

Bunchgrass Meadows — Among Our Wetlands of Distinction

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In the northeast corner of Washington State sit the Selkirk and Kettle mountain ranges. There, woodland caribou, grizzly bear, and gray wolves freely roam 1.5 million acres of spruce and fir forest, talus, and river valleys. Within this geographic area is Bunchgrass Meadows, a 711-acre (288-hectare) wetland complex within the Colville National Forest that stands out as one of the many gems on our public lands and one of the newest “Wetlands of Distinction”.

Bunchgrass Meadows is at the headwaters of Harvey Creek and at the crossroads of Kootenai, Colville, Kalispel,

Spokane, and Okanogan traditional tribal lands (Figure 1). This relatively high-elevation feature (about 5,084 ft., 1,550 m) is found in the Canadian Rocky Mountain ecoregion near the boundary between Washington and Idaho. Snowmelt and rain confined by the surrounding hillslopes collect and linger on a slow meander to Harvey Creek at the northeastern end, sustaining an exceptionally rich and diverse array of wetland habitats (riverine, lacustrine, slope, and depressional; Figure 2). Multiple natural resource management agencies have compiled documentation on the unique structure and composition of this wetland complex. The U.S. Forest Service (USFS) designated Bunchgrass Meadows as a Research Natural Area (RNA) in 2008.

The USFS’ regional RNA Committee found Bunchgrass Meadows to be exemplary of terrestrial and wetland ecosystems, including high elevation mountain meadow,



Figure 1. Bunchgrass Meadows, Washington State, USA. The site is part of Colville National Forest, along the Washington-Idaho border (inset). (Image Source: Google Earth)

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Figure 2. Oatgrass ringed sedge and cottongrass/spruce wetlands at Bunchgrass Meadows. (Photo credit: U.S. Forest Service)



Figure 3. Subalpine fir and western white pine overlooking Bunchgrass Meadows. (Photo credit: U.S. Forest Service)

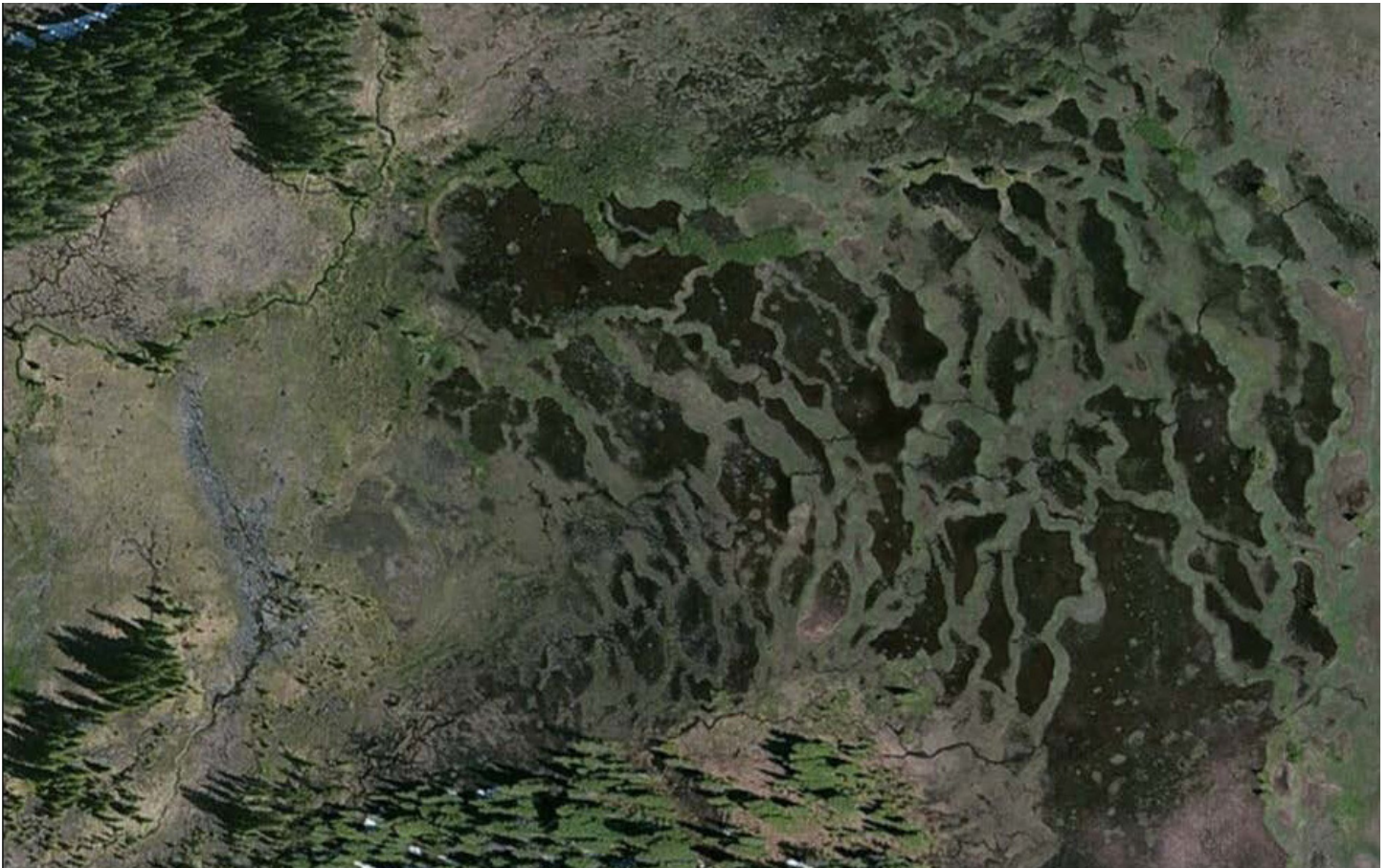


Figure 4. Aerial view of string and flark bog (patterned peatland) at Bunchgrass Meadows. (Image Source: Washington State Natural Heritage Program)

subalpine sphagnum bog, subalpine fir/beargrass forest, and subalpine fir/Cascades azalea woodland that provided habitat for two sensitive plant species, meadow pussytoes (*Antennaria corymbosa*), beaked sedge (*Carex rostrata*). The subalpine fir/cascade azalea-beargrass (*Xerophyllum tenax*) plant community dominates upper-westerly slopes with high precipitation, and the subalpine fir/big huckleberry (*Vaccinium membranaceum*) community dominates the cool, relative dry sites (Figure 3). Bluejoint reedgrass (*Calamagrostis canadensis*) is common on bog moss string and flark dams (Figures 4 and 5) as well as in the transition from meadows to uplands. Mud sedge (*Carex limosa*) and beaked sedge (*Carex rostrata*) are also common on bog moss string and flark dams. Leafy tussock sedge (*Carex aquatilis*) and Northwest Territory sedge (*Carex utriculata*) are common in large flat fen sites. Holm's rocky mountain sedge (*Carex scopulorum* var. *prionophylla*) plant association is common, and hooded ladies' tresses (*Spiranthes romanzoffiana*; Figure 6) may be spotted on large, moderately sloping sub-irrigated bogs. Timber oatgrass (*Danthonia intermedia*) is dominant in the narrow band of

meadow on the edge of the upland forest. Farr's willow/few-flowered spikebrush (*Salix farrige*/*Eleocharis quinqueflora*) is common on flat tall cottongrass sites where the terrain is slightly hummocky. Tall cottongrass (*Eriophorum angustifolium* ssp. *subarcticum*; Figure 7) and Engelmann spruce (*Picea engelmannii*) /Holm's rocky mountain sedge communities are common throughout the RNA.

Twelve species of threatened, endangered or sensitive animals and fish have been documented at Bunchgrass Meadows, including woodland caribou (*Rangifer tarandus* ssp. *caribou*), Canada lynx (*Lynx canadensis*), bull trout (*Salvelinus confluentus*), grizzly bear (*Ursus arctos horribilis*), gray wolf (*Canis lupus*), Townsend's big-eared bat (*Corynorhinus townsendii*), peregrine falcon (*Falco peregrinus anatum*), wolverine (*Gulo gulo luteus*), fisher (*Martes pennanti*), redband trout (*Oncorhynchus mykiss*), and great gray owl (*Strix nebulosa*).

Rare forested and emergent wetland plant communities identified and mapped as high conservation value by the Washington Department of Natural Resources (WDNR) include *Carex aquatilis* var. *aquatilis* fen, *Picea engelmannii*



Figure 5. Flooded lowlands at Bunchgrass Meadows. (Photo Credit: U.S. Forest Service)



Figure 6. Hooded Ladies' Tresses (*Spiranthes romanzoffiana*). (Photo credit: Amanda Hendrix, USFS)



Figure 7. Tall Cottongrass (*Eriophorum angustifolium*). (Photo credit: Amanda Hendrix, USFS)

nii/Carex scopulorum var *prionophylla* swamp woodland, *Carex scopulorum* var *prionophylla* fen, *Carex utriculata* fen, *Eleocharis quinqueflora* fen, *Salix farriae/Eleocharis quinqueflora* shrub fen, *Calamagrostis canadensis* western wet meadow, *Danthonia intermedia* wet meadow, *Carex limosa* fen, *Carex rostrata* fen, and *Eriophorum angustifolium* ssp. *angustifolium-Eleocharis quinqueflora/Sphagnum* spp. fen. Washington Native Plant Society maintains a list of 132 plant species identified at Bunchgrass Meadows, only one of which is non-native.

Soils formed from volcanic ash, colluvium, and accumulated organic matter include borosaprists, Uncas muck, Vassar ashy silt loam, and Manley silt loam. The peatland and other elements of this unique wetland complex and neighboring forested uplands support populations of the rare plants and twelve species of threatened and endangered or sensitive animals above listed the USFS, WDNR, and US Fish and Wildlife Service (USFWS). Perhaps the most imperiled of the USFWS-listed species is the southern mountain caribou distinct population segment (DPS) of woodland caribou, which was listed as endangered in 2019.

Though not part of the 2012 designated critical habitat for the southern mountain caribou DPS, Bunchgrass Meadows is within the current range and provides habitat for this species and other listed threatened and endangered species, a testimony to the wildness of this place.

The nomination of Bunchgrass Meadows as a *Wetland of Distinction* came from longtime SWS - Pacific Northwest Chapter member Scott Luchessa, who noted "...it was clear this was a magical place. It is the only place in the lower 48 where I have heard gray wolves howling." Through his research, Mr. Luchessa found that the wetland component potentially includes the southernmost patterned peatland in the coterminous USA. The high elevation fen component of the wetland was identified in the 2007 and 2011 WDNR Natural Heritage Plan as a high conservation need. "Upon visiting Bunchgrass RNA with fellow wetland scientists during this past year's annual (SWS) meeting in Spokane" Mr. Luchessa wrote, "we found the system also appears to support tiny fingernail clams, a first for me. Hopefully, I will have the opportunity to visit this spectacular system many more times before my best days are behind me."