REGION 2 SENSITIVE SPECIES EVALUATION FORM

Species: Xanthoparmelia neowyomingica Hale, new Wyoming xanthoparmelia lichen XANE4

Criteria	Rank	Rationale	Literature Citations
1 Distribution within R2	A	*Xanthoparmelia neowyomingica* is reported for the mountains above Boulder, CO (probably and/or close to NFS lands) by GBIF data portal. Hale (1990) indicates that it is known only from Colorado. According to McCune and Goward (1995), also known from high elevations in Wyoming. HALE89,90B. Mycotaxon 34:552.1989. Type: BL: Glacier Lake, 1 June 1962, Wirth s.n. (US). "Closely related to X. wyomingica but produces terete laciniae.. Type specimen from Colorado. GBIF reports: Boulder County, 3 miles (5km) south of Ward vicinity of Glacier Lake (there appears to be some private land surrounding Glacier Lake that separates it from the ARP.) Confidence in Rank Medium	• NatureServe 2009 • Weber and Wittman 1992 • GBIF • Hale 1990.

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Criteria	Rank	Rationale	Literature Citations
2 Distribution outside R2	A	NatureServe Status Global Status: G1 Global Status Last Reviewed: 18Feb1999 Global Status Last Changed: 26Mar1991 Rounded Global Status: G1 - Critically Imperiled Reasons: Xanthoparmelia neowyomingica is known only from high elevations in Wyoming and Colorado. Nation: United States National Status: N1 U.S. & Canada State/Province Status United States Colorado (SNR), Wyoming (SNR) GBIF also reports from Peru, Ecuador, Mexico and Arizona, however their data does not seem to be incorporated into the NatureServe Status reported above. However, the number of specimens reported is still small and these locations have no apparent population connections to each other save high elevation wind transport. See explanatory info below. McCune and Goward (1995) report for Wyoming. Possibly only outside NFS lands in R2. Steve Leavitt (BYU, pers. comm.) reports it "from a single site (in the High Uinta Wilderness area in northeastern Utah UT, Summit Co., Bald Mountain, west of Red Castle Basin, ele. 3500 m.)." It was "collected along an alpine tundra ridge… in open alpine meadows dominated by *Carex rupestris* and *Geum rossii*." Confidence in Rank Medium	• NatureServe 2009 • GBIF • Rogers and Lange 1972. • McCune and Goward 1995. • Steve Leavitt 2009, pers. comm.
3 Dispersal Capability	B	Most Xanthoparmelia are dispersed by the wind. Isolated bits of high elevation landscapes act as islands and isolate populations. May be dispersed by upper atmospheric winds. Confidence in Rank Medium	• Rogers and Lange 1972.

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Criteria	Rank	Rationale	Literature Citations
4 Abundance in R2	A	Extremely rare Confidence in Rank Medium	• NatureServe 2009
5 Population Trend in R2	A/D	Development at high elevations (roads, infrastructure, ski areas etc.) has probably reduced populations of this ground dwelling lichen (personal observations). Confidence in Rank Medium	• Personal observations
6 Habitat Trend in R2	A/D	Development at high elevations (roads, infrastructure, ski areas etc.) has probably reduced habitat and fragmented habitat of this ground dwelling lichen (personal observations). Confidence in Rank Medium	• Personal observations
7 Habitat Vulnerability or Modification	A	Habitat is vulnerable to land use changes, recreation uses, climate change. The more open areas are often developed or used prior to the forest (personal observations). Confidence in Rank Medium	• Personal observations
8 Life History and Demographics	B	Xanthoparmelia spp. disperse by surface winds and reproduce by thallus fragmentation and possibly by other means. Confidence in Rank Medium	• Rogers and Lange 1972

Evaluator(s):	Date:
/s/ Kathleen S. Roche [updated by Andrew Kratz]	01/23/09 [5/4/2009]

Non-vascular plants (cryptogams) with vagant or unattached life forms (Weber 1977) occur in many areas of the world, from the low altitude, hot deserts and cold steppes, to the high-altitude alpine areas and tundra (Perez 1994, 1997). Although the origin of vagant cryptogams is uncertain, factors such as detachment by water erosion, frost heaving and animal and human disturbances are strongly linked to their formation (Perez 1994).

Many species of lichens from arid and semi-arid regions have extensive continental distributions (Rogers 1977). This is not surprising given the small size of their fungal spores, which can easily be carried into the upper atmosphere (Rogers and Lange 1972).

Literature cited

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

Species Name: Xanthoparmelia neowyomingica															
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		**x**	Cimarron NG			Samuel R.McKelvie NF			Black Hills NF			Shoshone NF		
White River NF		**x**				Halsey NF			Buffalo Gap NG			Bighorn NF		
Routt NF		**x**				Nebraska NF			Ft. Pierre NG			Black Hills NF		
Grand Mesa, Uncompahgre, Gunnison NF		**x**				Ogalala NG						Medicine Bow NF		**X**
San Juan NF		**x**										Thunder Basin NG		
Rio Grande NF		**x**												
Pike-San Isabel NF		**x**												
Comanche NG														
Pawnee NG														

[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.