ATTACHMENT SS2

REGION 2 SENSITIVE SPECIES EVALUATION FORM

Species: *Aquilegia laramiensis* / Laramie Columbine

Criteria	Rank	Rationale	Literature Citations
1 Distribution within R2	A	Laramie Columbine is restricted to Region 2. It occurs in the Laramie Range of southeastern Wyoming (Albany and Converse Cos.) mainly on the Medicine Bow National Forest. Dorn (1979) indicated that the species' range may extend to rocky areas of Larimer County, Colorado. The closest national forest in this county to the Medicine Bow National Forest is Roosevelt National Forest and no evidence of it was found in floristic inventories. The species is found in shady crevices, often on north-facing granite boulders and cliffs with pockets of rich soil at 6250-8000 feet. The soil-accumulating microhabitat is highly discontinuous on the landscape. The granite outcrops are usually in a forested landscape, contributing to the sheltered setting. Confidence in Rank High	• Fertig et al. 1994, 2000 • Dorn 1979, 2001 • Whittemore 1997 • Packer 1998, 1999 • University of Wyoming 1998 • Welp et al. 2000 • Wyoming Natural Diverstity Database 2001
2 Distribution outside R2	A	This species does not occur outside of Region 2. Confidence in Rank High	• -
3 Dispersal Capability	D	Not known. The fruit (follicle) ruptures to release seeds slightly over 1 mm long. By the isolated nature of its habitat, short-distance dispersal is likely to be the most common form of dispersal. When seedlings were observed, they were often aggregated in pockets Confidence in Rank High	• Payson 1918 • Wellborn and Heidel, pers. obs.
4 Abundance in R2	B	It is known from XX extant occurrencs, and was relocated at all three of theXX historical records. Systematic surveys for this species were conducted on Medicine Bow National Forest and adjoining BLM lands (Marriott 2004a, b, 2009). Confidence in Rank Low	• Marriott 2004a • Marriott 2004b • Marriott 2009 • Marriott and P XX • Heidel and Wellborn in progress • Welp et al 2000 • Fertig 2000 • WYNDD 2015

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5 Population Trend in R2	B	See habitat trends (below). After the Arapaho Fire of 2012, most populations remained stable. Any declines were localized, and the species was most vulnerable to crown fire when in low numbers and where it became established in small pockets of habitat within the forest matrix. Confidence in RankHigh	• Fertig 2000 • Heidel and Wellborn in progress
6 Habitat Trend in R2	C	The species' primary habitat, ledges and crevices in granitic cliffs, is likely to be stable. However, a question was raised in the Conservation Assessment (Marriott and Pokorny XX) whether it might be vulnerable to the effect of intense forest fire. In 2012, about XX% of all known populations burned in the Arapaho Fire, which behaved as a crown fire over most of the burn area. Therefore, surveys were conducted in 2014 to relocate burned populations and evaluate the effect of fire to the species and its habitat. The analysis is still underway but the species is known from recently burned, previously (10-years) burned, and old burn or unburned habitats. In recently burned settings, the species persisted even in places where the microhabitat had burned. In addition, population boundaries at a number of sites were found to be more extensive than previously documented because the outcrops were easier to survey rather than because the species had spread. Other plant species that flourished in response to fire may locally out-compete Aquilegia laramiensis, and there were a couple incidents in which cheatgrass and Canada thistle appeared to have spread into occupied habitat. It appears as though the harsh occupied habitat is less vulnerable than surrounding landscapes to encroachment by weeds and early succession native species, so unless there is a long-term decline in habitat quality, the composition changes associated with fire are not likely to reduce habitat suitability. Confidence in Rank High	• Heidel and Wellborn in progress •

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7 Habitat Vulnerability or Modification	C	The species' primary habitat on ledges and crevices in granite cliffs is largely inaccessible and resilient. The species is typically in partial or full shade on north-facing slopes, and at some sites, the surrounding forest canopy may help determine the light regime and microhabitat conditions. The reports that the species may extend downslope into forested habitats were confirmed in 2014 surveys. Some populations could also potentially be threatened by over-harvest for garden use. It is known from the Medicine Bow National Forest (Douglas Ranger District), BLM, state, and private land. One population is within the Ashenfelder Special Botanical Interest Area, and another is within the LaBonte Canyon Research Natural Areas. Confidence in RankHigh	• Fertig 2000 • Jankovsky-Jones et al. 1995 a, b • Jones 1989 • Munz 1946 • Neighbours and Marriott 1991
8 Life History and Demographics	D	Laramie Columbine is a taprooted herbaceous perennial with many stems that flowers in June-July. The Columbine genus is showy, and has modified petal appendages ("spurs") that contain nectaries, which attract pollinators Additional information on the species, including life history stages, population structure, longevity, mortality, pollination biology, and seed biology, are not available. Confidence in Rank High	• Whittemore 1997 • Munz 1946

Initial Evaluator(s):	Date:
Bonnie Heidel and Scott Laursen/ Bonnie Heidel	3 December 2001/ 2 March 2015

National Forests in the Rocky Mountain Region where species is KNOWN (K) or LIKELY(L)[1] to occur:

[1] Likely is defined as more likely to occur than not occur on the National Forest or Grassland. This generally can be thought of as having a 50% chance or greater of appearing on NFS lands.

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Colorado NF/NG	Known	Likely	**Kansas NF/NG**	Known	Likely	**Nebraska NF/NG**	Known	Likely	**South Dakota NF/NG**	Known	Likely	**Wyoming NF/NG**	Known	Likely
Arapaho-Roosevelt NF		?	Cimmaron NG			Samuel R.McKelvie NF			Black Hills NF			Shoshone NF		
White River NF						Halsey NF			Buffalo Gap NG			Bighorn NF		
Routt NF						Nebraska NF			Ft. Pierre NG			Black Hills NF		
Grand Mesa, Uncompahgre, Gunnison NF						Ogalala NG						Medicine Bow NF	X	
San Juan NF												Thunder Basin NG		
Rio Grande NF														
Pike-San Isabel NF														
Comanche NG														

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