

Today's garden plants can be tomorrow's invasives

by Ilsa Setziol

On a misty summer morning, ecologist Christy Brigham sinks down to the sand at Point Mugu State Park, part of the patchwork of federal, state and private lands in Los Angeles County's Santa Monica Mountains. She watches a darkling beetle forage among rare dune plants -- lacy, lavender sand verbenas and beach primroses, which resemble large buttercups. When Brigham came to this area eight years ago to work for the National Park Service, she thought she'd become an expert on plants like these, part of the region's unique Mediterranean-climate flora. But instead, she's spent most of her time dealing with common plants, many of them fugitives from local gardens and nurseries. She points out a thicket of fountain grass (*Pennisetum setaceum*) nodding its blond, tufted seed-heads in the breeze. It's already overtaken some of the dune plants and is closing in on more. Fountain grass, an invasive from North Africa that became popular in California gardens in the 1990s, is "very drought-tolerant and can grow in a lot of different habitats," Brigham explains. "I've seen it expand massively. It's just everywhere."

Indeed, in recent years, fountain grass has elbowed its way onto thousands of acres in Southern California, cropping up in a startling array of places -- along the coast and in the deserts, on hillsides, in streambeds, on rocky slopes -- even in cracks in urban alleys. Brigham notes that in infested areas, "we have found few native plants, fewer animals." The plant is also highly flammable. And fountain grass has plenty of company: The nonprofit California Invasive Plant Council has identified some 100 ornamental plants, introduced through

gardens or deliberately planted for erosion control, running amok in California alone. There are forests of non-native tree-of-heaven, thickets of castorbean and Spanish broom, groves of Mexican fan palms and thousands of acres of bamboo-like arundo.

In addition to creating dense monocultures, some invasive plants slurp up precious river water, cover the gravel beds fish need for spawning, and push already-rare species to the brink of extinction. Yet despite the region's long experience in waging an expensive and Sisyphean battle against the likes of tamarisk, arundo and other big, bad weeds, many nurseries still sell known runaways, in part because of lax regulations and limited government resources. And it's hard to convince state agencies and the industry that a pretty garden plant is a problem. "It has to get where it's hurting people somehow -- visibly ecologically, economically, or causing fires -- to get the public's attention," says Ed Northam, a weed biologist with the University of Arizona Cooperative Extension. "But when you're at that point, it's a little late."

Western states have been at war with weeds for more than a century. State weed programs, however, tend to focus on plants that hamper agriculture and ranching. Rogue garden plants, typically perennials that farmers can easily vanquish through tilling, primarily threaten wildlands -- less-familiar ground for state ag agencies. And many states are reluctant to impinge on their horticultural industries. When California's Department of Food and Agriculture banned the sale of a handful of the state's worst invasive plants a few years ago, it declined to include invasive pampas grass, which plays a considerable part in the state's \$2.7 billion wholesale growing industry. Instead, it prohibited jubata grass, a pampas relative that's seldom sold or grown in the state. "CDFA's argument was that there was going to be a lot of resistance," says Joseph DiTomaso, co-author of *Weeds of California and Other Western States*. "So they went with all the easy ones." The agency responds that state agriculture code prevents it from banning a wildland weed if doing so is "detrimental to agriculture." The detriment in this case, according to spokesman Steve Lyle, was economic loss to the cut-flower industry, which grows pampas plumes.

Oregon has shown more moxie. The state banned the sale of butterfly bush (*Buddleja davidii*) in 2004 because it invades logged forests, pastureland and riverbanks. Last year, it prohibited the sale of all plants commonly sold as English ivy (*Hedera helix*, *Hedera hibernica*). Ivy now smothers the ground throughout the greater Portland area, impeding the growth of native sword ferns and wildflowers such as snowberry and weighing down the trees it climbs, making them more likely to topple in storms. Quashing an ivy infestation and restoring native plants costs as much as \$10,000 an acre, says

Jonathan Soll, stewardship manager with Metro, a tri-county governmental agency that manages parkland. Even so, it took nearly two decades of surveys and advocacy to get the ivies pulled from nursery shelves. "We had to document that it wasn't just a city phenomenon," he says. "We had to show it was moving and was going to keep moving until it wreaked havoc throughout forests in Oregon."

English ivy is also overwhelming parkland in western Washington, especially around Seattle. Although state law allows counties to force landowners to eradicate infestations of four ivy cultivars as well as butterfly bush, it's still legal to buy the plants.

Less-densely populated states, whose legislatures are packed with folks from rural, agricultural counties, tend to be more vigilant about invasives, according to DiTomaso, who cites the policies of Idaho and Montana. For the last 20 years, Montana has run a well-financed weed-awareness campaign that employs newspaper and television ads as well as billboards. The state recently banned Russian olive trees, which push out native cottonwoods. But the horticulture industry there is tiny, and most of the weeds aren't escapees from gardens: They snuck in with desirable crops or were deliberately introduced as forage.

And with the economy still limping, the situation elsewhere isn't likely to improve soon. Dire state finances have crippled Arizona's nascent efforts and threaten programs in other states. "We put what limited resources we have to functions that will most benefit the agricultural community," says Arizona quarantine program coordinator Brian McGrew. "Noxious weeds usually take a back seat in relation to other plant pests and diseases." California is proposing to eliminate its weed programs entirely, and Washington may do away with its Invasive Species Council, which coordinates the state's response to exotic pests.

In eastern L.A. County, sustainable landscaping expert Drew Ready meanders among San Gabriel Nursery customers toting blushing azaleas and budding sweet brooms in red wagons. He points out pretty violet-hued periwinkle (*Vinca major*), freeway ice plant (*Carpobrotus edulis*) and two other species that Ready's employer, the Los Angeles and San Gabriel Rivers Watershed Council, lists as invasive. "Certainly a lot of the wholesale growers have horticultural experience, understand the issue of invasive plants and aren't taking the problem seriously enough," he says. "At the nursery level, I would guess it's mostly just ignorance of the extreme impact that some of these plants are having in the wildlands."

With states struggling -- and failing -- to rein in runaway plants, some

conservationists have tried to get growers and nurseries involved. In 2001, horticulture industry and botanic garden leaders joined invasive plant experts at the Missouri Botanical Garden to hammer out a voluntary code of conduct on invasive plants. Known as the St. Louis Declaration, it featured a pledge to phase out the worst offenders. But a decade later, only a few in the trade have taken the issue to heart, especially since many businesses in these tough times are focused on simply surviving.

"I liken the attitudes on invasive plants to those about global warming," says Craig Regelbrugge, vice president of research with the American Nursery and Landscape Association. "Some people refuse to believe there's an issue. Some see the problem but have different ideas on solutions." Many growers oppose state bans -- officially quarantines -- because they already primarily ship weedy plants only to areas where they aren't invasive. Others wonder why they should stop selling plants that states haven't bothered to prohibit. And many invasives threaten only specific habitats: In Southern California, for example, ivies mostly menace riparian areas. "I don't think English ivy should be banned in California," says John Schoustra, past president of the Nursery Growers Association of California. "It's one of the very few things that can (grow on) the north side of a 30-story building, and take bums sleeping on it (and) hundreds of little dogs peeing on it."

Seeking alternatives to bans, a few plant breeders and growers are developing sterile cultivars and less invasive hybrids of problem plants. So far, the results aren't reassuring. Dwarf pampas grass was thought to be sterile -- until some nursery plants produced viable seeds. Newer types of ice plant are thought to be less invasive, but some are cropping up in wetlands. (Scientists say there's frequently a lag time: A plant may lie low for a while -- sometimes decades -- before it starts spreading aggressively.) California nurseries now sell a sterile red cultivar of fountain grass, but a pilot study at the University of California, Riverside, found that a red version grown near invasive green ones would cross-pollinate and produce seed. Likewise, sweet broom, which the horticultural trade doesn't consider invasive, appears to be cross-pollinating with California populations of an invasive shrub called French broom. This intermingling is troubling, as populations of invasive plants with more genetic variability may be more difficult to control, and more likely to adapt to and thrive in new environments.

Perhaps the most significant voluntary effort to address the issue to date is California Horticultural Invasives Prevention (Cal-HIP), a consortium of nursery people, weed experts and conservationists that has focused on developing consensus, supporting scientific research and disseminating educational materials. It's developing a third-party certification program that would award an "environmentally safe" label to nurseries that don't sell known invasive

plants.

Because of variations in climate and soils, exotic plants that threaten one region can be harmless in others, so the federal government is unlikely to take the lead on invasive plants currently sold in nurseries. But the U.S. Department of Agriculture's Animal and Plant Health Inspection Service is proposing, for the first time, to subject *new* garden plant imports to risk analyses before they can be brought into the country. Inspectors would consider a plant's potential to become invasive in the U.S., and either prohibit risky species or subject them to restrictions.

In the meantime, though, ornamental weeds have become so prevalent in Southern California that they can easily be mistaken for local flora. "A lot of people think fennel is native, that there should be a heinous fennel forest," says ecologist Brigham. "They don't know that there actually should be a wildflower meadow with beautiful little violets and little fairy lanterns." Intent on showing off California's native beauty, Brigham takes me hiking up a stretch of the Santa Monica Mountains' Chumash Trail. Tall spikes of creamy yucca blossoms and spires of lavender-colored sage blossoms mingle with golden monkey flowers and tiny constellations of goldenstars. It's a landscape equal to anything a garden designer could dream up. But Brigham has to return to work eradicating weeds. I hike on alone and discover something she's missed -- a young fountain grass plant. Just a small spurt, but raring to grow.

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