


Fire risk report for *Lantana camara*

Full Species Name <i>Lantana camara</i> L.	<div> <div>0</div> <div>Lowest risk</div> <div>1</div> <div>Highest risk</div> </div>																
Family: Verbenaceae	This species is likely a high fire risk in Hawai'i with a fire risk score of 0.40 .																
Common names: lantana lakana	This species was ranked by 49 managers on a scale of 'no risk', 'low risk', 'medium risk', or 'high risk'. The numerical score ranges from 0 to 1 with higher scores indicating more managers considered it a higher risk. A score of > .31 indicates high risk.																
Synonyms:																	
Known occurrences (as of 2020) 	<table> <tr> <th colspan="2">Summary of Fire ecology</th></tr> <tr> <td>Native habitat fire proneness</td><td>No Data</td></tr> <tr> <td>Fire promoting plant in its native range</td><td>No</td></tr> <tr> <td>Fire promoting plant in its introduced range*</td><td>Yes</td></tr> <tr> <td>Regenerates after fire</td><td>Yes</td></tr> <tr> <td>Promoted by fire</td><td>Yes</td></tr> <tr> <td>Reported flammable*</td><td>High</td></tr> <tr> <td>Relative is flammable*</td><td>No</td></tr> </table>	Summary of Fire ecology		Native habitat fire proneness	No Data	Fire promoting plant in its native range	No	Fire promoting plant in its introduced range*	Yes	Regenerates after fire	Yes	Promoted by fire	Yes	Reported flammable*	High	Relative is flammable*	No
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Year first documented as naturalized in Hawai'i: 1915																	
This species has been ranked by the Hawai'i Weed Risk Assessment program as High Risk with a score of 32.																	
View photos on Starr Environmental																	
View on Wikipedia																	
View occurrences on iNaturalist																	
View at Plants of Hawaii																	
View photos on Flickr																	

*These values were used by the model to predict fire risk

Detailed summary of Fire Ecology

Native habitat fire proneness (In any part of the plant's native range is its habitat described as fire prone due to natural or human caused fires?)	No Data	can't find info about this species in native range
Fire promoting plant in its native range (Does the species act as a major fuel source, increase fire severity, frequency, or modify fuel bed characteristics within its native range?)	No	can't find info for this plant in native range
Fire promoting plant in its introduced range (Same as Fire Promoting Native but within the species introduced range)	Yes	"We propose that lantana invasion may be facilitated by fire. Further, we suggest that lantana, once established, fuels further fires, setting up a selffeeding fire-lantana cycle (see Figure 1)." Hiremath, A. J., & Sundaram, B. (2005). The fire-lantana cycle hypothesis in Indian forests. Conservation and Society, 26-42.
Regenerates after fire (Does the plant regrow after fire by any means? This includes resprouters, reseeder, and recruiters which dispersed into the area within approximately one year post fire)	Yes	"Lantana apparently embodies several of the advantageous characteristics of other fire-enabled or fire-adapted invasive species. It resprouts readily on being burnt (Pereira 1919; Hakimuddin 1929);" Hiremath, A. J., & Sundaram, B. (2005). The fire-lantana cycle hypothesis in Indian forests. Conservation and Society, 26-42.
Promoted by fire (Does the plant increase in abundance after a fire?)	Yes	"We propose that lantana invasion may be facilitated by fire. Further, we suggest that lantana, once established, fuels further fires, setting up a selffeeding fire-lantana cycle (see Figure 1)." Hiremath, A. J., & Sundaram, B. (2005). The fire-lantana cycle hypothesis in Indian forests. Conservation and Society, 26-42.

Reported flammable (Is the species described as being flammable, being a major wildfire fuel, or high fire risk?)	High	"There are two primary mechanisms by which <i>L. camara</i> could alter fire incidence. First, <i>L. camara</i> invasion may introduce a more flammable material to a generally non-flammable ecosystem" Berry, Z. C., Wevill, K., & Curran, T. J. (2011). The invasive weed <i>Lantana camara</i> increases fire risk in dry rainforest by altering fuel beds. <i>Weed Research</i> , 51(5), 525-533.
Relative is flammable (Does a plant in the same genus meet the Reported Flammable criteria?)	No	

Text in quotes are direct quotes from the source

Text in square brackets was added by the assessor to clarify something or to summarize from a figure.

Text preceded by a “#” is comment from the assessor

The data presented were assembled from literature and database searches for each species using as much data as could be collected regarding the plant’s fire ecology under natural conditions. Searches aimed to be exhaustive and consist of as much data as could be located in 2020. Our machine learning algorithm was trained on 49 species of plants which had their fire risk ranked by 49 managers in Hawai’i in November 2020. The model used a conditional random forest regression algorithm to predict scores for each species using the manager score as the response variable and the fire ecology traits of each plant as the predictor variables to generate a fire risk score. This trained model was then used to predict the fire risk for all species which were not ranked by managers. The model was calibrated such that it is 90% accurate at predicting high fire risk plants and 79% accurate at predicting low fire risk plants. This research and the resulting fire risk model has been published in the journal [Biological Invasions](#) by [Kevin Faccenda](#) and [Curt Daehler](#) (both at the University of Hawai’i at Mānoa).

Note that the analysis doesn’t account for a plant species’ spatial distribution, population density, or distinct climate and ecosystem conditions (which can also influence fire risk). The fire risk of these species are mostly under “worst case” environmental conditions where the climate is dry enough to maintain fire, but wet enough to allow for plant growth and fuel accumulation. The fire risk ranking should not be taken as a stand-alone risk metric in prioritizing weed control efforts. Rather, this information may also be useful for determining if a newly discovered species poses a potential fire threat in wildland areas.

More general information on the weed risks and ecology of non-native plants in Hawai'i is available from the Hawai'i Invasive Species Committee's [Weed Risk Assessment database](#).

View more fact sheets at <https://www.pacificfireexchange.org/weed-fire-risk-assessments>

Fact sheet prepared by Kevin Faccenda (faccenda@hawaii.edu) in November 2021. Data were prepared by Kevin Faccenda in 2020.

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