

# The New York Times

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September 7, 2013

## Hey, You Calling Me an Invasive Species?

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Since the 1880s, there have been blue gum eucalyptus trees growing on San Francisco's Mount Sutro, which lies just south of Golden Gate Park. Recently, the University of California, San Francisco, which owns most of Mount Sutro, has been trying to [thin the dense eucalyptus forest](#). The reason is fire control — eucalyptus trees are “fire intensive,” shedding a lot of debris and burning with unusual volatility. But the effort to cull the Mount Sutro forest has been met with strident protest by residents who want to see the eucalyptus left untouched.

By the standard of the California Native Plant Society, eucalyptus, which were brought from Australia, are officially nonnative trees because they were introduced after the first European contact with the New World. But the trees on Mount Sutro have been there within the memory of every living San Franciscan, and to the generations who have grown up within view of them, it seems almost perverse to insist that they are aliens.

To keep a clear distinction between native and nonnative species requires nearly geologic memory. But humans, like most species, don't live in the past, where the distinction originates. In the present, the difference is largely immaterial. Native or nonnative, California's eucalyptus trees, like the starlings of Central Park, have come to seem original just because they predate us. Of course, the vast majority of nonnative species have not been intentionally introduced, as the Mount Sutro eucalyptus were, but have been distributed accidentally, unnoticed baggage in the wanderings of our species.

Some species — invasive ones like kudzu, Japanese knotweed, rabbits and rats — find almost unlimited room for expansion in their new environs, often overwhelming native species. But not all introduced species are invasive, and pose a threat only when they outcompete native species.

It's important to remember that the distinction between native and nonnative depends on an imaginary snapshot of this continent taken just before European contact. That distinction is becoming even harder to make as climate change alters the natural world.

A new [study](#) from the University of Exeter and Oxford University finds that plant pests and diseases have been migrating northward and southward an average of two miles a year since 1960. This suggests that the plants on which they prey have been moving at similar rates. In places like the Adirondacks, for instance, you can follow the boundary between southern and northern tree species as it shifts northward, year by year. As plants and their pests adjust their range, under the influence of global warming, what becomes of the distinction between native and nonnative? To any individual species, it doesn't matter whether it's native or not. The only thing that matters is whether its habitat is suitable. And this is where we come in.

For the most part, we don't have an immediate impact on the species that surround us. But we do have an immediate impact on their habitat, which determines whether they survive or, in some cases, shift their ground.

Nearly every habitat on this planet has been affected by humans, no matter how remote it is. In the past decade, for instance, the habitats of grizzly bears high in the Rocky Mountains — places most of us never get a chance to visit — have been significantly altered by global warming. As the climate warms, the mountain pine beetle has managed to winter over and destroy vast tracts of whitebark pine trees, which produce pine nuts that bears eat.

CONSIDERED in this light, the natural world as a whole begins to look like Central Park — an ecosystem where human influence is all pervasive. Parts of the park seem almost wild, but every creature in Central Park, native or not, has adapted to a world that is closely bounded by human activity. It is nature bordered by high-rises, intersected by paths and roadways, basking under artificial light at night.

In late August, a group of scientists and students from the City University of New York's Macaulay Honors College spent the day cataloging all the nondomesticated life forms living in the park. It will take a while to compile and compare the data, but even the anecdotal reports from that single day show how diverse and surprising the park's ecosystem can be. It isn't all squirrels and pigeons. The group reported sightings of several unexpected species — a diamondback terrapin in Turtle Pond, a Wilson's warbler in the North Woods, a bullhead catfish in the Harlem Meer. And though it might seem like a stretch to talk about ecosystems in Central Park, that is exactly what the group found — a healthy mix of species, overlapping generations within many species, and a sense of balance, especially within the aquatic zones.

Nature in Central Park can't be neatly divided into native or nonnative species, and neither can it be on Mount Sutro. The eucalyptus trees that grow there may be naturalized rather than native, but try telling that to all the other creatures that live in those woods or the people who hike there. And when it comes to the distinction between native and nonnative, we always leave one species out: call us what you will — native, naturalized, alien or invasive.