

# California Native Plant Society

## POLICY ON INVASIVE EXOTIC PLANTS

Adopted September 1996

### Definitions:

Native plant: any plant which a member of a species which was present at a given site prior to European contact.

Exotic plant: a plant which does not meet this definition of native.

Invasive exotic plant: A plant which is able to proliferate and aggressively alter or displace indigenous biological communities.

### The California Native Plant Society

- urges all government agencies, non-governmental organizations, and individuals charged with land management to:
  - adopt and implement Invasive exotic plant management policies.
  - coordinate with each other at all levels regarding non-native plant policy formulation and implementation.
  - publicize the need to prevent the spread of invasive exotic plants.
  - stop all introductions of invasive non-native plant species into natural ecosystems which are designed to achieve some other management objective.
  - implement exotic plant control measures in such a manner that native species and natural systems are not adversely impacted.
  - adequately fund the control of invasive exotic species.
- insists that all landscaping, mitigation, restoration, revegetation, and habitat/species recovery monitoring plans include provision for identifying and managing non-native plants and identifying no potential for damaging the genetic structure of local native plant communities.
- advocates cooperative efforts to restrict introductions of invasive exotic species from commercial sources, including the agricultural, landscaping, and revegetation industries.
- supports inclusion of information regarding the effects of invasion by exotic plants in environmental or outdoor education programs in schools.
- encourages CNPS chapters to work for adoption and implementation of invasive exotic policies and programs at municipal and county levels and to raise local awareness regarding the problem.
- encourages recognition, continuation, and expansion of the many citizen Volunteer restoration efforts around the state as a means of habitat preservation, public education, community building, and constituency creation.





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### **Background:**

The homogenization - blurring of distinctions - of the earth's flora and fauna and subsequent loss of biological diversity, is a problem of global significance which threatens livelihoods and engenders catastrophic ecological change. The threat posed to natural ecosystems by biological pollution - the Introduction of non-native plants, animals and other organisms - is rivaled only by that of development. The most aggressive exotic plants are unacceptable in natural areas because they can exclude native plants, degrade, alter or displace natural plant communities, promote faunal change, reduce biological diversity, disrupt ecosystem processes, alter fire frequencies, restrict economic return, reduce recreational values, threaten endangered species and fundamentally alter the unique character and physiognomy of California.

1. With the possible exception of alpine and subalpine habitats, most areas of California contain significant expanses of exotic weeds. To cite but a few of the most egregious examples:

Vast areas of coastal dunes are occupied by iceplant (*Carpobrotus edulis*) and European beach grass (*Ammophila arenaria*), usually to the exclusion of any other kind of plant. They deprive other plants of moisture and nutrients scarce in this environment. Their value to wildlife is low. They alter wind patterns that sculpt the dunes and they bind the dunes, preventing the natural disturbance required by some of the native species. Because coastal dunes support biological communities whose plant and animal inhabitants may exist nowhere else, their degradation represents a loss of biological diversity.

Many-acre stands of pampas grass (*Cortaderia jubata* and *C. selloana*) and masses of German ivy (*Delairia odorata*, syn. *Senecio mikanioides*) appear discontinuously along the coast from the Oregon border into Baja California. German ivy forms thick blankets which cut off light and air to plants which it covers. Pampas grass is a robust six-foot tall grass with sharp-edged leaves growing from a stout clump. Its aggressive root system outcompetes plants even much larger than itself. Tall plumes bearing many light seeds rise several feet beyond the leaves, dispersing seed great distances in the wind.

About one tenth of California (including ten million acres of rangelands) has been invaded by yellow star thistle (*Centaurea solstitialis*) (Maddox, 1985). The plant is toxic to horses and stout spines render it inedible to sheep and cattle. Aside from its economic impacts, yellow star thistle increases roadside fire hazards and affects recreational values by invading campgrounds, lining trails, and reducing biodiversity.

Brooms and gorse (*Cytisus*, *Genista*, *Ulex* spp.) have usurped many biological communities in the coast ranges and Sierra foothills: grasslands (including pasture), scrub, coastal prairie, chaparral, and mixed evergreen forest. Brooms are highly flammable and especially common in wildland/urban interfaces. Seeds of all of them may be viable for decades, making reclamation of territory they occupy exceedingly difficult. Their ranges continue to expand.

Giant reed grass (*Arundo donax*) and salt cedar (*Tamarix* spp.) have replaced riparian communities, especially in southern California, the Mojave Desert and the San Joaquin Valley. Salt cedar can cause dramatic hydrologic changes, lowering water tables and drying up streams and seeps.

Annual grasses (e.g., *Aira*, *Avena*, *Bromus*, *Hordeum*, *Lolium*, *Vulpia*) and forbs (e.g., *Vicia* spp., *Cirsium* spp.) have greatly altered the character of the remaining grasslands of California, replacing native bunchgrasses and lessening spring and summer wildflower displays.



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2. On federal lands alone, it is estimated that weeds are claiming 4600 acres every day and dominate over 17 million acres in the western United States, (Bureau of Land Management, 1996) with similar expansions occurring in Canada and Mexico.
3. Control of exotic plants is expensive and control expenses continue to escalate as the problem grows. The federal and state departments of agriculture, national and state park systems, and The Nature Conservancy devote large and increasing resources to efforts to control exotic plant species. Hundreds of grassroots groups selectively address the problem in specific areas, but their work is dwarfed by the magnitude of the overall problem.
4. Taxpayers have spent billions of dollars purchasing and protecting wildlands which are now being lost due to invasion by weeds. In many cases these invasions - which will result in permanent, effectively irreversible damage - are allowed to proceed unopposed due to short-term budget considerations.
5. Economic return is reduced in areas dominated by weeds. For example, in addition to the above-cited California grazing lands degraded by the spread of yellow star thistle, a public agency was successfully sued by an adjacent landowner because yellow star thistle invasion rendered the home unsaleable.
6. Logged-over lands are frequently invaded by non-native plants such as pampas grass and brooms, which prevent establishment of seedling trees.
7. Biological control is expensive and time-consuming but the most cost-effective remedy for controlling some of the most widespread invaders.
8. One thousand and twenty-five species (17 1/2%) of the California flora are exotic (Rejmanek, 1994). Undesirable plants continue to be introduced to California. Moroccan mustard (*Brassica tournefortii*), introduced into California in the mid- 1960s, has spread to cover large areas of the Sonoran and Mojave deserts. Biologists consider it a threat to the desert tortoise. With increased international travel and trade, new accidental and intentional introductions will likely accelerate.
9. Ecosystem function is altered, often irreversibly, by exotic plant invasions. The introduction of Moroccan mustard, red brome (*Bromus madritensis ssp. rubens*), cheat grass (*Bromus tectorum*) and other exotic grasses to the Mojave Desert has promoted unnatural fuel conditions and fire cycles which have become self-sustaining. Cheat grass causes similar impacts in rangelands throughout the intermountain west (D'Antonio, 1992). Smooth cordgrass (*Spartina alterniflora*) from eastern North America is changing sedimentation rates in open mud intertidal habitats (Josselyn, 1993). Other exotic plants have dramatic effects on hydrological regimes and nutrient cycling.
10. Non-native plants modify wildlife habitat, altering the species composition, sometimes drastically. Riparian areas, which are crucial breeding and foraging areas for both common and endangered birds, have become dominated by giant reed grass and salt cedar. Many species of birds don't use stands of these species in part because they support few insects, so food supply for insectivorous birds is poor. Studies have shown that native birds prefer native woodlands dominated by oak rather than groves of introduced trees such as Tasmanian blue gum (*Eucalyptus globulus*) (Morrison, 1988).
11. Fire frequencies may be altered by exotic plants, reducing the ability of native plants to prosper and effecting conversion of vegetation type (e.g., from native chaparral to nonnative grassland). Post-fire seeding with exotic grasses has been shown to increase the likelihood of premature reburn, thus promoting type conversion. This conversion often can lead to increased erosion. (California Native Plant Society, 1995.)



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12. Exotic plants further threaten many already rare or endangered native plants by displacement of habitat: examples include Howell's spineflower (*Chorizanthe howellii*) and other dune endemics, diamond-petalled California poppy (*Eschscholzia rhombipetala*), large-flowered fiddleneck (*Amsinckia grandiflora*), Morro manzanita (*Arctostaphylos morroensis*), San Luis Obispo monardella (*Monardella frutescens*), Nipomo Mesa lupine (*Lupinus nipomoensis*). At least 91 of the plants in CNPS' *Inventory of Rare and Endangered Vascular Plants of California* are threatened by invading exotics (Skinner, 1994). Growing infestations of non-native species are likely to drive populations of native species so low as to require listing by state or federal agencies. An informal analysis by the California Department of Fish and Game found that 23% of California's 280 plant communities are heavily impacted by non-native plants, and another 28% are moderately threatened by them (Keeler-Wolf, 1993).
13. Exotic plants may trap nearly all the energy flowing through the natural systems of the many areas where they have completely displaced indigenous plants, resulting in conversion from one vegetation type to another. This energy, instead of entering, the food chain, is channeled into further proliferation by the invading plant, thus energizing the cycle. Land dominated by weeds has low biological value and is of little or no use to human societies. The land's ability to function in a biologically stable way is impaired.

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California Native Plant Society  
1722 J Street, Suite 17  
Sacramento, CA 95814  
(916) 447-2677