



Examples of Invasive Animal and Plant Species

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What are invasive plants and animals? You have probably heard the term before but might not know what they really are. An invasive species is any species that is not “native” to the area where it is currently living—in other words, it traveled from another place to its current location. Invasive species can be transported to a new location by a number of methods. Ocean and wind currents and human travel are the most common ways to move a species from one location to another. Have you ever been asked to remove fruit from your baggage at an airport? This is because of invasive species—they can hitch a ride on tropical fruits from distant areas such as Hawaii and the Bahamas and be spread by travelers to the mainland.

But why are invasive species a problem? Simply because invasive species can compete with native species for such necessities as food, shelter, and other resources, causing their own populations to increase dramatically while the other native species die off. This process can produce negative impacts on an ecosystem. For example, if a fish enters a new area where it does not have any natural predators or external dangers, it can easily eat all the fish in its new environment and greatly increase its own population.

One often-used example of an invasive species that causes damage to its new environment is the lionfish. The lionfish is a spiny, predatory fish that is in some ways the “poster child” for invasive species. In non-native environments, it often has no predators and can rapidly reproduce, taking over the area. And because it is highly predatory, it can outcompete local fish such as groupers and snappers, decreasing their populations. This process can reduce biodiversity and even lead to the extinction of some species of sea animals.



Image of a Lionfish

There are many actions currently being taken to stop the spread of invasive species, especially lionfish. The federal government is even supporting people to kill lionfish and sell their meat to restaurants. In an area where lionfish are invasive, it could be easy to find restaurants where they serve them. There are even events called lionfish derbies, where participants are tasked with killing and taking in as many lionfish as possible, with the winners capturing the most fish receiving prizes. They capture lionfish by scuba diving, snorkeling, or free diving with spears, or using nets. Across all the derbies run by REEF.org, almost 30,000 lionfish have been killed. This is one example of an interesting way to reduce the problem of invasive species.



Image of the day's capture at a lionfish derby

Another invasive species that is specifically local and relevant to Palo Alto is the Black Mustard plant. Black Mustard is a common invasive species that is native to such areas as North Africa, Europe, and Asia and that made its way to the US many years ago when, according to popular legends, Spanish missionaries scattered it along the coast of the Bay Area down the El Camino Real in order to mark their trail.



Image of the invasive Black Mustard plant in a California field

At the time that the Black Mustard plant originally appeared in the United States, the settlers did not realize what kinds of problems it could cause. The main reason why Black Mustard can cause huge problems among native species is that it can rapidly grow and spread, engulfing native plants. Additionally, Black Mustard can spread an allelopathic* chemical that can cause other species to not germinate, slowing down the growth of these other species, as well as growing faster than they do.

There are several negative effects of the spread of Black Mustard. Primarily, this plant can outcompete native plants that other animals use for food, meaning that these animals could then suffer for lack of food. It can also outcompete crops that farmers rely upon for earnings, which then has negative financial effects. Finally, it can serve as tinder in the event of a fire, causing the fire to spread more rapidly. As can be seen, invasive species are responsible for many negative, harmful effects on the environment, among both native plants and animals.

**allelopathic*: *Allelopathy* is a common biological phenomenon by which one organism produces biochemicals that influence the growth, survival, development, and reproduction of other organisms. These biochemicals are known as *allelochemicals* and have beneficial or detrimental effects on target organisms. Black Mustard has definitely detrimental effects on the native species in its chosen environment.

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