

14 Natives Versus Non-Natives

There have been hundreds of non-native species introduced into the San Francisco bay area since the time of the Spanish missionaries. These range from roses to tomatoes, from German shepherds to parakeets. Usually, non-native introductions, called escaped exotics or aliens, are not a problem.

Occasionally, non-native introductions do create problems. The non-native may thrive, reproduce and outcompete native populations. Or, the non-native may bring new diseases or parasites that severely affect local species or damage the habitat. Or, the non-native can cause a population explosion of a native species by reducing or removing a predator.

Examples of Non-Native Invasions

One of the most famous and costliest introductions of a non-native species occurred in Australia in 1859, when a farmer imported a dozen pair of wild rabbits for hunting. Within six years, the population reached 20 million and by the 1930s, the population was estimated at 750 million rabbits. These rabbits devoured crops, fouled water holes and caused soil erosion, consequently reducing the local sheep population by over 50%. It was not until the 1950s that the rabbit population was brought partially under control through the introduction of a viral disease.

There are many, many more examples of destructive alien invasions: Starlings, intentionally brought to the United States from Europe in 1890, thrived and replaced several native songbirds. Water hyacinth, intentionally brought in from Central America in 1884, clogged inland waterways and replaced native aquatic vegetation. Mongooses, brought into Hawaii in 1883 to control the rodent population, instead killed the rats natural predators.

The Japanese beetle was accidentally imported into the United States in 1911 and now defoliates more than 250 species of trees and shrubs. Dutch elm disease was accidentally imported on timber from Europe in the 1930s and will eventually destroy millions of elm trees.

One of the quickest, most costliest invasions in history took place in the late 1980s in the Great Lakes. The zebra mussel, which hitched a ride on a ship from Europe, exploded in numbers, reaching concentrations as high as 700,000 per square meter. These little mussels clogged ten-foot-diameter intake pipes, sunk boats and buoys with their weight and smothered countless numbers of native mussels. Their economic costs may reach as high as two billion dollars annually. Their ecological costs are difficult to measure.

Non-Natives in Marin

The biggest non-native problem in Marin is French broom. It is a member of the legume family that has yellow pea-shaped flowers and beanlike pods. French broom is a drought resistant, evergreen shrub that was introduced for landscaping over 100 years ago. The shrub forms impenetrable thickets that range in height from 6-12'. It reproduces vigorously. In the fall, individual seed pods explode, ejecting up to 300 long-lived seeds in a wide circle.

French broom spreads aggressively and can replace many native grasses and shrubs. Its thick cover can shade out and prevent tree seedlings from getting started. French broom has no local predators or diseases to keep it in check. The only known controls are to pull it, cut it or set fire to it. However, the best control method is to pull the broom when it first invades an area, before it has a chance to propagate by seed.

There are two other less invasive members of the broom family in Marin, Scotch broom and Spanish broom.

Another serious problem in Marin is yellow star thistle. It is a low growing plant 12-18" tall with bright yellow flowers that bloom from May to July. It has sharp thistles and spreads very rapidly. Many parks are using control burns to try and contain it.

Other non-native plants that thrive in Marin County include Coulter pine, eucalyptus, Monterey pine, acacia, pampas grass, thistles (purple, Russian, bull), fennel, poison hemlock, cotoneaster, gorse, forget-me-nots, oats, Harding grass, Himalaya berry, Cape ivy, field mustard, wild radish, German ivy, fireweed and vetch. There are other escaped exotics in Marin, but this is the main list.

What You Can Do

If you're concerned about non-native plant invasions and are interested in doing something about it, here are a few suggestions:

Join the Habitat Restoration teams sponsored by the National Park Service, GGNRA, Pt. Reyes National Seashore, Marin Municipal Water District and the Marin County Open Space District. For more information, call the numbers shown on the next pages.

Join the California Native Plant Society. Team up with local neighbors and clubs for non-native control parties, like broom pulls. Replace non-native plants with native plants in home gardens.

Support public agencies in Marin that are considering ordinances discouraging or prohibiting the sale of the most aggressive non-native plants.