

Cal-IPC Responses to Public Comments on the 2017 Inventory Update

June 2, 2017

Notes:

- *This document contains responses to all comments received during the 60-day comment period, March 8 – May 8, 2017, regarding our proposed Inventory update.*
- *For the full text of all comments, see the accompanying spreadsheet.*
- *If you feel that your question was missed, please contact us at info@cal-ipc.org.*
- *This document has two sections. The first section has responses to comments made regarding the content of the draft plant assessments. The second section has responses to comments made regarding the merits of assessing plants.*
- *The project team responsible for the plant assessments, the Inventory update, and these responses includes the following:*

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Section 1 – Responses to comments on assessment content

1. *Berteroa incana* – Under “Regional Info” it is indicated that *Berteroa* is not on any invasive species list. That’s incorrect—it is on the 4500 list.

RESPONSE: This information was added to Question 3 of the PRE assessment.

2. *Stipa tenuissima* – Please add to the Inventory. It’s popping up everywhere.

RESPONSE: *Stipa tenuissima* is now on the Inventory as a “Watch” species per its PRE assessment. It was also assessed with a PAF in 2017, but evidence was not available documenting species impacts in wildlands. If such information becomes available we will re-assess this species.

3. *Lathyrus latifolius* – Still not up for PAF review? I’ve suggested this one in the past, and I think Ann Howald will concur that it should be considered for at least a review. Although it seems to be primarily propagated by roadside maintenance, this is a widespread weed in many parts of northern California. It is spreading along trails and into adjacent wildlands, perhaps an indication that mechanical controls (mowing) are not the sole means of propagation and establishment. Once established, this plant is very difficult to remove mechanically, as partitioned rhizomes readily result in new plants. In addition, I’ve noticed it becoming established locally in areas where soil has not been disturbed and rhizomes have not been deposited, suggested that seed is germinable. My observations on local spread are limited to western Sonoma County, although I’ve seen perennial pea in many locations in the N. Coast Ranges and Sierra Nevada below 5000’.

RESPONSE: *Lathyrus latifolius* was added to our “Pending Assessment” list in December 2010. It is currently planned for assessment with a PAF and/or PRE during our next assessment cycle.

4. Multiple species – Of the taxa listed in the table, *Acaena novae-zelandiae*, *Berberis darwinii*, *Cistus* sp. (not *ladanifer*), *Echium plantagineum*, *Euphorbia lathyris*, *Galega officinalis*, *Kniphofia uvaria*, *Maytenus boaria*, *Romulea rosea*, *Erigeron karvinskianus*, *Linum trigynum*, *Aira praecox*, *Euphorbia exigua*, *Geranium retrorsum*, *Lotus angustissimus*, *Photinia X fraseri*, and *Rhagadiolus stellatus* are all established along the Marin to Mendocino County coast, or inland in those counties. Several have spread long beyond “early detection” and are widespread in this area (e.g., *Acaena n-z*, *Euphorbia lathyris*, *Romulea*, *Aira*, *Geranium*, *Lotus*). While some have already demonstrated a propensity to spread (e.g., *Romulea*, *Euphorbia*), I am not aware of how efficient the dispersal potentials are for most of these. Of the species I’ve noted, most of the herbs are primarily invasive in coastal or interior grasslands, many of which are actively or formerly grazed by livestock, although some persist in areas not grazed for over a decade.

RESPONSE: This information will be saved for potential future PAF preparation if impacts become evident for any of these species.

5. *Ligustrum lucidum* – I'm concerned about *Ligustrum* spreading into riparian corridors such as Sacramento River and its tributaries. I have encountered pioneer individuals sporadically at Bidwell-Sacramento River State Park, Woodson Bridge State Recreation Area, Colusa-Sacramento River State Rec Area, Ide Adobe State Historic Park, and have seen what it can do in Chico's Bidwell Park under similar conditions (there just closer to suburban hort seed sources). A matter of time before it spreads by birds. A neighbor planted a *Ligustrum* hedge adjacent to Bidwell-Sac River SP ~2010 and occurrence has accelerated in the park relative to distance from that hedge since those started seed development.

RESPONSE: This information was added to questions 2.2 and 3.1 in the *Ligustrum lucidum* PAF.

6. *Tribulus terrestris* – I have not experienced it as a significant wildland invader, however it's very much a widespread recreation concern on trails and roadsides for cyclists (for instance, Lake Oroville SRA, State Parks along Sacramento River, Shasta SHP).

RESPONSE: This information was added to questions 2.5 and 3.2 in the *Tribulus terrestris* PAF.

7. Multiple species – From a San Luis Obispo coastal perspective, I have seen a bit more of *Mesembryanthemum nodiflorum* lately, so thank you for adding that. *Tribulus* was around a couple summers ago when we had really warm, fog-free summers, but not since. Maybe if temps continue to rise it will be a problem. *Chasmanthe* is absolutely a problem locally. *Plecostachys* is around the area and is a bit weedy, but has not gone crazy yet. I have pulled it out of the wetlands at Morro Strand for the last two years or so, but up north in Cambria it is along the highway on private property and although individuals are getting larger, the population is not expanding.

RESPONSE: This information on *Mesembryanthemum nodiflorum* was added to Question 2.3 in its PAF. Information on *Tribulus terrestris* was added to Question 3.1 in its PAF. *Chasmanthe floribunda* will be considered for a PAF assessment in the future. The PRE assessments for *C. floribunda* and *Plecostachys serpillifolia* already note their presence as naturalized species in San Luis Obispo County so no information was added to the PRE assessments.

8. *Malephora crocea* – At Point Loma, *Malephora crocea* is just as invasive as *Carpobrotus* there. It basically acts exactly the same. It grows in the same places, it spreads and takes over just as rapidly, and it is just as common. I observed both species creeping over and smothering shrubs. I think this one at least deserves a Limited rating due to its invasiveness in coastal San Diego County.

RESPONSE: Information was added to questions 3 and 4 in the *Malephora crocea* PRE assessment. We will consider preparing a PAF assessment in the future.

9. *Acacia cyclops* – At Point Loma, *Acacia cyclops* is by far the worst weed out there. It is spreading and growing extremely rapidly. There are seedlings and young plants everywhere. I found one seedling about 60 feet from the nearest adult plant on an undisturbed high point, so they can at least spread that far by animals and likely much further. This one at least deserves a Limited ranking as it is so bad along the southern coast.

RESPONSE: *A. cyclops* will be included on our list for future PAF assessment.

10. *Volutaria tubuliflora* – At Point Loma, *Volutaria tubuliflora* was in a single location and appears to have been introduced in a construction project where soil was brought in, probably from the same areas the Orange County populations are coming from.

RESPONSE: This information was not added to the *Volutaria tubuliflora* PAF yet as it is not publicly available. Once information is publicly available it will be added to the PAF. However, new information on the population will not change any of the PAF scores.

11. *Oncosiphon piluliferum* – From southern California, *Oncosiphon* is the big shocker that it isn't listed. This is one of the most invasive plants I've seen. It often forms dense patches out-competing much of the adjacent plants. It's quickly popping up all over. It's especially bad in western Riverside County where the golden hills of California are now or will soon be gold because of *Oncosiphon*. Same goes for San Pasqual Valley in San Diego County. I don't know the full extent of the population, but on a recent trip, I drove roughly 14 miles where it was a dominant species pretty much the entire way. If you look at all the Calflora points from western Riverside County, you could probably just draw a polygon around the whole thing and it would possibly be in most of that area. On Point Loma, I found a single plant approximately 1000 ft away from the nearest infested area off-trail in an undisturbed area. That's a significant distance. Animals seem the likeliest of dispersal mechanisms for that one. In summary: panic. This one easily deserves a High rating and an alert.

RESPONSE: *Oncosiphon piluliferum* was added to the Pending Assessment list in December 2010. It is being added to the Inventory as a "Watch" plant due to the score received on the PRE assessment. We plan to conduct a PAF assessment for this species during our next review cycle.

12. Multiple species – At least in San Diego County, I find it interesting that *Limonium duriusculum* is a Moderate and *Limonium perezii* is Limited. Both seem equally bad along the coast here. *L. perezii* is the really bad one along the coast in bluff areas. There are many areas covered with it and not much else. Same goes with the two *Mesembryanthemums*. I would say *M. crystallinum* is only potentially worse here because it has bigger leaves that sometimes densely cover an area. *Nodiflorum* has small leaves so other plants can more easily grow in-between them.

RESPONSE: *Limonium perezii* will be added to the list of PAF species to be re-evaluated in light of new information on the increase in its distribution and invasiveness in wildlands. *M. nodiflorum* did not have as much documentation of invasiveness as *M. crystallinum* in California, giving it a Limited instead of Moderate or other rating.

13. *Chasmanthe floribunda* – I've seen *Chasmanthe floribunda* spreading in a few native areas in coastal San Diego County. I think this one has potential to be bad, but it is early enough that it could possibly be stopped.

RESPONSE: *Chasmanthe floribunda* will be considered for a PAF assessment in the future.

14. *Stipa tenuissisima* – Same goes for *Stipa tenuissima*. (“I've seen it spreading in a few native areas in coastal San Diego County. I think this one has potential to be bad, but it is early enough that it could possibly be stopped.”) A scary note on that one is that I saw it planted in a restoration site. Presumably it was misidentified as a native *Stipa*. This one appears to spread easily

RESPONSE: *Stipa tenuissima* is now on the Inventory as a “Watch” species per its PRE assessment. It was also assessed with a PAF in 2017, but evidence was not available documenting species impacts in wildlands. If such information becomes available we will re-assess this species.

15. *Buddleja davidii* – has this escaped anywhere in California?

RESPONSE: Yes, there are observations in Calflora of butterfly bush growing in the wild in a few places along the north coast and in the Bay Area.

Section 2 - Comments on invasive species assessment and listing in general:

Note: This section presents key points made by commenters concerned about Cal-IPC listing more invasive plants. For the full text of all comments, see the list compiled in the spreadsheet.

Killing plants is environmentally destructive.

Plants provide critical ecosystem services by producing oxygen, sequestering carbon, and providing food and shelter for animal life. Removing invasive plants is a way to modify the plant community, favoring some species over others, not to reduce the number of plants and the valuable ecosystem services they provide.

This is a “war on nature.”

No, this is an attempt to heal nature from damage inadvertently inflicted by humans moving organisms around the globe.

Favoring “native” species is a value judgment and is not scientific.

The goal of protecting biodiversity is value-based, with both practical and ethical rationales. Our organization and many others are dedicated to protecting California’s native biodiversity. We are fortunate to live in an area that is classified as one of the world’s biodiversity hotspots, and along with that good fortune comes a responsibility to care for our local biodiversity. Invasive plant management projects designed to protect biodiversity are based on science. An extensive scientific literature documents the impacts of invasive species.

We should be grateful for any plant that will grow here.

Believe it or not, California’s climate, drought and all, is very hospitable for many plants. San Diego County, for instance, has more native plant species than any other county in the country. However, these may not be plant species that register with people, since we are naturally attracted to particular types of plants. The challenge is to have landscaping plants that we like while also supporting the native plants that support native ecosystems.

Bias against non-natives is xenophobic.

Cultural integration and environmental protection are different spheres. Invasive plant management seeks to protect biodiversity by addressing the small percentage of non-native species that cause problems. Non-native plants can be a wonderful thing, broadening our diet and beautifying our landscaping.

How can you predict what plants might be invasive in the future?

We are using a risk-assessment approach that builds on decades of development internationally, and these methodologies are continually being tweaked to increase accuracy. As part of the assessment, one of the most important indicators that a species is more likely to become invasive in a particular area is whether it has already become invasive elsewhere around the globe, especially in places with similar climatic conditions. For instance, California’s Mediterranean climate is found in a few other places worldwide, including parts of Europe, Chile, South Africa and Australia, so a plant that is invasive there poses an especially high risk for being invasive here. Plants that have become invasive in regions with a different climate can pose a potentially significant risk. Conversely, few plants that have not already become invasive elsewhere can score high enough in the criteria system to be considered a high risk.

Doesn’t climate change render predictions impossible?

Climate change adds a layer of complexity to risk assessment. Cal-IPC, along with other conservation organizations, are working toward “climate smart” approaches that can best help plants and wildlife adapt to changing conditions. Addressing invasive plants is one of the ways to support adaptation for native biodiversity.

This preventative approach sounds like a plant is “guilty until proven innocent.”

Prevention and early intervention are important approaches, since they can fix a problem while it is still small. The level of resources available for addressing invasive plants is very low compared to the scale of the problem, so land managers often focus on strategic priorities where action now can have the most conservation benefit down the road by preventing future impacts.

Plants that Cal-IPC lists as “invasive” have value.

Non-native plants growing outside cultivation do provide some ecosystem value. For instance, blue gum eucalyptus is used by raptors and Monarch butterflies, and many non-native flowers provide nectar. But these values are usually not compensatory for the values that are lost when these non-native plants replace native plants and their interconnections with native wildlife. Non-native plants can also have negative impacts beyond impacts on biodiversity, such as aquatic weeds that impede irrigation and boat traffic in the Delta. But non-native plants have lots of cultural values as well, as producers of food and fiber or as ornamentals for landscaping. Thankfully, only a small percentage of non-native plants found in California are able to grow outside cultivation, and only a small percentage of those are invasive. Sometimes a particular plant species in a particular setting (for example, blue gum eucalyptus in the East Bay Hills) has a wide range of values and impacts, making community consensus difficult.

Take a broader approach and address base causes.

Addressing underlying causes is certainly a necessary part of restoring healthy environmental functions, and land managers work to do that whenever possible.

Not all of California is the same.

California is amazingly diverse, from desert to rainforest, from coastal estuaries to alpine meadows. It is important to know where each species can grow, so for each species we note which regions of the state and which habitat types it can grow in. The online Inventory database allows the user to filter by these regions and habitats to arrive at a list appropriate for a particular area.

Don’t make rules that affect all of us.

We are a non-profit organization with no rule-making authority. The Inventory is an information source based on the best available science. We work with partners in the horticultural community to advocate for sensible landscaping guidelines, and the Inventory is an important resource for that.

You should not increase the number of plants listed by almost 50%.

Most of the proposed additions are species that will be categorized as species to watch, not as species that are invasive. These species were prioritized from a much longer list that has been posted in conjunction with the Inventory for years. The current prioritization is more focused. Over 100 species

have been moved from the “pending assessment” category to the “Assessed, Not on Inventory” category.

Listing more species as “invasive” means more destruction.

A longer list of invasive plants will not increase the amount of work done on-the-ground—the resources available for this work are not changing. The additional information in the Inventory is intended to help strategically focus invasive plant management to be as effective as possible.

Herbicides should never be used.

Land managers take a science-based approach, including the assessment of the risks and benefits of herbicides. We work with partners such as the University of California’s Integrated Pest Management Program to ensure that land managers have the best available science. Herbicides are an appropriate tool that can be used safely and effectively.

Pesticides are poison—no environmentalist can support their use.

Modern pesticides, including herbicides, can be mis-used or have unintended consequences. For instance, the spraying of milkweeds on farm verges across the country are implicated in the crash of Monarch butterfly populations. However, not all chemicals and application scenarios carry the same risks. Herbicides are designed to affect plant physiology, and are inherently a much lower risk to human health than are insecticides, rodenticides, etc. Invasive plant management typically uses very small amounts of low-risk herbicides for a finite period of time. For a sense of scale, consider that homeowners use vastly more herbicides than do invasive plant managers. There is an extensive science-based regulatory structure designed to ensure safe use, and invasive plant managers dedicated to protecting wildlife are particularly careful about not doing anything that will be harmful.

RoundUp causes cancer.

This is a common misconception. The International Agency for Research on Cancer (IARC) declared glyphosate, the active ingredient in RoundUp, to be a probable carcinogen. This means that they believe it could conceivably cause cancer. The World Health Organization clarified that when real-world exposure risk is factored in, glyphosate does not pose a health risk. Because of the IARC listing, California’s Prop. 65 automatically requires that products with glyphosate get a warning label (just as do gasoline pumps and many other items in everyday life).

EPA testing of herbicides cannot be trusted.

Though the system is not perfect, there are extensive safeguards in place to ensure that testing is accurate and comprehensive. For our analysis of herbicide risks (such as in our best practices manual for protecting wildlife when using herbicides for invasive plant management, available free on our website) we have benefitted from the US Forest Service’s own analysis based on their access to testing results.

Cal-IPC cannot be trusted because is an arm of the chemical companies.

This is a persistent myth. Less than 1% of Cal-IPC's funding has ever come from herbicide manufacturers, and these funds were from exhibitor fees at our annual conference. Our funding comes from foundations (such as the National Fish & Wildlife Foundation), state agencies (like the California Wildlife Conservation Board), and federal agencies (such as the US Fish & Wildlife Service). We are a non-profit organization with an independent board of directors, none of whom are associated with the herbicide industry. (Our current board make-up is 40% from other conservation organizations, 20% from state agencies, 20% from consulting firms, and the remaining 20% a mix of universities, local government, and federal government.)