

SPECIES: Scientific [common]	<i>Carex concinna</i> [Beautiful sedge]
Forest:	Bridger-Teton National Forest
Forest Reviewer:	Daniel Lay/Rose Lehman; Trevor Bloom
Date of Review:	1/25/2020; 3/27/2021; 3/25/2025
Forest concurrence (or recommendation if new) for inclusion of species on list of potential SCC: (Enter Yes or No)	Yes

FOREST REVIEW RESULTS:

1. The Forest concurs or recommends the species for inclusion on the list of potential SCC:
Yes X No
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
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 Information ¹
7/1/1964	N/A	Adjacent to lakeside trail on west shore of Lower Green River Lake.	Engelmann spruce forest adjacent to small stream crossing on lakeside trail.	Collector: Walter Fertig, Collection #2764 (Rocky Mountain Herbarium, accessed 2020). SEINet, 2020 & WYNDD, 2019.
7/2/1990	N/A			
7/1/1992	N/A			

¹The Consortium of Pacific Northwest Herbaria (Consortium of Pacific Northwest Herbaria 2019) and the Rocky Mountain Herbarium (RMH, 2020) were 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

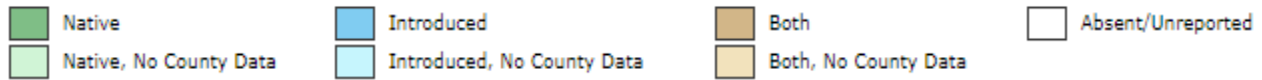
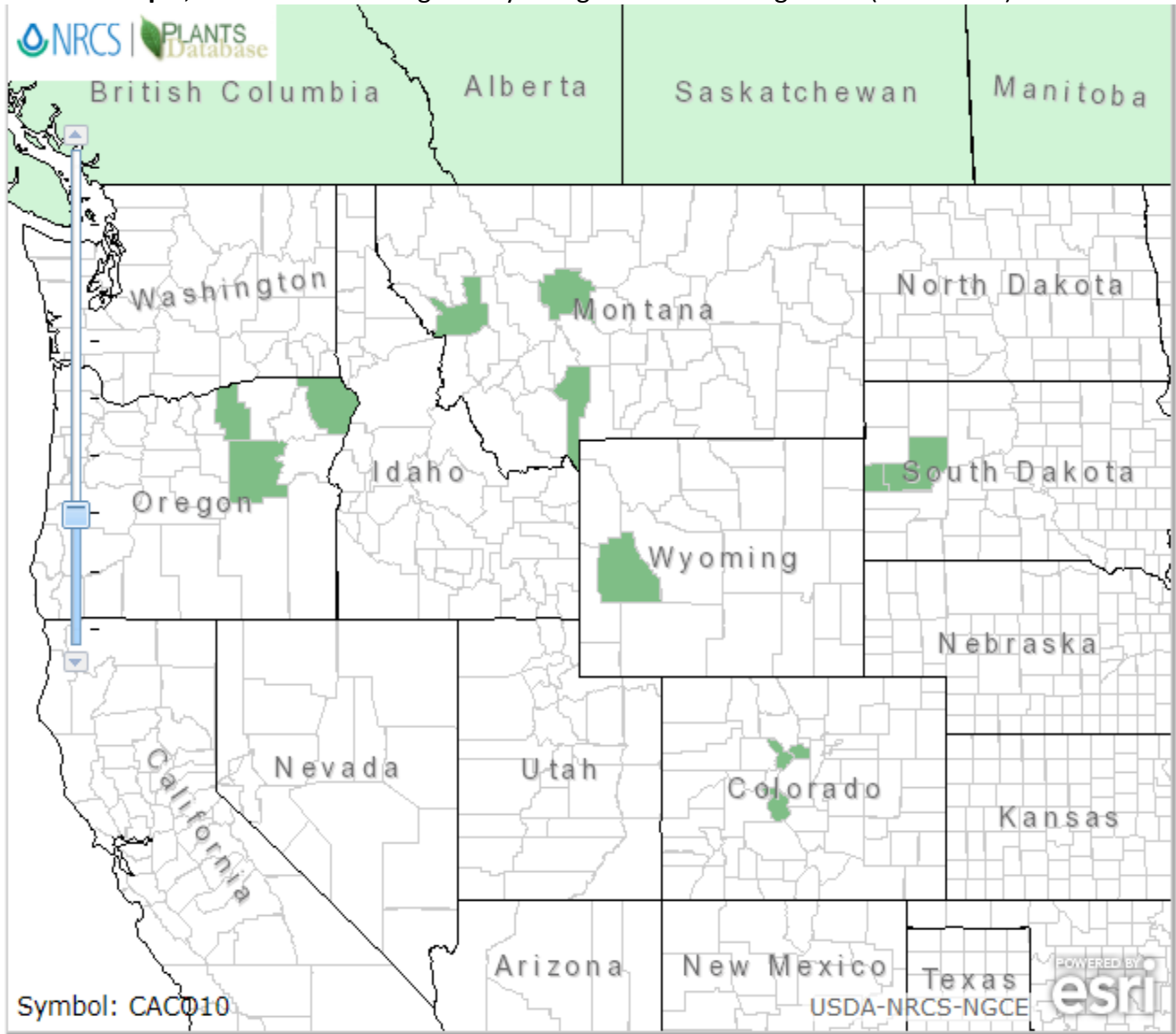
c. For species with known occurrences on the Forest predating 1990, does the weight of evidence suggest the species still occurs in the plan area?

Yes ___ No ___

Provide explanation for determination

If determination is no, stop assessment

d. **Map 1, *Carex concinna* range in Wyoming and surrounding states (NRCS 2020).**



Native Status:



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	G5— Secure <i>At very low risk of extinction or elimination due to a very extensive range, abundant populations or occurrences, and little to no concern from declines or threats.</i>
NatureServe State Status	S1— Critically Imperiled <i>At very high risk of extinction or elimination due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.</i>
WYNDD	Plant Species of Concern G5/S1 <i>Species vulnerable to extirpation at the global or state level due to:</i> <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> (Wyoming Natural Diversity Database - Species of Concern)
USDA Forest Service	Not listed
USDOI FWS	Not listed
USDOI BLM	Not listed

Sources: WYNDD 2019; 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	Table 1 and Map 2 detail <i>Carex concinna</i> occurrences in the Bridger-Teton National Forest. The only EO that occurs on the Bridger-Teton NF is within the Bridger Wilderness on the margin of spruce and riparian habitat near Lower Green River Lake.
Distribution outside the Bridger-Teton National Forest	Alaska and the Yukon Territory to Newfoundland, south to Oregon, Colorado, South Dakota and Michigan. In Wyoming it is known from the Absaroka and Wind River ranges and Yellowstone Plateau in Park and Sublette counties.
Abundance on the Bridger-Teton National Forest	<p>There has been three visits at the only occurrence on the BTNF, and none of those visits contained abundance data. However, according to (Fertig, 2000), known populations typically contain fewer than 20 plants and cover small areas.</p> <p>Although the entirety of Bridger-Teton National Forest has not been floristically inventoried, some areas within and adjacent to Bridger-Teton National Forest have been surveyed over the years. This species was not documented during these survey efforts:</p> <ul style="list-style-type: none"> • Sensitive plant surveys and status of rare plant species on Bridger-Teton National Forest, 1997-1998 (Fertig 1999) • A Floristic Inventory of Grand Teton National Park, Pinyon Peak Highlands, and Vicinity, Wyoming U.S.A (Kesonie and Hartman 2011) • Sensitive and rare plant species inventory in the Salt River and Wyoming Ranges, Bridger-Teton National Forest (Heidel 2012). • Rare Species and Riparian Vegetation of the Snake River Basin in Wyoming (Jones et al. 2002)
Population Trend on the Bridger-Teton National Forest	Data on population trends for this species have not been collected. No other sources provide additional population or multi-year trend monitoring data.
Habitat Trend on the Bridger-Teton National Forest	In (Heidel, 2019), a level 1 inventory of fens on the forest was conducted to determine the status and species diversity of fens on the Bridger-Teton NF. Most of the fens that were surveyed had little to no natural or anthropological impacts. In areas along the Green River with easy access and seemingly high-visitation, the fens showed surprisingly few hydrological disturbances. With the data provided within (Heidel, 2019), it can be assumed that habitat for <i>C. concinna</i> is stable, but further studies need to be conducted to determine the long-term trend of the habitat.
Threats to the Species and its Habitat on the Bridger-Teton National Forest	Riparian and wetland habitat may be threatened by climate change effects and disturbance or loss of wetland habitat. Changes in flow regimes, such as those from water diversions and dams, impact the amount, season, and timing of flows. This can substantially alter associated riparian and wetland species because of their dependence on fluvial geomorphic process, surface water, and groundwater. Floods are responsible for erosion, transport, and deposition of

Criteria	Rationale
	<p>sediments, as well as the amounts and location of vegetation and debris. Many dominant riparian species, such as cottonwoods and willows, are pioneer species that depend on these events to provide bare, moist substrates necessary for seed germination and plant establishment (Halofsky et al. 2018). Mid-elevation riparian and wetland communities are rated as having a moderate to high sensitivity to climate change, moderate adaptive capacity, and moderate to high vulnerability (Halofsky et al. 2018). Mid-elevation riparian plant species may have the ability to move upward in elevation, but where resilience has been compromised by human uses, these systems may not be able to easily adjust to changes in their environment. Invasive species that already dominate many mid-elevation sites are likely to expand their dominance. As riparian areas become drier, upland species will continue to expand into these sites (Halofsky et al. 2018). Grazing can impact wetlands by altering water quality, trampling herbaceous vegetation, increasing bare ground, and facilitating noxious weed expansion in riparian areas. Rangelands form a major component of ecosystems in the Bridger-Teton National Forest, and there are open rangelands throughout the Forest (USFS 2017). Although no active grazing allotments overlap the two occurrences, it is likely that they overlap potential habitat and could limit future recruitment. While adherence to rangeland management plans will limit the chance of overgrazing, there is potential for impacts to <i>C. concinna</i> and its' habitat to occur.</p> <p>The area in which <i>C. concinna</i> occurs is within the Bridger Wilderness and does not have any active grazing allotments that overlap, but riparian areas downstream appear to be similar in hydrological function and therefore potential habitat could be impacted by active grazing or trampling.</p> <p>Threats described in (Fertig, 2000) include trampling by humans and pack animals (recreation).</p> <p>The above analysis suggests that habitat for <i>C. concinna</i> has probably experienced minimal impacts from natural and anthropogenic disturbances, but may be more likely to have impacts in areas of potential habitat from grazing, recreation, and development. Also, increased long-term effects from climate change have been forecasted for fen/wet meadow areas such as these (Halofsky et al. 2018).</p>
<p>Life history and demographic characteristics of the species</p>	<p><i>Carex concinna</i> is a slender, low-growing graminoid with creeping rhizomes, and flowers June-August. Life history and dispersal capacity knowledge is generally limited. Habitat is described as occurring on mossy, well-drained soils by small streams at 6,600-8,000 feet.</p>
<p>Date: January 25, 2020 Reviewer: D. Lay</p>	

Summary and Recommendations

Species (Scientific and Common Name): *Carex concinna* (Beautiful sedge)

Carex concinna is listed as S1 (critically imperiled) and G5 (secure) globally. General habitat has been described as mossy, well-drained soils in open-forested areas near small streams. Although it is rare in Wyoming, it is distributed well throughout its range, and appears to be abundant and secure as a circumboreal plant.

Only one occurrence has been documented on the BTNF which is also within the protections of the Bridger Wilderness. This occurrence has had no baseline abundance or population trend assessments conducted. Additional surveys and long-term trend monitoring need to be conducted on this occurrence to assess the trend of the populations on the BTNF.

Threats to current habitat include recreation, trampling, and climate change, while threats to potential habitat include grazing, trampling, invasive plants, development and climate change. Climate change is projected to be a long-term threat to both populations and habitat for this species. Invasive plant species do not pose much of a threat to the known *C. concinna* occurrence as there are no known invasive populations within the immediate area. With the wilderness protections in place and somewhat limited threats to the known occurrence, however with only one known occurrence associated with moist soils there is a substantial concern for the capability of *C. concinna* to persist over the long-term on the Bridger-Teton, therefore, it is recommended to be a Species of Conservation Concern.

Evaluator: Daniel Lay/Rose Lehman Date: 1/25/2020; 3/27/2021

Reviewed and Updated: Trevor Bloom Date: 3/25/2025

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