Why plant California native trees and landscaping plants?

-*Biodiversity Crisis.* Los Angeles has lost over 90% of local butterflies and songbirds since the beginning of the twentieth century due to replacing local native habitat with exotic non-natives. Many of these species exist nowhere else and are now threatened. Planting non-native trees and landscaping plants means a future Los Angeles where the only birds you will hear are gulls, crows, and a few invasive European species.

-*California is one of five Mediterranean biodiversity "hot zones" on earth that are essential for life on the planet.* Of these five Mediterranean climates, California is the only one that has soil that is low in nitrogen. Because of this, the fauna at both the macro and micro levels evolved to coexist with low nitrogen plants. Plants from almost anywhere in the world can be planted in coastal California, and if you dump a bunch of water and fertilizers (nitrogen) on them, they will thrive. But those non-native plants become dead spots in our biodiversity hot zone, as everything from the songbirds and butterflies to the native soil bacteria struggle to utilize these plants. Each new non-native tree takes up valuable finite space and provides insufficient ecosystem services for centuries to come.

-*On average, non-native trees use six times more water than native species.* There are exceptions, but educated landscapers know them.

-*California uses 20% of its energy to move and treat water.* Switching to natives produces immediate water savings, which means energy savings.

-*70% of residential water use in Los Angeles goes to irrigate (primarily non-native) landscaping.* Non-native landscaping plants need to be replaced, just like we phased out and replaced the high-water-volume flush toilet. When mature non-native trees reach the end of their lives, they should be replaced by native tree saplings. Continuing to plant non-native trees sends the wrong message.

-*Greenwashing techniques are used to preserve the status quo.* Government agencies like Los Angeles County Metro, LADWP, Los Angeles Department of City Planning, and even Los Angeles Department of Urban Forestry and the Street Trees program throw around terms like "drought tolerant" and "California Friendly" when promoting non-native trees and plants. These are made-up, non-scientific marketing terms based on no metrics at all, and the terms largely were created to allow people to use lower-water non-native landscaping to qualify for programs like LADWP's *Lawn Be Gone* turf replacement with plants and trees stocked by big box retailers such as Home Depot and Lowes because those sources refuse to carry different (native) options for the Southern California region. But sadly, these agencies are only focused on water use. We have to think about entire ecosystems when addressing the climate crisis, not just one resource in isolation.

-*There is no such thing as a "California Friendly" tree or plant that is not native.* When you hear or read about any plant being "California Friendly", it is likely neither of these words. The food web is interconnected. Our native pollinators evolved hand-in-hand with native plants. Native butterflies will not lay eggs on non-native plants/trees. The primary food source for local baby songbirds is native butterfly caterpillars. Most native bees cannot utilize non-native flora, no matter how pretty the blooms are. 90% of insects cannot co-exist with any non-native trees/plants, making every non-native planting unfriendly to California. There is more to landscaping than water use.

-*Non-native landscaping is a huge source of pollution and greenhouse gas emissions.* The soil amendments (fertilizers) required for most non-native plants to survive are one of the top three sources of runoff pollution in LA's urban watersheds and Santa Monica Bay. Most anyone who has walked through a residential neighborhood has experienced the unpleasant smell of manure added to a non-native grass lawn. By some estimates, nearly 60% of that manure eventually runs off into the watershed, polluting estuaries and the ocean. And increasingly, synthetic fertilizers are used in landscaping. The

amount of synthetic nitrogen fertilizers used worldwide has grown 800 percent since the 1960s, according to the Intergovernmental Panel on Climate Change. Synthetic fertilizer production and use is a top source of greenhouse gas emissions that drive climate change. By contrast, our native plants are fine with *zero* fertilizers. They prefer the low nitrogen native soil, and in fact, in most cases you will kill native plants if you add fertilizer.

-*Non-native landscaping produces more green waste and carbon pollution.* Because non-native trees use more water and nitrogen, they generally grow faster and must be cut back more often in urban settings, whereas properly planted natives produce at least 60% less green waste according to a local 10-year study at Santa Monica College. With careful plant and tree selection, green waste can be avoided entirely with native species. LA County generates over half a million tons of green waste every year that must be sent to landfills (enough to fill Dodger Stadium every year). There is a large carbon cost associated with transporting all that green waste, and once it arrives at our nearly full municipal landfill, green waste generates methane and further adds to the global climate crisis. New efforts to compost green waste are a step in the right direction, but greatly reducing the source of the green waste is a much more sustainable approach.

-*We can restore the soil.* One of the favorite new arguments presented against natives by city officials is that after a century of urban development using non-natives, we have changed the soil and the conditions for planting, so natives no longer are appropriate. This is without any scientific merit. Take a tour of the Westwood Greenway to see how an area that was fully populated with non-natives for over a century can be restored to a thriving native ecosystem.

-*Natives are resilient, rugged, and can easily thrive in the urban environment.* The chief fallback argument Metro's landscaping company has used to justify not using native plants has been “If we mix natives into the design, they will be killed by all the fertilizers and excess water we have to use for the non-natives.” There may never have been a worse justification for not changing a policy. There are nearly 8,000 California native plants, thousands of which are highly adaptable, beautiful, and appropriate for planting in LA. About 15 years ago, an LA Native team worked to get most of the natives on the LA Street Tree List that are there now. On the day that work was finalized, the then head of Urban Forestry assured his colleagues that "These natives are just being added to appease some loud voices, and they won't change what we do.” Even in 2022, LA’s City Forest Officer remains focused on planting almost exclusively non-native trees in Los Angeles, claiming, “It’s not helpful to the situation to take an extreme position on natives.” These people undoubtedly mean well, and it is not easy for them to change, especially when that change comes with an acknowledgment that what we have been doing for several generations is an environmental catastrophe. We cannot depend on our city "experts" to be the source of change. Good native options exist for every situation, and we need stakeholders to insist only natives be planted.

-*Natives are the only truly “Climate Ready” adaptable plant species.* Research at LA’s La Brea Tar Pits has established that our local native plants have endured significant climate change since the Pleistocene epoch. In the last 50,000 years, LA County has experienced significant periods of ice age cooling, severe warming with drought, and large fluctuations in carbon dioxide levels. These changes led to the disappearance of many megafauna. Yet the fossil record provides ample evidence of many of the local native plants and trees we have today, adapting to these changes. Perhaps more than any place on earth, our native plant community has adaptability built into its DNA. Only human hubris would conclude that we know better than millions of years of evolution and should import plants from other regions in order to adapt to climate change.

-*Natives are an environmental justice and culture issue.* Only natives can provide a geographical sense of place and respect the heritage that is unique to Southern California. Natives foster civic pride and identity. Planting exotic non-native trees and landscaping plants in Los Angeles (especially in highly visible public locations such as along our busy streets) is an outdated form of cultural imperialism, replacing the natural ecosystem with one based on an imported set of aesthetics.

-***Any local urban landscaping project—public or private—should start with the assumption that all the landscaping will be 100% California native*** *(with exceptions for plants providing food for humans).* This may be the easiest change we can make with respect to sustainability that addresses biodiversity, energy, water, green waste, climate change, environmental justice, and human health.

This list was prepared by Charles Miller of LA Native, a coalition of over 30 stakeholder groups assembled to advocate for the exclusive use of California native landscaping in public and private urban spaces. Sources for the data above are available upon request. If you are advocating for natives and need help, reach out: CharlesAllenMiller@gmail.com .