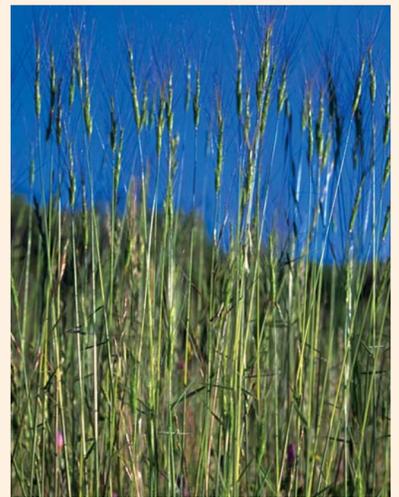
ITALIAN THISTLE
Carduus pycnocephalus

This annual thistle grows in dry, open areas such as pastures, rangelands, right-of-ways, and grasslands. On grazed lands, Italian thistle can reduce productivity by physically interfering with grazing and by displacing desired native and non-native grasses. In woodland settings, Italian thistle rapidly colonizes small disturbances such as gopher mounds, eventually developing in dense stands that can out-compete native plant species. Italian thistle is recognized by its leaves: woolly white below, hairless green above, and spines on each lobe. A *Rhinocyllus* weevil has been introduced as a bio-control agent, but it is not yet providing the desired level of control.



GIANT REED
Arundo donax

This perennial grass species has infested thousands of acres throughout California. Although it is primarily found in stream habitats, it can also be found in foggy, shaded upland sites. Root or stem fragments can be carried and re-rooted downstream. Therefore, it has overtaken many of California's river systems and flood control channels, forming enormous monocultures with virtually no food or habitat value for native wildlife. Giant reed also decreases water availability, and increases the likelihood of fire and flooding. Giant reed has 1-2 foot tall plume-like flower heads and alternating leaves that grow up to 3 feet long. It is commonly mistaken for bamboo as it forms robust clumps of canes, 10 to 30 feet tall.



BARBED GOATGRASS
Aegilops triuncialis

This annual grass has caused major economic and ecological damage in rangelands and grasslands in Northern California. The plant has low forage quality, and is avoided by cattle. Its long awns can injure livestock by lodging in their eyes or mouths. It is invading serpentine habitats, and is thus threatening many of our most endangered native plant species. Barbed goatgrass is most apparent in late spring or early summer. It matures a few weeks later than most other annual grasses causing it to stand out against surrounding vegetation. This species is not well-established in Marin and Sonoma counties. Controlling small infestations now is essential. Contact your county Department of Agriculture for plant identification and assistance with control.



INVASIVE WEEDS OF MARIN AND SONOMA COUNTIES



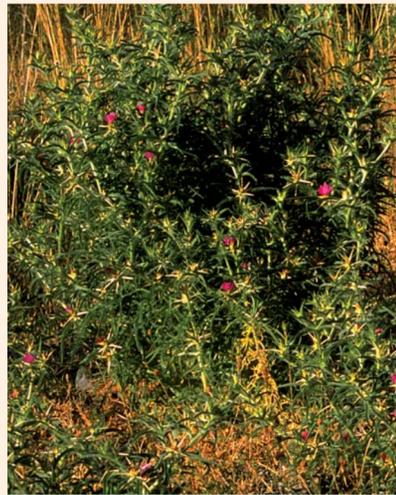
YELLOW STARThISTLE
Centaurea solstitialis

This annual plant has become one of the most prominent invasive weeds in California, infesting over 14 million acres throughout the state. It is extremely competitive, invading agricultural lands, increasing farming costs, and reducing productivity. Yellow starthistle has degraded thousands of wildland acres, crowding out native plants and reducing the habitat value for wildlife. It is also toxic to horses. This species is frequently spread in contaminated livestock forage, by heavy equipment and mowers, and by hikers, bikers, and equestrians. In the summer it can be recognized by the large thorns that grow immediately below its yellow flower heads.



JUBATA GRASS / PAMPAS GRASS
Cortaderia jubata / Cortaderia selloana

These ornamental grasses have escaped cultivation, infesting and degrading thousands of acres of California coastal habitat. Jubata grass is the most common species found in Marin and Sonoma county wildlands: one plant is capable of producing a million wind-dispersed seeds without pollination. Pampas grass requires cross-pollination between male and female individuals. Females are commonly sold as "non-invasive" ornamentals, but both male and female plants are now abundant and are reproducing up and down the coastline. Both species form large clumps of tough, sharp-edged leaf blades that produce feathery plumes in late summer. When removing these species, it is important to remove or kill the entire root ball, as these grasses are notorious resprouters.



PURPLE STARThISTLE
Centaurea calcitrapa

This invasive biennial (two-year life cycle) tends to predominate in highly disturbed areas such as roadsides and over-grazed pastures. However, it can also invade well-managed rangelands. Its spines and bitter taste discourage feeding by livestock and native browsers year round. In the first year of its life cycle, purple starthistle forms a low rosette of deeply lobed gray-hairy leaves. The second year plants grow 1 to 4 feet, producing purple flower heads that are surrounded by sharp spines. As with many thistles, flowers may produce mature seeds even after cutting. It is therefore most effective to apply treatments before flower heads have developed.



DISTAFF THISTLE
Carrhamus lanatus

This Mediterranean native is an aggressive rangeland pest. It displaces desirable native and non-native forage plants. Distaff thistle has spiny flower heads, and the leaves have long, stout marginal spines that make this plant a painful invader, reducing free movement through grasslands for both livestock and humans. It is a winter annual, germinating in fall but not maturing until the following summer. A single plant is capable of producing 18,000 seeds that can be rapidly spread by wind, animals, and vehicles. It has been known to ulcerate the mouths of grazing livestock and cause lameness in animals whose hooves have been penetrated by its spines.



GORSE
Ulex europaeus

This evergreen, prickly shrub dominates native scrub, grasslands and rangelands along the Northern California coast. Traditionally planted to establish hedgerows, gorse forms impenetrable thickets that offer little forage or habitat value. It is extremely flammable and poses significant fires hazards that increase over time. Similar to invasive broom seeds, gorse seeds remain dormant in the soil for many decades, germinating and sending up a profusion of new plants after fires or soil disturbances. Gorse is a dense, yellow-flowering member of the pea family that is easily recognized by its prickly stems.



CAPE IVY
Delairea odorata

Previously called German Ivy, this species came from South Africa and invades coastal and stream-side plant communities. It is a fast growing vine that can resprout from any portion of the plant, including each node (or joint) on the stem. This enables the plant to spread rapidly after floods or landslides. Cape ivy forms dense blankets of vegetation, smothering surrounding plants. The loss of native vegetation along invaded rivers and streams is degrading California's most sensitive songbird and salmon habitats. Cape ivy leaves are bright green and waxy, with no tendrils or spines at the nodes. It is commonly confused with native wild cucumber, a vine that produces curly tendrils and spiny fruits.





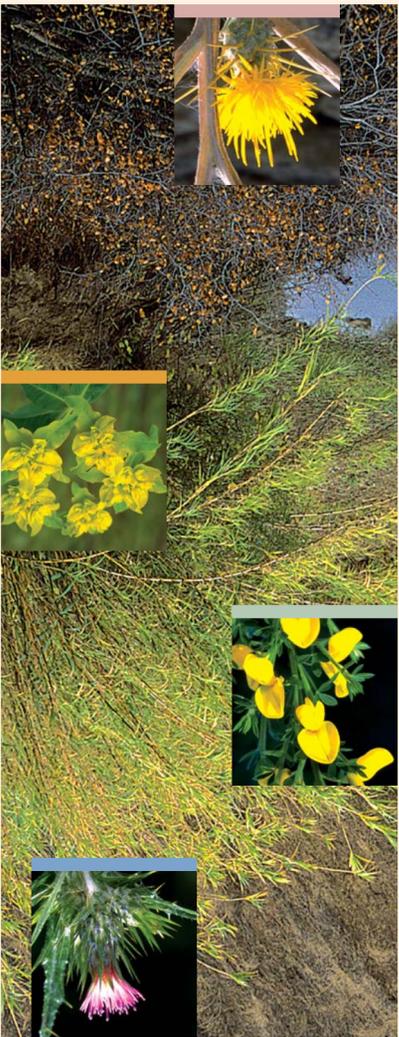
- OTHER SPECIES TO WATCH OUT FOR**
- PENNRoyal *Mentha pulegium*
 - PERWINKLE *Vinca major*
 - PLUMLESS THISTLE *Carduus acanthoides*
 - FENNEL *Foeniculum vulgare*
 - FULLER'S TEASEL *Dipsacus fullonum*
 - HARDING GRASS *Phalaris aquatica*
 - HIMALAYAN BLACKBERRY *Rubus discolor*
 - TALL FESCUE *Festuca arundinacea*
 - THOROUGHWORT *Agrotis adenophora*
 - TREE-OF-HEAVEN *Ailanthus altissima*
 - VELDT GRASS *Elymus repens*
 - VELVET GRASS *Holcus lanatus*
 - AUSTRALIAN FIREWEED *Erechtis species*
 - BLUE GUM EUCALYPTUS *Eucalyptus globulus*
 - ENGLISH IVY *Hedera helix*
 - PUNNRYAL *Mentha pulegium*
 - PERWINKLE *Vinca major*
 - PLUMLESS THISTLE *Carduus acanthoides*
 - POISON HEMLOCK *Conium maculatum*
 - PUNCTURE VINE *Tribulus terrestris*
 - SPINY COCKLEBUR *Xanthium spinosum*
 - TALL FESCUE *Festuca arundinacea*
 - THOROUGHWORT *Agrotis adenophora*
 - TREE-OF-HEAVEN *Ailanthus altissima*
 - VELDT GRASS *Elymus repens*
 - VELVET GRASS *Holcus lanatus*
 - NAPA THISTLE (TOCALOTE) *Centaurea melitensis*
 - MILK THISTLE *Silybum marianum*
 - KLAMATHWEED *Hypericum perforatum*
 - LICORICE PLANT *Helichysum petiolare*
 - ICE PLANT *Carobrotus edulis*
 - HIMALAYAN BLACKBERRY *Rubus discolor*
 - FULLER'S TEASEL *Dipsacus fullonum*
 - HARDING GRASS *Phalaris aquatica*
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MARIN SONOMA WEED MANAGEMENT AREA

MSWMA is a cooperative effort of federal, state, county and city agencies, private industry and private landowners. Our goals include improving the effectiveness of local weed management efforts, increasing public awareness of invasive weeds, and advancing responsible land stewardship practices.

For additional information please contact:
 Marin County Agricultural Commissioner's Office 415-499-6700
 Sonoma County Agricultural Commissioner's Office 707-565-2371
 Marin County Farm Advisor, U.C. Cooperative Extension 415-499-4204
 Sonoma County Farm Advisor, U.C. Cooperative Extension 707-565-2621
 Or visit our website at: www.marinsonomaweedmanagement.org/

Additional Partners
 Audubon Canyon Ranch • Cal Trans • Marin & Milo Baker Chapters of California Native Plant Society • California State Parks • City of San Rafael Department of Public Works • Golden Gate National Recreation Area • Marin Agricultural Land Trust • Marin County Department of Public Works • Marin County Parks and Open Space District • Marin Municipal Water District • North Marin Water District • Point Reyes National Seashore District • Southern Sonoma Sonoma Ecology Center • Team Arundo Resource Conservation District • Team Arundo del Norte



WHAT YOU CAN DO TO HELP

of invasive weeds?

- Participate in or help fund local weed management and habitat restoration efforts.
- Learn to distinguish native plants from wild such as pampas grass, French broom, and periwinkle. Many of the biological characteristics that make these species "hardy" landscape plants also increase their ability to escape into the wild. Most people are unaware that bringing even one plant or seed packet across state borders can create a new plant infestation. Prevention and early detection allows us to eradicate new outbreaks and devote our principal efforts toward management and containment of existing, large-scale infestations.
- Always check your vehicle, shoes, and pets for plants or seeds when leaving an infested site.
- Remember when moving soil, compost, or equipment that hidden seeds may be present and start new weed outbreaks for up to 10 years.
- Visit the Weed Management Area web site www.marinsonomaweedmanagement.org/ for more information on how to control weeds on your property.

PREVENT THE SPREAD OF INVASIVE WEEDS

The transportation of contaminated hay, seeds, flower arrangements, nursery stock and other apparently harmless purchases has introduced many invasive weeds into California. Some of these invasive weeds are escaped ornamental plants that have gone wild such as pampas grass, French broom, and periwinkle. Many of the biological characteristics that make these species "hardy" landscape plants also increase their ability to escape into the wild. Most people are unaware that bringing even one plant or seed packet across state borders can create a new plant infestation. Prevention and early detection allows us to eradicate new outbreaks and devote our principal efforts toward management and containment of existing, large-scale infestations.

WHAT IS AN INVASIVE WEED?

An "invasive weed" is any species of plant that is, or is liable to become, detrimental, or destructive to agriculture, silviculture, or native ecosystems. They are aggressive, competitive, and difficult to control or eradicate. They reduce native plant diversity, diminish the value of native habitats and threaten the ecological integrity of our precious wildlands. Invasive weeds increase fire danger, and are a costly problem for farmers, ranchers, and landowners.



SEE INSIDE FOR DESCRIPTIONS

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- MEDUSAHEAD
Taeniatherum caput-medusae
- OBLONG SPURGE
Euphorbia oblongata
- ITALIAN THISTLE
Carduus pycnocephalus
- GIANT REED
Arundo donax
- BARBED GOATGRASS
Aegilops triuncialis
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- DISTAFF THISTLE
Carthamus lanatus
- GORSE
Ulex europaeus
- CAPE IVY
Delairea odorata



INVASIVE WEEDS OF MARIN & SONOMA COUNTIES

Marin County Open Space District

California State Parks

Audubon Canyon Ranch

Marin Municipal Water District

Sonoma Ecology Center

National Park Service

City of San Rafael
City of San Rafael

Marin County Department of Agriculture Weights and Measures

Sonoma County Department of Agriculture

California Native Plant Society: Marin Chapter

California Native Plant Society: Milo Baker Chapter

Marin Sonoma Weed Management Area

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