## Fire risk report for Rubus glaucus

Full Species Name Rubus glaucus Benth.Family: RosaceaeCommon names: Andean raspberrySynonyms:	risk score of <b>0.</b> This species wa algorithm using	<b>16</b> . as ranke g the dat	d by our ta preser	1 Highest risk sk in Hawai'i with a fire machine learning nted on the next page. A ts the plant is a high fire
Known occurrences (as of 2020)	Summary of Fi	re ecolo	уgy	
	Native habitat	fire pro	neness	No Data
	Fire promoting native range	g plant i	n its	No
Year first documented as naturalized	Fire promoting introduced rar		n its	No
in Hawai'i: 1999 This species has been ranked by the	Regenerates a	fter fire		No Data
Hawai'i Weed Risk Assessment program as High Risk with a score of 17.	Promoted by f	ire		No Data
	Reported flam	mable*		No Data
View photos on Starr Environmental				
View on Wikipedia	Relative is flam	nmable*	٢	No
View occurrences on iNaturalist				
View at Plants of Hawaii View photos on Flickr	*These values w	ere usec	l by the m	nodel 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	
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	
Fire promoting plant in its introduced range (Same as Fire Promoting Native but within the species introduced range)	No	Not widely introduced
Regenerates after fire (Does the plant regrow after fire by any means? This includes resprouters, reseeders, and recruiters which dispersed into the area within approximately one year post fire)	No Data	
Promoted by fire (Does the plant increase in abundance after a fire?)	No Data	
Reported flammable (Is the species described as being flammable, being a major wildfire fuel, or high fire risk?)	No Data	

Relative is flammable	No
(Does a plant in the	
same genus meet the	
Reported Flammable	
criteria?)	

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 <u>Biological Invasions</u> by <u>Kevin</u> <u>Faccenda</u> and <u>Curt Daehler</u> (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 <u>Weed Risk Assessment database</u>.

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

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

This research was funded by the Department of the Interior Pacific Islands Climate Adaptation Science Center. The project described in this publication was supported by Grant or Cooperative Agreement No.G20AC00073 to Curt Daehler from the United States Geological Survey. The views

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