

Review of proposed designation of Critical Habitat for Mount Charleston Blue Butterfly (79FR 41225)

Below are comments and a correction on the description of geographic slope and the metric conversions described in the habitat sections. These corrections and comments are also inserted in the attached document.

pg 41228

Add that females on top hindwing have an orange submarginal band inside of the submarginal spots.

pg 41230

"The Mount Charleston blue butterfly is described to occur on relatively flat ridgetops, hillsides with slopes up to 32% (of vertical), or meadows, where tree cover is absent to less than 50 percent (Austin 1980, p. 22; Weiss *et al.* 1995, pp. 5–6; Weiss *et al.* 1997, pp. 10, 32–34; Boyd and Austin 1999, p. 17; Boyd and Murphy 2008, p. 19; Andrews *et al.* 2013, p. 3; Thompson *et al.* 2014, p. 138). "

Values of terrain slope (% slope compared to vertical) derived from 10 meter DEM GIS layer for plot points within the areas where MCBB adults have been observed indicate greater steepness than implied by statement of "gently sloping hills"

Range of slope values from occupied locations is 3 to 32%. Means by location range from 8.8 to 21 % (below)

	SLOPE10M Loc	Standard LSMEAN	Error
South Loop Main slope	19.05	1.68	
South Loop West Ridge	20.74	1.68	
Bonanza Trail south	15.61	1.84	
Blackjack Forest (E) LVSSR	8.77	2.91	

pg 41231

Errors in metric conversion:

2 per m² = 0.185 per ft²

0.1 per m² = 0.0093 per ft²

"Densities of nectar plants generally occur at more than 2 per square meter (m²) (0.2 per square foot (ft²)) for smaller plants such as *E. clokeyi* and more than 0.1 per m² (0.01 per ft²) for larger and taller plants such as *Hymenoxys* sp. and *E. umbellatum* (Thompson *et al.* 2014, p. 138). "

"Future surveys and research may document the importance of other plant species as food resources for Mount Charleston blue butterfly larvae. Densities of host plants are generally greater than two per m² (0.2 per ft²) (Weiss 1997, p. 34; Andrew *et al.* 2013, p. 9; Thompson *et al.* 2014, p. 138)."

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