

SPECIES: Scientific [common]	<i>Draba fladnizensis</i> [White Arctic Whitlow-grass]
Forest:	Bridger-Teton National Forest
Forest Reviewer:	R.Lehman
Date of Review:	5/6/20
Forest concurrence (or recommendation if new) for inclusion of species on list of potential SCC: (Enter Yes or No)	No

FOREST REVIEW RESULTS:

1. The Forest concurs or recommends the species for inclusion on the list of potential SCC:
Yes ___ No X
2. Rationale for not concurring is based on (check all that apply):
Species is not native to the plan area _____
Species is not known to occur in the plan area X? _____
Species persistence in the plan area is not of substantial concern _____

FOREST REVIEW INFORMATION:

1. Is the Species Native to the Plan Area? Yes X? ___ No ___

If no, provide explanation and stop assessment.
2. Is the Species Known to Occur within the Planning Area? Yes X? ___ No ___

If no, stop assessment.

Table 1. All Known Occurrences, Years, and Frequency within the Planning Area

Year Observed	Number of Individuals	Location of Observations (USFS District, Town, River, Road Intersection, HUC etc.)	Habitat Description	Source of Information¹
8/27/1987	Unknown	Wyoming, Lincoln County: Salt River Range, headwaters of Corral Creek ca 1.2 air mi SSE of Corral Creek Lake, ca 9.5 air mi ESE of Afton. /2S16. 42.672° N, 110.7722° W	Vegetated rocky hummocks and lower talus slope, limestone. Phenology: fruiting. Elev. 9400 ft. Notes: Probably <i>Draba crassifolia</i>	Hollis Marriott, EO #6; #10707 (WYNDD GIS 2019, Rocky Mountain Herbarium 2020, SEINet 2020)
7/29/2005	Unknown	Outside BTNF approximately 1.5 mile east. Wyoming, Fremont County: East Slope Wind River Range and Vicinity: Tayo Park to Coon Lake to Wind River Peak to	Soil pockets amongst talus slope. Phenology: fruiting. Elev. 10910-13210 ft.	Rob Massatti, EO #11; #3302 (WYNDD GIS 2019, Rocky Mountain

		Deep Creek Lakes, ca 16 air mi WSW of Lander. 42.7084° N, 109.1285° W to 42.7284° N, 109.0929° W; GPS Reading		Herbarium 2020, SEINet 2020)
7/28/2006	Unknown	Outside BTNF on eastern boundary with Shoshone National Forest. Wyoming, Fremont County: East Slope Wind River Range and Vicinity: Knife Point Glacier, Indian Pass, and vicinity, ca 4 mi SE of Gannett Peak. 43.1253° N, 109.5736° W to 43.1108° N, 109.5878° W; GPS Reading	Scree slope. Phenology: fruiting. Elev. 10780-12080 ft.	Rob Massatti, EO #15; #8499. (WYNDD GIS 2019, Rocky Mountain Herbarium 2020, SEINet 2020)

¹ The Consortium of Pacific Northwest Herbaria (2020) data portal was also searched, and no additional occurrences on the Bridger-Teton National Forest were found.

- a. Are all Species Occurrences Only Accidental or Transient?

Yes___ No X

If yes, document source for determination and stop assessment.

- b. For species with known occurrences on the Forest since 1990, based on the number of observations and/or year of last observation, can the species be presumed to be established or becoming established in the plan area?

Yes X No___

If no, provide explanation and stop assessment

- c. For species with known occurrences on the Forest predating 1990, does the weight of evidence suggest the species still occurs in the plan area?

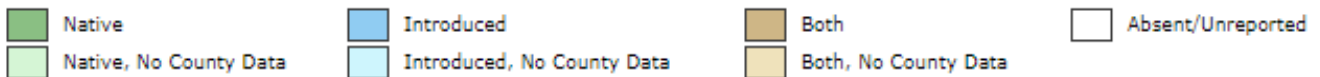
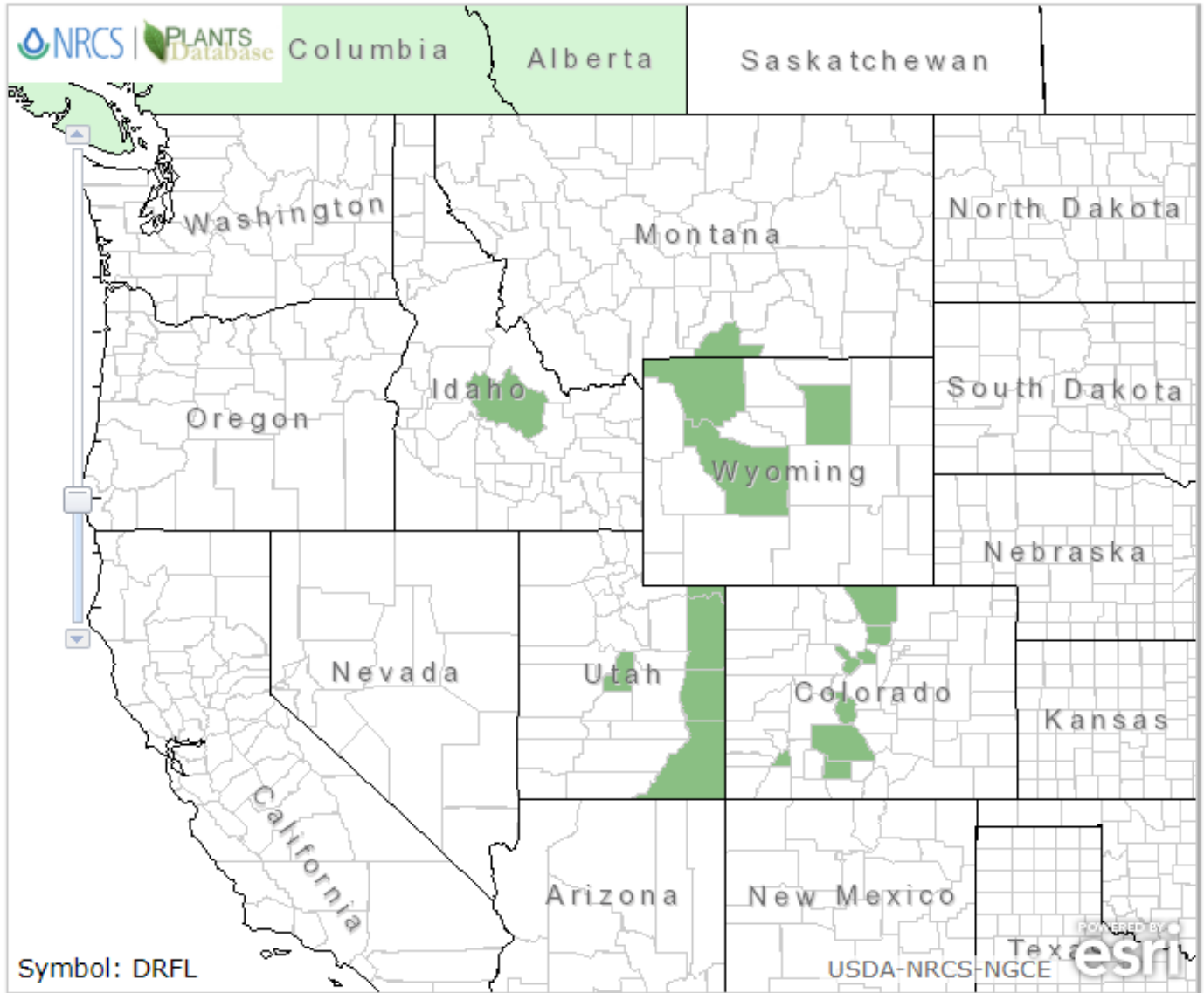
Yes___ No___

Provide explanation for determination

N/A—Occurrences have been documented since 1990.

If determination is no, stop assessment

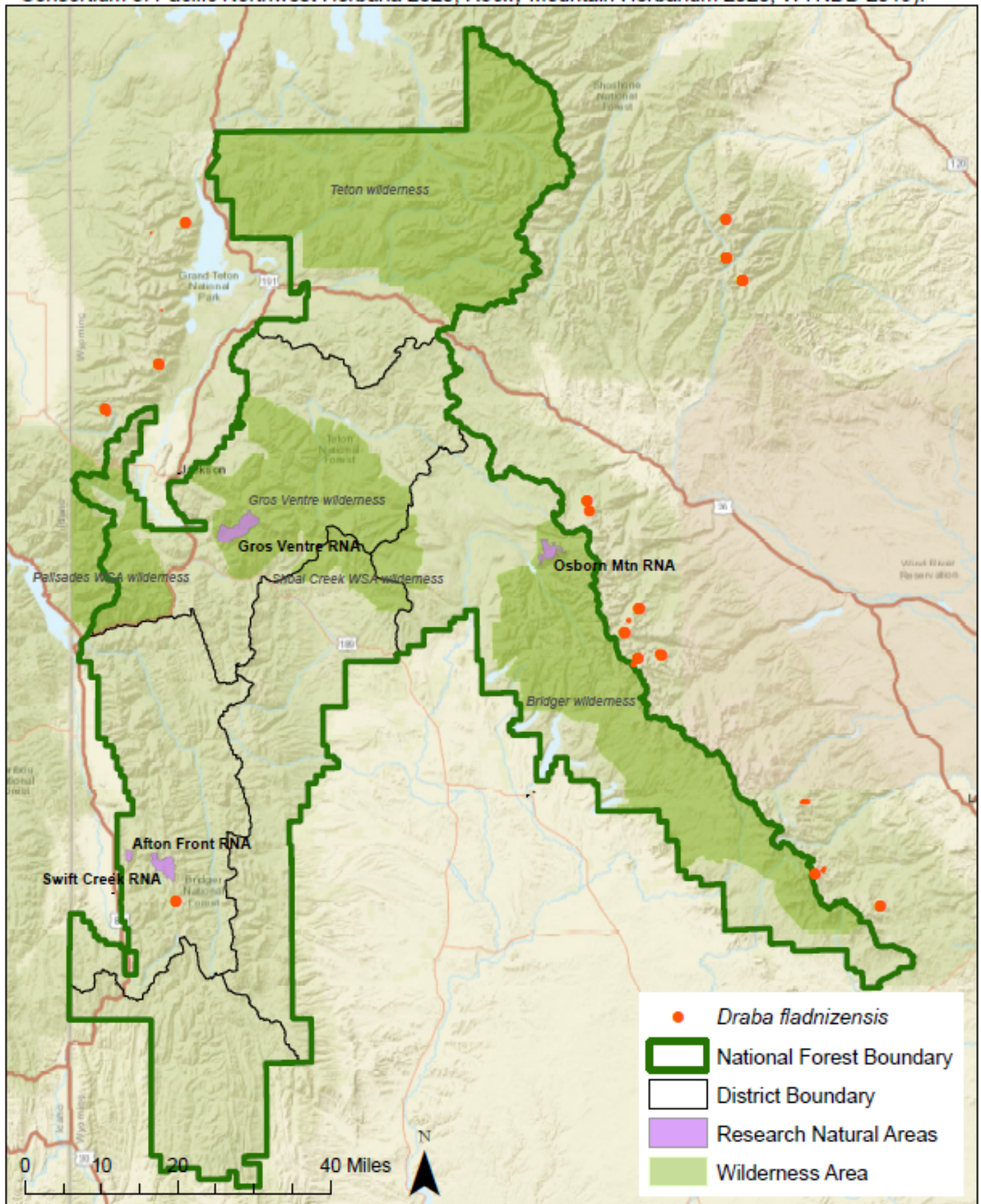
Map 1, *Draba fladnizensis* range in Wyoming and surrounding states (NRCS 2020).



Native Status:



Map 2. *D. fladnizensis* occurrences in Bridger-Teton National Forest vicinity (SEINet 2020; Consortium of Pacific Northwest Herbaria 2020; Rocky Mountain Herbarium 2020, WYNDD 2019).



3. Is There Substantial Concern for the Species' Capability to persist Over the Long-term in the Plan Area Based on Best Available Scientific Information?

Table 2. Status summary based on existing conservation assessments

Entity	Status/Rank (include definition)
NatureServe Global Status	<p>G4G5 – Apparently Secure/Secure</p> <p><i>G4 – Uncommon but not rare; some cause for long-term concern due to declines or other factors.</i></p> <p><i>G5 – Common; widespread and abundant.</i></p>
NatureServe State Status	<p>S2 – Imperiled</p> <p><i>At high risk of extirpation in the jurisdiction due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.</i></p>
WYNDD	<p>Plant Species of Potential Concern</p> <p><i>Species vulnerable to extirpation at the global or state level due to:</i></p> <ul style="list-style-type: none"> <i>a. their rarity (e.g., restricted distribution, small population size, low population density)</i> <i>b. inherent vulnerability (e.g., specialized habitat requirements, restrictive life history)</i> <i>c. threats (e.g., significant loss of habitat, sensitivity to disturbances)</i> <p>(Wyoming Natural Diversity Database - Species of Concern)</p>
USDA Forest Service	Not Region 4 Sensitive
USDOI FWS	Not listed
USDOI BLM	Not listed
IUCN	Not listed

Sources: WYNDD 2020; Heidel 2018; USDA Forest Service Regions 2 and 4 Sensitive Species Lists; NatureServe 2020

Table 3. Status summary based on best available scientific information.

Criteria	Rationale
Distribution on the Bridger-Teton National Forest	Known from one 1987 occurrence on BTNF (Table 1, Map 2), however, evaluation notes state “Probably <i>Draba crassifolia</i> ” (WYNDD GIS 2019). Therefore, it is uncertain if this species occurs within the national forest. There are two occurrences just east of the BTNF boundary in Shoshone National Forest and there may be suitable habitat and potential for dispersal into Bridger Wilderness on BTNF. More study is needed.
Distribution outside the Bridger-Teton National Forest	Circumpolar from Alaska to Greenland and Labrador, south in the Rocky Mountains to Utah and Colorado; also n. Europe. In Wyoming, known from the Absaroka, Beartooth, Wind River, and Big Horn Ranges (Fremont, Johnson and Park counties) with questionable records from the Teton and Salt River Ranges (Teton and Lincoln counties). Reports from the Medicine Bow Range are based on misidentified specimens of <i>D. crassifolia</i> . Known from 23 occurrences in Wyoming (WYNDD 2020). There are seven occurrences mapped to the east of BTNF in the Shoshone National Forest in 2005 and 2006 (Map 2).
Abundance on the Bridger-Teton National Forest	Census data are lacking for all occurrences, but populations are thought to be small.
Population Trend on the Bridger-Teton National Forest	Trend data is not available.
Habitat Trend on the Bridger-Teton National Forest	On the highest peaks at 10,200-13,000 feet. Wyoming populations are on alpine talus and scree, rocky slopes and flats, cliff crevices and ledges, and in alpine meadows (Fertig 2008, Aiken 2007, WYNDD 2020). Remote alpine habitat on BTNF is relatively stable (see climate related threats below).
Threats to the Species and its Habitat on the Bridger-Teton National Forest	Immediate threats are inferred to be low due to inaccessible habitat. Because alpine vegetation and barren rock mainly occur in designated wilderness, roadless, or remote areas where human interference disturbance is minimal, alpine communities are considered to be relatively stable. However, alpine communities are possibly the ecosystems in the region that are most at risk from the effects of climate change because of their shrinking habitat. According to Intermountain Adaptation Partnership assessments, alpine communities have a high sensitivity to climate change, a low adaptive capacity, and very high vulnerability to climate change (Halofsky, et al. 2018). Climate change is expected to cause increasingly warmer and wetter conditions, with worsening summer drought, and alpine areas may transition from snow-dominated to rain-dominated. An extended growing season is projected to occur in the alpine which can result in interspecific competition for resources, changes in plant community composition and displacement of rare plant populations where they currently occupy specific niches (Halofsky et al. 2018).

Criteria	Rationale
	<p>Alpine systems are dependent on snowfields and gradual snowmelt to maintain moisture for vegetation. Warming temperatures, increased drought, and changes in the depth and persistence of snowpack, surface water flow, and timing of peak runoff are projected to greatly affect alpine habitat in the Intermountain Region (Halofsky et al. 2018). The composition and distribution of alpine ecosystems will be affected by decreasing snowpack. For high-elevation vegetation, climate change may affect seed germination and survival by modifying moisture availability and therefore result in reduced plant success. Specific effects will depend on vulnerability thresholds of the characteristic species and the rate and magnitude of changes over time. Reduced snowpack with warming is likely to cause major changes in alpine plant communities (Halofsky, et al. 2018).</p> <p>Some loss of alpine vegetation communities, especially mesic meadows, attributed to upslope migration of trees and shrubs may occur (Halofsky et al. 2018). Some, subalpine communities may have potential to migrate higher in elevation as a response to changing conditions, but this may be limited by underdeveloped soils at higher altitudes. Furthermore, the rate of climatic change in alpine communities may outpace the ability of species to shift their distribution (Ash et al. 2016; Dirnbock et al. 2011). Other communities may already exist at the highest elevations in the BTNF and, therefore, may have limited upward migration potential.</p> <p>Rare plant populations that may be small, isolated, tied to snowpack abundance and distribution timing changes of spring thaw and fall frost cycles, and/or have limited dispersal capacity, are highly vulnerable to impacts from environmental change including reductions in pollination (Ellstrand and Diane 1993, Halofsky et al. 2018). Changes in temperature and precipitation may lead to greater variability in forb flowering, which could create an asynchronistic effect with native pollinator emergence (Halofsky et al. 2018; Miller-Struttman et al. 2015), leading to decreased reproduction in native plants. The value of pollinators in natural systems is difficult to quantify, but as pollinators are critical for successful reproduction and seed set for approximately 85% of flowering species globally (Hatfield et al. 2012), this asynchronistic effect may have profound implications.</p> <p>To analyze trends in occupied habitat, aerial imagery and a USFS GIS database of invasive plant populations, historical wildfires, trails, roads, Wilderness Areas, and Research Natural Areas was assessed at each contemporary occurrence on the Forest (USFS GIS 2019, Google Earth Pro 2020).</p> <ul style="list-style-type: none"> • Hollis Marriott, EO #6; #10707: Historical occurrence status and species verification unknown. Mapped in active allotments but no evidence of cattle trailing, herbivory effects unlikely on limestone talus slope habitat. Partially developed yearlong Sheep Pass road is nearby but road effects on talus slopes unlikely.

Criteria	Rationale
Life history and demographic characteristics of the species	Austrian draba is a multi-branched perennial herb from a simple or branched woody base. Stems are 2-6 cm tall, glabrous or slightly pubescent with simple to forked hairs, and leafless or with 1-2 small, toothed leaves. Basal leaves are 1-3 cm long and mostly oblanceolate. The flowers are arranged in a congested, 3-12 flowered raceme. Sepals are 1-2 mm long and sometimes pubescent with simple hairs. The white petals are 2-3 mm long. The fruit is an oblong to lance-shaped silique 3-6 mm long and is usually glabrous (WYNDD 2020, Fertig 2008). Flowering stems two or more per plant; without leaves. Inflorescences racemose; lengthening as the fruit matures. Flowers per inflorescence 3 to 6 and are small and radially symmetrical (Aiken et al. 2007).
Date: April 2, 2020 Reviewer: J. Remp	

Summary and Recommendations

Species (Scientific and Common Name): *Draba fladnizensis*

D. fladnizensis is listed as S2 (Imperiled) and G4G5 (apparently secure) globally. It is a Wyoming Species of Conservation Concern. Distribution is circumpolar from Alaska to Greenland and Labrador, south in the Rocky Mountains to Utah and Colorado; also n. Europe. In Wyoming, known from the Absaroka, Beartooth, Wind River, and Big Horn Ranges (Fremont, Johnson and Park counties) with questionable records from the Teton and Salt River Ranges (Teton and Lincoln counties). Reports from the Medicine Bow Range are based on misidentified specimens of *D. crassifolia*. Known from 23 occurrences in Wyoming (WYNDD 2020).

There is only one documented occurrence of the species on the BTNF but it has been noted that it is likely *D. crassifolia* (WYNDD GIS 2019). Because of this it is uncertain if the species actually occurs within the planning area (BTNF).

Wyoming populations are on alpine talus and scree, rocky slopes and flats, cliff crevices and ledges, and in alpine meadows (Fertig 2008, Aiken 2007, WYNDD 2020). Remote alpine habitat on BTNF is relatively stable

Because the one documented occurrence is likely a miss-identification with no identified threats, *D. fladnizensis* is not recommended as a SCC species.

Evaluator: Rose Lehman Date: 3/31/2021

References

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