



Annotated Checklist of Vascular Flora

Cedar Breaks National Monument

Natural Resource Technical Report NPS/NCPN/NRTR—2009/173



ON THE COVER

Peterson's campion (*Silene petersonii*), Cedar Breaks National Monument, Utah. Photograph by Walter Fertig.

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Abstract

In 2005–2006, the National Park Service’s Northern Colorado Plateau Network received funding to develop a revised checklist of the vascular plant flora of Cedar Breaks National Monument. This entailed a thorough review of existing literature, re-examination of specimens from the Cedar Breaks National Monument herbarium and other state and national museum collections, and additional field work to corroborate unverified species reports and locate new species. Based on this study, 345 vascular plant taxa have been confirmed or reliably reported as occurring in the monument (338 are known from validated herbarium specimens and 7 from unvouchered literature reports). Another 40 species formerly considered part of the monument flora have now been shown to be falsely reported. The current flora of Cedar Breaks National Monument represents 9.6% of the known flora of Utah and 21.5% of the flora of the Utah High Plateaus ecoregion. At least 18 of these species were formerly candidates for potential listing under the Endangered Species Act or are considered species of concern by the state’s natural heritage program. Introduced plants make up 5.2% of the monument flora (18 species) but none are considered noxious weeds by the State of Utah. Further surveys in Cedar Breaks National Monument are likely to find additional new species (217 are known from similar habitats outside the monument boundary), especially among fall-flowering, weedy, or wetland taxa. Further floristic studies will be needed if the Ashdown Gorge Wilderness Area ultimately becomes part of Cedar Breaks National Monument.

Acknowledgements

I would like to thank the following individuals for their assistance with this project: Dr. Angela Evenden, botanist and former leader of the NCPN program in Moab, was an active proponent of this project and helped secure funding for field work and herbarium studies in 2006. Dr. Douglas N. Reynolds assisted with field work in 2007, helping me add 19 new species to the Cedar Breaks flora and keeping me from falling off of cliffs. Leslie Courtright, curator of museum collections for Zion National Park and Cedar Breaks National Monument, provided access to all mounted and unmounted herbarium specimens from the monument. Laura Fertig recorded specimen-label data from all mounted collections in the Cedar Breaks National Monument herbarium. Paul Roelandt, Cedar Breaks National Monument Superintendent, provided research permits for work in 2006–2007. Libby Nance, former database specialist with the NCPN, assisted with development and quality control of the monument's NPSpecies database. Libby Nance, Janet Coles, and Helen Thomas also provided data from recent vegetation mapping and wetland inventories on the monument. Drs. Stanley Welsh and Duane Atwood provided access to herbarium collections at Brigham Young University. Dr. Michael Piep allowed access to collections at the Utah State University herbarium. Dr. Ron Hartman and Ernie Nelson provided access and specimen loans from the Rocky Mountain Herbarium at the University of Wyoming. Sarah Topp and Amy Tendick, of the NCPN vegetation mapping team, shared collections and field data from their 2007 fieldwork. Rebecca Harms and Larry Stevens shared specimen data from their 2005 springs and seeps inventory. Thanks to technical reviewers Dr. Angela Evenden, Dr. Dusty Perkins, and Libby Nance for their comments and suggestions. To any others whom I may have inadvertently forgotten, please accept my apologies (and thanks).

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1 Introduction

In 2006, the National Park Service (NPS) established a cooperative agreement with the University of Wyoming, through the Rocky Mountains Cooperative Ecosystem Studies Unit, to produce a series of technical reports summarizing the vascular plant flora of each of the 16 national park units of the Northern Colorado Plateau Network (NCPN). These reports are based on existing information in the park service's NPSpecies database system and augmented by further data mining, reviews of state and regional herbaria, and new field surveys to resolve the status of many reported and unconfirmed species. The objective of these reports is to summarize the current state of knowledge of the flora of each park for the benefit of NPS biologists and interpretive staff, outside researchers, and the general public. The following report addresses the vascular flora of Cedar Breaks National Monument, in southwestern Utah. Other NCPN park units are addressed in separate reports.

1.1 Background and justification

One of the primary missions of NPS is “to conserve unimpaired the natural and cultural resources and values of the national park system for the enjoyment of this and future generations” (NPS 2000). Due to their high degree of protection and distribution across a wide variety of habitat types, the nation's national park units make a significant contribution to the protection of biological diversity (Noss and Cooperrider 1994). Unfortunately, the full contribution of the NPS system is not known, as many park units have traditionally lacked comprehensive biological inventories or monitoring programs to identify the composition and condition of their biota. Knowing the status of park flora and fauna is critical for effective park management and for systematically identifying and filling gaps in the nation's protected area network (Margules and Pressey 2000).

To rectify this shortcoming, Congress passed the National Parks Omnibus Management Act in 1998 to provide guidance and funding for an inventory and monitoring program across the entire National Park System. Since 2000, the NCPN Inventory and Monitoring Program has been developing and verifying species lists of vertebrates and vascular plants for each park unit in the network

(Evenden et al. 2002). This effort has entailed reviewing existing species checklists, corroborating the identification of specimens in park museum and herbarium collections, locating additional specimen records from other museums, mining relevant literature and datasets, and conducting field surveys to locate new taxa or confirm unsubstantiated reports.[†] All of these data have been synthesized in NPSpecies, the park service's standardized database for documenting park status (present, probably present, unconfirmed, falsely reported), abundance, residency, nativity, and rarity. With the production of a technical series of reports on the flora of each park, the NPSpecies data will now be available to a broader audience.

1.2 Objectives

The objectives of this project were to:

1. Document the current status (present, reported, potential, or falsely reported) of all vascular plant species that have been cited as occurring in Cedar Breaks National Monument, based on a review of herbarium collections and past literature.
2. Develop an annotated checklist of the flora of Cedar Breaks National Monument with supplemental information on taxonomic synonyms, distribution, within-park abundance, flowering period, growth form, nativity, habitat, and sources for each record.

1.3 Study area

1.3.1 History and setting

To Native Americans, the multi-colored badlands of what is now Cedar Breaks National Monument (NM) were known as “the circle of painted cliffs,” or the “place where the rocks are sliding down all the time.” Early Mormon settlers named the area Cedar Breaks after the abundance of juniper (locally known as “cedar”) and the abrupt cliffs, or breaks. In August 1933, President Franklin Roosevelt established Cedar Breaks National Monument to preserve the area's “spectacular cliffs, canyons, and features of scenic, scientific, and education interest contained therein. . . .” (Evenden et al. 2002).

Cedar Breaks NM is located in southeastern Iron County, Utah, approximately 18 miles east

[†]Taxa refer to all named species, subspecies, and varieties.

of Cedar City (Figure 1.3.1). The monument includes the colorful badlands of the Cedar Breaks Amphitheater, as well as the head of Ashdown Canyon and the western rim of the Markagunt Plateau. To the west, the monument is bordered by the Ashdown Gorge Wilderness Area, managed by Dixie National Forest. Recently, the Iron County commissioners have proposed expanding the monument's boundary to incorporate the Ashdown Wilderness and redesignate the area as Cedar Breaks National Park.

As presently configured, Cedar Breaks NM covers 2,491 hectares (6,155 acres), and ranges in elevation from 2,469 meters (8,100 feet) at the bottom of Ashdown Creek Canyon to 3,250 meters (10,662 feet) above the amphitheater rim (Evenden et al. 2002). The Cedar Breaks area is characterized by cold winters (averaging -1.9° C in January) with abundant snow (averaging 1.9–2 meters), and short, cool summers (average July temperature is 16.6° C). About 24% of annual precipitation comes from summer thunderstorms (Roberts and Jean 1989).

1.3.2 Geology

Cedar Breaks National Monument is located along the west rim of the Markagunt Plateau, an east-dipping sedimentary fault block uplifted nearly 10,000 feet by the Hurricane Fault (Hatfield et al. 2003). The lowermost strata exposed within the monument are Upper Cretaceous shallow marine sandstones and shales of the Straight Cliffs Formation, and river deposits of the Grand Castle and Wahweap sandstones. Along Ashdown Creek, these layers have been buried by Quaternary-age alluvial terraces and fan deposits. The Cedar Breaks Amphitheater exposes over 1,400 feet of reddish-orange and white Claron limestone that has been eroded by water, freeze-thaw action, and mass wasting into irregular spires, hoodoos, and steep cliffs. The Claron Formation (sometimes also referred to as the Cedar City or Wasatch Formation) consists of alternating bands of ledge-forming sandy limestone and slope-forming calcareous sandstone that were deposited at the bottom of a large, freshwater lake during the Paleocene and Eocene (Hatfield et al. 2003). This lake extended from near the Nevada state line east toward Bryce Canyon and Boulder Mountain, and was slightly larger than modern Lake Erie (Chronic 1988). The lower to upper-middle slopes of the amphitheater consist of the Red Member of the Claron, while the rim of the breaks is the White Member (Hatfield et al. 2003).

These layers have been undergoing extensive erosion for the past 10 million years as the Markagunt Plateau has been uplifted. The carving of the amphitheater rim continues to this day at a rate of 24–120 cm per century (Chronic 1988).

The area of Cedar Breaks NM to the east of the amphitheater rim is capped by lake and stream deposits of the Oligocene-age Brian Head Formation. Some of the Brian Head sediments were derived from tuff deposited by extensive volcanic fields to the north and west of the Markagunt Plateau. In places, the Brian Head Formation is overtopped by the Markagunt Megabreccia, a deposit of coarse, broken rock embedded in fine, volcanic ash. These deposits were originally laid down east of the monument, but moved into their current position by massive gravity sliding along weak shear planes in the poorly consolidated Brian Head layers (Hatfield et al. 2003). Also scattered along the east rim of the plateau are Quaternary-age landslides (such as the area around Alpine Pond) and eolian deposits. The extensive Pleistocene basalt flows found over much of the Markagunt Plateau are not present within the monument.

1.3.3 Vegetation

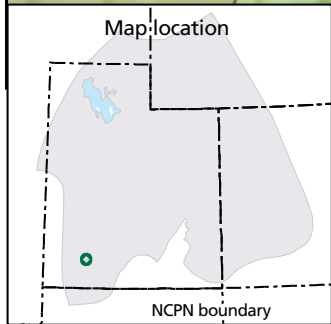
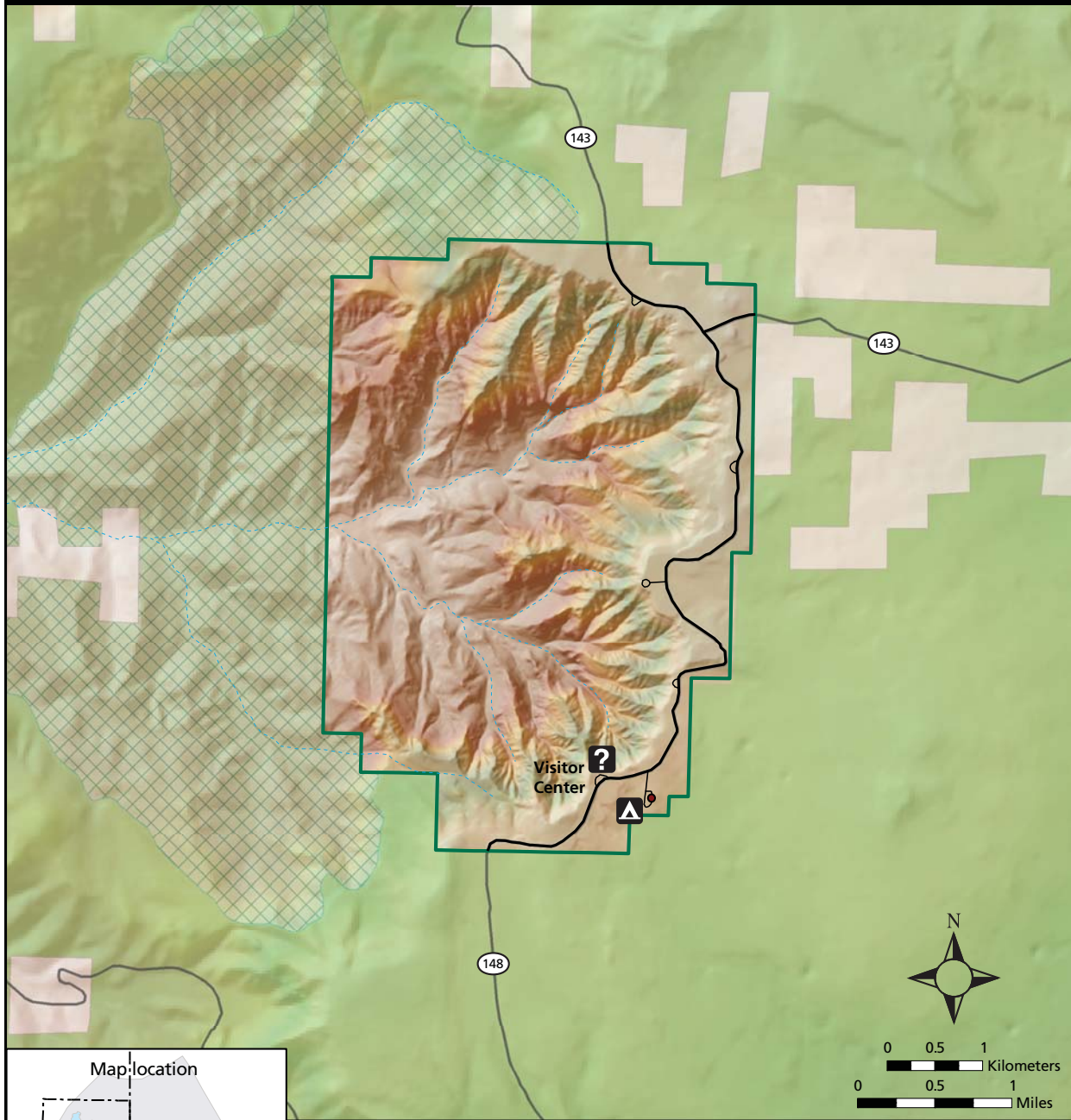
Roberts and Jean (1989) recognized 17 habitat types and 12 seral community types within Cedar Breaks National Monument. These can be aggregated into five main vegetation types following elevation, soil, and moisture gradients (more detailed vegetation descriptions and maps are available in NCPN in ed.).

The bottom of Ashdown Canyon and the lowermost slopes of the amphitheater are dominated by forests of white fir (*Abies concolor*) and Douglas-fir (*Pseudotsuga menziesii*). These forests are strongly correlated with outcrops of Cretaceous sandstones or Quaternary alluvium. Moister sites have an understory of Oregon-grape (*Mahonia repens*) or common juniper (*Juniperus communis*), while drier areas contain greenleaf manzanita (*Arctostaphylos patula*), Rocky Mountain maple (*Acer glabrum*), or curl-leaf mountain mahogany (*Cercocarpus ledifolius*). Quaking aspen (*Populus tremuloides*) may be locally abundant within white fir forests, especially on deeper, loamier soils.

A narrow band of riparian forest vegetation dominated by narrow-leaved cottonwood (*Populus angustifolia*), Engelmann spruce (*Picea engelmannii*), and water birch (*Betula occidentalis*),

Cedar Breaks National Monument

Utah



Established August 22, 1933
 2,469–3,250 m elevation
 (8,100–10,662 ft elevation)
 2,491 ha (6,154 ac)



Legend			
	Intermittent streams		Private
	Paved roads		U.S. Forest Service (USFS)
	Park boundary (NPS)		Ashdown Gorge (USFS wilderness area)

MAP CREATED BY CYNTHIA WANSCHURA, ZION NATIONAL PARK

Figure 1.3.1. Location of Cedar Breaks National Monument, Iron County, Utah.

is) occurs on alluvial terraces bordering Ashdown Creek and its main tributaries. A number of small springs are located above the terraces in the bottom of Ashdown Canyon and are locally dominated by white fir or blue spruce (*Picea pungens*), horsetails, and various sedges (Roberts and Jean 1989). Small areas of wetland vegetation associated with springs or small, perennial streams also occur on the summit plateau above the amphitheater rim, often on volcanic-derived soils or landslide deposits. Alpine Pond supports dense stands of water sedge (*Carex aquatilis*), small-wing sedge (*C. microptera*), and heartleaf bittercress (*Cardamine cordifolia*), while marshy meadows near Sunset Spring are dominated by beaked sedge (*Carex utriculata*), tufted hairgrass (*Deschampsia cespitosa*), Baltic rush (*Juncus arcticus*), shrubby cinquefoil (*Potentilla fruticosa*), and a variety of forbs (Springer et al. 2006). These wetlands grade into several subalpine fir forest and meadow habitat types described by Roberts and Jean (1989).

Barren slopes and rim areas of the Red and White members of the Claron Formation are dominated by cushion plants and widely scattered western bristlecone pine (*Pinus longaeva*) or limber pine (*P. flexilis*). Roberts and Jean (1989) named the Panguitch buckwheat (*Eriogonum panguicense*)/interior bluegrass (*Poa glauca*) habitat type to describe the sparsely vegetated cushion plant stands on calcareous, clayey soils along rim areas. Bristlecone/limber pine stands are more extensive, covering most of the slopes of the Cedar Breaks Amphitheater. Claron rims and slopes provide habitat for most of the rare, endemic plant species of the monument (Fertig and Reynolds 2007; Roberts and Jean 1989).

Forests above the amphitheater rim and on the summit of Cedar Breaks NM consist primarily of subalpine fir (*Abies lasiocarpa*) and Engelmann spruce, though pockets of aspen, Douglas-fir, limber pine, or western bristlecone pine also occasionally occur. These forests are associated with cobbly, clay loams derived from volcanic rhyolite and Claron limestone. Dominant understory species include aspen bluebell (*Mertensia arizonica*) on wetter soils and alpine prickly currant (*Ribes montigenum*), Oregon-grape, common juniper, and Ross' sedge (*Carex rossii*) on drier sites. While still common in the monument, 80–90% of mature Engelmann spruces have been killed by spruce bark beetles in an epidemic that began in 1993 (Evenden et al. 2002).

Subalpine meadows occur above the rim and on the summit flats of Cedar Breaks NM in openings interspersed among subalpine fir/Engelmann spruce forests. Better-drained soils support the bear daisy (*Erigeron ursinus*)/Letterman needlegrass (*Stipa lettermanii*) habitat type of Roberts and Jean (1989). During early summer, these meadows support a rich array of blooming wildflowers, including Markagunt penstemon (*Penstemon leiophyllus*), little sunflower (*Helianthella uniflora*), elkweed (*Swertia radiata*), and scarlet paintbrush (*Castilleja miniata*). This community grades into the wedge-leaf cinquefoil (*Potentilla diversifolia*)/tufted hairgrass habitat type on more permanently saturated soils (Roberts and Jean 1989).

1.3.4 Previous botanical studies

The full extent of botanical studies done prior to the establishment of Cedar Breaks National Monument remains poorly documented. Siebert (1924) conducted one of the earliest ecological studies of the Cedar Breaks area, focusing on alpine ecology (Table 1.3.4). The oldest confirmed herbarium records from the monument area were made in 1925–1926, by NPS collector Angus Woodbury (who also documented much of the early flora of Zion National Park). Pioneer Utah botanists Marcus E. Jones and Walter Cottam made at least two collections in the area in 1929. George Goodman and C. Leo Hitchcock collected at least a dozen specimens for the New York Botanical Garden in 1930, including the holotypes of Breaks draba (*Draba subalpina*) and Cedar Breaks wild buckwheat (*Eriogonum panguicense* var. *alpestre*) (Table 1.3.4, Figure 1.3.4).

Records become more complete after the creation of Cedar Breaks NM in 1933. During the late 1930s, 48 new species were discovered in the monument through the efforts of G. Y. Croft, collecting for the Cedar Breaks NM herbarium (CEBR), and Bassett Maguire, of Utah State University, who collected the type of Cedar Breaks daisy (*Erigeron sionis* var. *trilobatus*) in or near the monument. Many other prominent taxonomists visited Cedar Breaks NM in the late 1930s, including Ralph Gierisch, Alice Eastwood, and John T. Howell.

Collecting was more sporadic from 1940 to 1975. Thirty-six new species were added to the monument flora during the 1940s, by W. S. Boyle and J. L. Crawford (collecting for the CEBR herbarium)

Table 1.3.4. Chronology of plant-collecting efforts in Cedar Breaks National Monument.

Year	Collector(s)	# of new taxa	Comments
1924	F. R. Siebert	?	Florence Siebert (1924) studied the alpine ecology of Cedar Breaks area for her Master's thesis at the University of Chicago, but her collections were not examined for this study.
1925–1926	A. M. Woodbury	2	Mountain death camas (<i>Zigadenus elegans</i>) and common yarrow (<i>Achillea millefolium</i>) were the first two plant species collected from the monument in the CEBR herbarium.
1929	M. E. Jones and W. Cottam	2	Marcus E. Jones and Walter Cottam made at least two collections from the monument (specimens at BRY and NY).
1930	G. Goodman & C. L. Hitchcock	12	George Goodman and C. Leo Hitchcock collected the type specimens of <i>Draba subalpina</i> and <i>Eriogonum panguicense</i> var. <i>alpestre</i> from Cedar Breaks.
1934–1939	B. Maguire & G. Y. Croft	48	Bassett Maguire collected the types of King's plateau sandwort (<i>Arenaria kingii</i> ssp. <i>plateauensis</i> , now a synonym of <i>A. fendleri</i> var. <i>glabrescens</i>) and Cedar Breaks daisy (<i>Erigeron proselyticus</i> , now <i>E. sionis</i> var. <i>trilobatus</i>) from Cedar Breaks in 1934 (specimens at NY). G. Y. Croft made more than 60 collections for the CEBR herbarium. Additional noteworthy collectors during this period included Ralph Gierisch, C. L. Hitchcock, Alice Eastwood, and John T. Howell.
1940–1941	W. S. Boyle & B. F. Harrison	11	W. S. Boyle made more than 30 collections for the CEBR herbarium, including 10 new taxa. B. F. Harrison added one new species in 1940.
1942	O. Degener & L. Peiler	9	Otto Degener and Leroy Peiler made more than 20 collections (mostly at NY), including the first record of Navajo Lake milkvetch (<i>Astragalus limnocharis</i>) from the monument. Agrostologist Frank Gould also collected in Cedar Breaks in 1942.
1946–1947	J. L. Crawford and L. Woodbury	16	J. L. Crawford collected 51 specimens for the CEBR herbarium, including first records for 16 taxa. L. Woodbury added one new species (BRY records).
1952	M. E. Lewis	1	Mont Lewis discovered kobresia sedge (<i>Carex elynoides</i>) in Cedar Breaks National Monument.
1954–1955	A. F. Bruhn	44	A. F. Bruhn made nearly 100 collections for the CEBR herbarium, including 44 first records for the monument.
1966	R. Barneby	1	Rupert Barneby added Panguitch milkvetch (<i>Astragalus argophyllus</i> var. <i>panguicensis</i>) to the local flora.
1970	R. A. Nelson	15	Ruth Nelson collected more than 40 specimens (mostly deposited at RM), of which 15 represented new species for the monument (including the first record of Payson's daisy, <i>Erigeron vagus</i>).
1977–1979	S. Dickman & H. Buchanan	17	S. Dickman and Hayle Buchanan made more than 120 collections for the CEBR herbarium, including first reports for 17 new taxa. Noteworthy among these is the first record of Zion draba (<i>Draba asprella</i> var. <i>zionensis</i>).
1981	B. C. Palmer & L. A. Palmer	76	Brent Palmer, of Southern Utah University, collected more than 220 specimens while conducting a systematic floristic inventory of Cedar Breaks NM. The Palmers compiled an unpublished checklist of 245 species in 47 families in 1981 (Roberts and Jean 1989).
1982	S. L. Welsh	1 reported	Welsh's collection of mountain kentrophyta (<i>Astragalus kentrophyta</i> var. <i>tegetarius</i> , deposited at NY) has not been corroborated. (All specimens I've examined from the monument have been var. <i>elatus</i> .)
1986–1987	C. Johnson	3	C. Johnson documented three new exotic species for the monument.
1988–1989	C. Jean	44 (+ 5 reported)	Cathie Jean collected or reported (without vouchers) 49 new species while mapping major vegetation types and the distribution of selected rare plant species of Cedar Breaks NM (Roberts and Jean 1989). Jean discovered several new rare species, including Reveal's paintbrush (<i>Castilleja parvula</i> var. <i>revealii</i>), Cedar Breaks goldenbush (<i>Haplopappus zionis</i>), Zion jamesia (<i>Jamesia americana</i> var. <i>zionis</i>), Podunk groundsel (<i>Senecio malmstenii</i>), and Bryce Canyon townsendia (<i>Townsendia montana</i> var. <i>minima</i>).

Table 1.3.4. Chronology of plant-collecting efforts in Cedar Breaks National Monument.

Year	Collector(s)	# of new taxa	Comments
1994	N. D. Atwood	0	Duane Atwood documented the first two populations of Arizona willow (<i>Salix arizonica</i>) in Cedar Breaks NM. In 2005, I found a misidentified collection of this species by Brent Palmer in the CEBR collection, moving the earliest date for Arizona willow back to 1981.
1996	K. Mason	1	Karen Mason discovered lambsquarter (<i>Chenopodium album</i> var. <i>album</i>) in the monument.
2001	D. Louie, M. Malm, J. Alexander	1	Margaret Malm, Denise Louie, and Jason Alexander collected 24 specimens from the monument, including the first record of King's lupine (<i>Lupinus kingii</i> var. <i>kingii</i>).
2005	R. Harms and NPS vegetation mapping team	4 (+ 1 reported)	Rebecca Harms discovered 4 new riparian species for Cedar Breaks NM as part of the NCPN springs and seeps inventory (Springer et al. 2006). The NCPN (in ed.) vegetation mapping team reported one new species for the monument (without a voucher).
2006–2007	W. Fertig, D. N. Reynolds, & A. Tendick	31	Fertig and Reynolds (2007) documented 30 new species while conducting rare plant surveys across Cedar Breaks NM. Amy Tendick, of the NCPN vegetation mapping team, added one new species in 2007.

BRY = Brigham Young University herbarium; CEBR = Cedar Breaks National Monument herbarium; NY = New York Botanical Garden; RM = University of Wyoming Rocky Mountain herbarium

and B. F. Harrison, Otto Degener, and LeRoy Peiler (collecting for Brigham Young University and the New York Botanical Garden). Mont Lewis and A. F. Bruhn added 45 new species during the 1950s. New discoveries were especially slow in the 1960s and early 1970s, with Rupert Barneby (of the New York Botanical Garden) and Ruth A. Nelson (working for the National Park Service) adding just 16 new taxa.

Since 1977, several significant botanical surveys have been conducted at Cedar Breaks National Monument. Hayle Buchanan and S. Dickman added 17 new species to the monument flora from 1977 to 1979 (Buchanan 1992). In 1981, Brent

Palmer collected more than 220 specimens for the CEBR herbarium and documented 76 new taxa. Palmer's work resulted in an unpublished monument checklist containing 245 species (Jean and Palmer 1987). Cathie Jean added 49 species to the Cedar Breaks flora in the course of her vegetation mapping project (Roberts and Jean 1989). Rebecca Harms collected four new riparian species in 2005, during a survey of springs and seeps (Springer et al. 2006). In 2006–2007, vegetation mapping crews from the Northern Colorado Plateau Network (in ed.) reported two new species, and Fertig and Reynolds (2007) located at least 30 new taxa during a rare plant survey of the monument.

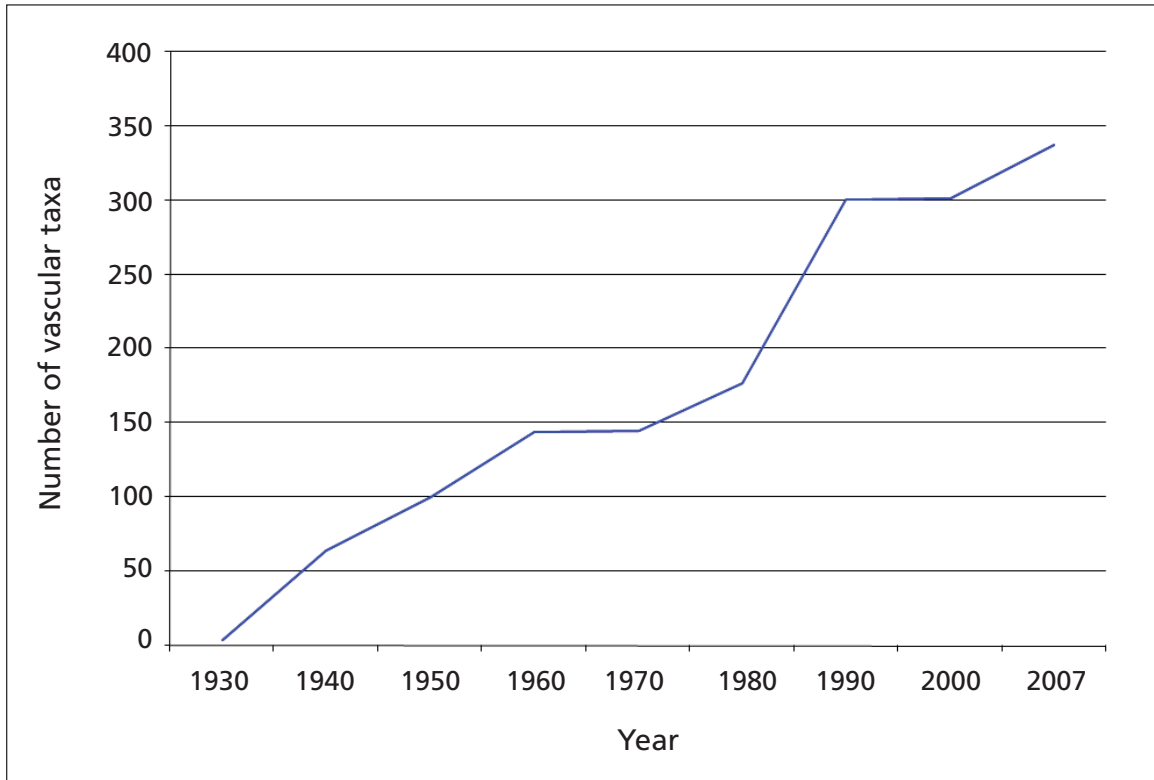


Figure 1.3.4. Increase in the number of plant taxa confirmed as present in Cedar Breaks National Monument by decade, 1930–2007.

2 Methods

In July 2005, I reviewed all mounted specimens in the Cedar Breaks National Monument herbarium (housed at Zion National Park in Springdale, Utah) to determine whether each was correctly identified to species, subspecies, or variety following the nomenclature of Welsh et al. (2003). As necessary, I made corrections and annotations to each specimen and to the voucher records in the monument's Automated National Cataloging System (ANCS+) and NPSpecies database.

Based on this herbarium work and a review of monument references (Buchanan 1992; Roberts and Jean 1989), I developed four lists:

1. A revised checklist of species that were present in the park (confirmed by an authenticated voucher; included in Appendices A and D);
2. A list of species that were reported in the literature but not corroborated with a voucher (equivalent to "probably present" in NPSpecies terminology; included in Appendices A and D);
3. A list of potential species ("unconfirmed" in NPSpecies) known from the vicinity of Cedar Breaks NM based on Albee et al. (1988) and an unpublished list developed for the NCPN by Dr. N. Duane Atwood of Brigham Young University (included in Appendix B); and
4. A list of species that are now known to be misidentified or highly questionable (Appendix C).

Each list was annotated with supplemental in-

formation on life form, geographic range (within the context of Utah), population size in the monument (derived from Roberts and Jean 1989; NCPN in ed.; and field observations), flowering period, distribution across general vegetation types, nativity, data source (collector and collection number from a sample specimen or literature citation), year of earliest collection (from herbarium records), and relevant synonymy and taxonomic problems (based on review of Barkworth et al. 2003, 2007; Barneby 1989; Cronquist 1994; Cronquist et al. 1972, 1977, 1984, 1997; Dorn 2001; Flora of North America Editorial Committee 1993, 1997, 2000, 2002a, 2002b, 2003, 2005, 2006a, 2006b, 2006c; Holmgren et al. 2005; and Weber and Wittmann 2001). The annotations to these lists and label data from the CEBR herbarium review were then incorporated into the NPSpecies database for the monument.

Work in 2006–2007 focused on confirmation of reported and potential species for the monument flora through field surveys and review of collections from state and regional herbaria. I made 14 collecting trips to Cedar Breaks NM in July and September 2006 and June–August 2007 to target missing species, emphasizing under-sampled wetland, weedy, and late-flowering taxa. Herbarium studies were undertaken at Brigham Young University (BRY), Utah State University (USU), and the University of Wyoming (RM) in March, June, and October 2006, and February and March 2007. I also documented monument specimens from the Virtual Herbarium website of the New York Botanical Garden (<http://sciweb.nybg.org/science2/hcol/intf/index.asp>). Finally, I found additional new species reports by reviewing plot data from recent vegetation mapping, weed surveys, and wetland inventories (Dewey and Andersen 2005; NCPN in ed.; Springer et al. 2006).

3 Results

3.1 Summary of the flora of Cedar Breaks National Monument

Of the 691 vascular plant vouchers in the CEBR herbarium that I examined in 2005 (excluding 72 specimens collected outside of the monument), 132 were misidentified (19.1%), 95 were revised to a more current name (13.7%), 141 had variety or subspecies names added (20.4%), and 323 were found to be correctly determined (46.7%). Based solely on these collections, the confirmed flora of Cedar Breaks National Monument stood at 280 taxa (Fertig 2006). From 2006 to 2007, I located 10 new taxa from collections at Brigham Young University, the University of Wyoming, and the

New York Botanical Garden Virtual Herbarium. Field surveys during this time netted another 31 new species (Fertig and Reynolds 2007) and 18 additional species previously reported by Roberts and Jean (1989) without a voucher. Overall, the documented flora of Cedar Breaks NM has increased by 58 species (17.2%), bringing the total number of taxa to 338 (Table 3.1, Appendices A, D).

Currently, seven additional taxa are reported for Cedar Breaks National Monument but have yet to be corroborated with a voucher specimen (Table 3.1, Appendix A). Of these, five were reported by Roberts and Jean (1989) and one by the NCPN (in ed.) vegetation mapping crew. One other unconfirmed report (*Astragalus kentrophyta* var. *tegetarius*) comes from the New York Botanical

Table 3.1. Statistical summary of the flora of Cedar Breaks National Monument.

Category	Number confirmed in park	Number additionally reported for park	Total
Taxonomic diversity			
Total taxa (including varieties and subspecies)	338	7	345
Full species (excluding varieties and subspecies)	326	5	331
Families	55	0	55
Life form diversity			
Tree taxa	14	1	15
Shrub taxa	35	1	36
Perennial forb taxa	196	3	199
Annual forb taxa	13	1	14
Perennial graminoid taxa	71	1	72
Annual graminoid taxa	3	0	3
Fern taxa	6	0	6
Biogeographic diversity			
Introduced taxa	17	1	18
Native taxa			
Locally endemic taxa	17	0	17
Regionally endemic taxa	19	0	19
Disjunct taxa	1	0	1
Peripheral taxa	0	0	0
Sparse taxa	6	0	6
Widespread taxa	278	6	284
Total native taxa	321	6	327

The number of taxa and families is based on taxonomic concepts of Welsh et al. (2003). See Appendices, "Codes and Definitions", for an explanation of the various categories.

Garden website (Welsh 21286), but may be misidentified. Taken together, the number of confirmed and reported vascular plant taxa in Cedar Breaks National Monument stands at 345 taxa (Table 3.1, Appendix A).

Entering the 2006 field season, I recognized 271 taxa as potentially occurring in Cedar Breaks NM, based on the proximity of the monument to known populations (Albee et al. 1988; Fertig 2006). At least 40 of these species have since been recorded within the monument based on new field collections or relocated herbarium specimens. The current number of potential species that I am recognizing for Cedar Breaks National Monument is 217 (Appendix B).

Based on my review of specimens in the CEBR and BRY herbaria, at least 38 species previously cited for the monument are now known to be falsely reported based on misidentified vouchers. Two additional species reported by Buchanan (1992) and the New York Botanical Garden website are considered questionable because Cedar Breaks NM is well outside their known or expected range (Appendix C).

The confirmed and reported flora of Cedar Breaks NM represents 9.6% of the 3,594 native and naturalized taxa documented for the state of Utah by Welsh et al. (2003), and 36% of the state's 151 plant families (Table 3.1). Within Iron County, the monument flora captures 39.6% of the 871 taxa reported by Welsh et al. (2003). At the ecoregional scale, Cedar Breaks NM contains 21.5% of the 1,608 species reported for the Utah High Plateaus ecoregion (Shultz et al. 2006).

3.2 Life form and biogeographic diversity

Although ecologically dominant, tree and shrub species make up only 14.8% of the confirmed and reported plant taxa of Cedar Breaks National Monument (Table 3.1). Perennial forbs are the most species-rich life form in the monument flora, with 199 known and reported taxa (57.7% of the total flora). Annual forbs and grass-like plants comprise less than 5% of the flora. Like trees and shrubs, perennial graminoids are ecologically important but relatively species-poor, representing less than 21% of the total flora. The diversity of ferns and fern-allies in Cedar Breaks NM is especially low (1.7%) (Table 3.1).

Of the monument's 327 native taxa, 284 (86.8%) are widespread across Utah and western North America. Only 17 species (5.2% of the monument's native flora) have extremely limited global distributions (local endemics found within an area of less than 1° of latitude × 2° of longitude; see Appendix A for complete definitions of biogeographic categories). Regional endemics (largely restricted to the Colorado Plateau) comprise an additional 5.8% of the monument flora (Table 3.1). Species that are disjunct or occur sparsely across Utah account for just 2.1% of the monument flora.

3.3 Plants of special concern

Cedar Breaks National Monument has no plants listed as threatened or endangered under the U.S. Endangered Species Act. Arizona willow (*Salix arizonica*) was proposed for listing in 1995, but the decision was postponed following implementation of an interagency conservation agreement and strategy (U.S. Forest Service Intermountain Region et al. 1995). At least 13 other monument taxa were formerly candidates for potential listing (Category 2 or 3C) under the act (Table 3.3) (Fertig and Reynolds 2007). Eight of these species are currently managed as sensitive by the U.S. Forest Service and the U.S. Bureau of Land Management's Utah State Office. The Utah Conservation Data Center (UTCDC) lists 17 species from Cedar Breaks NM on its rare, watch, or taxonomic problems lists (UDWR 1998). Although not currently cited on any agency list, Payson's daisy (*Erigeron vagus*) was included on the list of potential rare species of Cedar Breaks NM by Fertig and Reynolds (2007), based on information from the Brigham Young University Herbarium that southern Utah populations may represent an undescribed (and locally endemic) taxon.

3.4 Non-native species and noxious weeds

Introduced plant species (those not historically native to Utah or North America) make up 5.2% of the confirmed and reported flora of Cedar Breaks National Monument (Table 3.1). This figure is substantially lower than the statewide average of 13.5% non-native species (Fertig 2007; Welsh et al. 2003). Of the monument's 18 introduced plant species, none are listed as noxious by the State of Utah (Dewey and Andersen 2005; State of Utah Department of Agriculture and Food 2007).

Table 3.3. Plant species of conservation concern from Cedar Breaks National Monument.

Family	Species	Common name	TNC global rank	Legal status	UTCDC status
Caryophyllaceae	<i>Silene petersonii</i>	Peterson's campion	G2G3	USFS: Region 4 Sensitive; USFWS: former C2 candidate	Watch, S2S3
Compositae (Asteraceae)	<i>Aster wasatchensis</i> var. <i>wasatchensis</i>	Markagunt aster	G3? TNR		Watch, S3?
Compositae (Asteraceae)	<i>Aster welshii</i>	Welsh's aster	G2		Watch, S2
Compositae (Asteraceae)	<i>Erigeron sionis</i> var. <i>trilobatus</i>	Cedar Breaks daisy	G2	USFWS: former C2 candidate	Watch, S2
Compositae (Asteraceae)	<i>Erigeron vagus</i>	Payson's daisy	G4		SNR
Compositae (Asteraceae)	<i>Haplopappus zionis</i>	Cedar Breaks goldenbush	G2	UT BLM: Sensitive; USFWS: former C2 candidate	Rare, S2
Compositae (Asteraceae)	<i>Senecio malmstenii</i>	Podunk groundsel	G1	USFS: Region 4 Sensitive; USFWS: former C2 candidate	Rare, S1?
Compositae (Asteraceae)	<i>Townsendia montana</i> var. <i>minima</i>	Bryce Canyon townsendia	G4T3	USFWS: former 3C	Watch, S3
Cruciferae (Brassicaceae)	<i>Draba asprella</i> var. <i>zionensis</i>	Zion draba	G4T3?	USFWS: former 3C	Watch, S3?
Cruciferae (Brassicaceae)	<i>Draba subalpina</i>	Breaks draba	G3	USFWS: former 3C	Watch, S3
Leguminosae (Fabaceae)	<i>Astragalus limnocharis</i> var. <i>limnocharis</i>	Navajo Lake milkvetch	G2T1	USFS: Region 4 Sensitive; USFWS: former C2 candidate	Rare, S1
Polemoniaceae	<i>Ipomopsis tridactyla</i>	Tushar gilia	G5T2		Rare, S2
Polygonaceae	<i>Eriogonum panguicense</i> var. <i>alpestre</i>	Cedar Breaks wild buckwheat	G3 T2T3Q	USFWS: former 3C	TaxProb, SSYN
Salicaceae	<i>Salix arizonica</i>	Arizona willow	G2G3	USFS: Region 4 Sensitive; USFWS: former C1 candidate (dropped in 1995; now equivalent of 3C)	Rare, S2
Saxifragaceae (Hydrangeaceae)	<i>Jamesia americana</i> var. <i>zionis</i>	Zion jamesia	G5T2	USFS: Region 4 Sensitive; BLM (UT): Sensitive; USFWS: former C2 candidate	Rare, S2
Scrophulariaceae	<i>Castilleja parvula</i> var. <i>revealii</i>	Reveal's paintbrush	G2	USFS: Region 4 Sensitive; USFWS: former C2 candidate	Rare, S2
Umbelliferae (Apiaceae)	<i>Cymopterus minimus</i>	least spring-parsley	G1G2Q	USFS: Region 4 Sensitive; USFWS: former C2 candidate	Rare, S1S2
Umbelliferae (Apiaceae)	<i>Lomatium minimum</i>	least lomatium	G3	USFWS: former 3C	Watch, S3

List derived from Fertig and Reynolds (2007).

Codes: **TNC global rank** assesses abundance and conservation priority on a scale of 1–5 (1 being extremely vulnerable and 5 being secure) for full species (G) and varieties or subspecies (T) across their entire range. A “?” indicates uncertainty in the rank, Q = taxonomic questions, U = unknown, and NR = not ranked. A comparable scoring system is used to measure state abundance (S) in Utah under the column UTCDC status. Under **legal status**, USFWS = U.S. Fish and Wildlife Service. C2 = Category 2 candidate (a former category used for taxa that might warrant being proposed for Threatened or Endangered status following additional research). 3C = Category 3 candidates (species dropped from consideration for listing). USFS = U.S. Forest Service. BLM (UT) = U.S. Bureau of Land Management (Utah state office). **UTCDC status** includes conservation categories adopted by the state's natural heritage program to prioritize endemic and rare plant taxa (UDWR 1998). These categories include: Historical (presumed extinct or only known historically through their range), Rare (plants with rangewide viability concerns), Watch (regional endemics without rangewide viability concerns), Peripheral (rare or uncommon in Utah, but more common rangewide), Infrequent (plants occur infrequently over western U.S.), Taxonomic Problems (validity of species, subspecies, or variety has been questioned), Additional Data (species appear rare, but more information needed before being assigned to a different category).

4 Discussion

Following a review of herbarium records and recent field work, the vascular flora of Cedar Breaks National Monument currently stands at 345 confirmed and reported taxa (Table 3.1, Appendix A). Based on available habitats and proximity, at least 217 additional plant taxa may occur within the monument (Appendix B). Should all of these potential species be found, the documented flora of the monument would increase by nearly 41%. Many of the “missing” potential or reported taxa

consist of cryptic species that flower late in the growing season, or occur in undersampled wetland or weedy habitats. Confirmation of reported species should remain a high priority, as some of these taxa may ultimately prove to be erroneous. Additional studies would also be useful to better refine the abundance and distribution of species of high management interest (especially rare plants and invasive non-natives). Further floristic studies are needed in the Ashdown Gorge Wilderness Area, especially if this ultimately becomes part of an expanded Cedar Breaks National Park.

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Appendices

The following appendices contain annotated checklists of the vascular flora of Cedar Breaks National Monument. Appendix A lists all species that have been confirmed for the flora with an authenticated voucher specimen (including extant and historical records) or that have been reliably reported for the monument in the literature (Buchanan 1992; Dewey and Andersen 2005; Roberts and Jean 1989; NCPN in ed.; Springer et al. 2006). Vouchers were examined from the CEBR herbarium (housed in Zion National Park) and collections from Brigham Young University (BRY), Utah State University (USU), the University of Wyoming (RM), and the digital museum database of the New York Botanical Garden (NY). Species entries in Appendix A are organized alphabetically by family and genus.

Appendix B includes species that may potentially occur within Cedar Breaks NM based on the proximity of the monument to other populations or the presence of suitable habitat.

Appendix C lists species that have been previously reported for Cedar Breaks NM but are now considered erroneous because they are based on misidentified specimens or questionable literature records.

Appendix D contains the same confirmed, historical, and reported taxa as in Appendix A, but organized by life form rather than by family in order to better meet the needs of NPS interpretive specialists.

The codes and references for each field in the appropriate appendices are summarized below:

Family (Appendices A, B, C, and D)

Family concepts and nomenclature follow *A Utah Flora*, third edition (Welsh et al. 2003). Alternative family names and treatments from other regional floras (Dorn 2001; Flora of North America Editorial Committee 1993, 2002b; Holmgren et al. 2005; Weber and Wittman 2001) are listed in parentheses.

Species name (Appendices A, B, C, and D)

Nomenclature for scientific names and taxonomic concepts are derived from Welsh et al. (2003). Scientific names are listed in alphabetical rather than phylogenetic order.

Synonyms/Taxonomic notes (Appendices A, B, and C)

Pertinent synonyms are included for species with alternative scientific names in other recent state and regional floras (Barkworth et al. 2003, 2007; Barneby 1989; Cronquist 1994; Cronquist et al. 1972, 1977, 1984, 1997; Dorn 2001; Flora of North America Editorial Committee 1993, 1997, 2000, 2002a, 2002b, 2003, 2005, 2006a, 2006b, 2006c;

Holmgren et al. 2005; Weber and Wittmann 2001). No effort has been made to identify additional synonyms from monographs and floras preceding the early 1970s.

Common name (Appendices A, B, C, and D)

Common names are derived primarily from Welsh et al. (2003) and the Intermountain Flora (Barneby 1989; Cronquist 1994; Cronquist et al. 1972, 1977, 1984, 1997; Holmgren et al. 2005).

Life form (Appendices A, B, C, and D)

Life form is based on the stature and growth habit of typical members of a species at reproductive maturity. **Trees** are woody perennials with a single stem or trunk and are typically over 3.5 m tall. **Shrubs** are woody perennials with one to many trunks arising from near the base of the plant and are usually less than 3.5 m tall. **Perennial Forbs (PerF)** are broad-leaved dicots or monocots with non-woody stems (at least above ground level) that live for multiple years. **Annual Forbs (AnnF)** are broad-leaved dicots or monocots with non-woody stems that complete their life cycle (mature, flower, and die) in one year. **Perennial Graminoids (PerG)** are linear-leaved, grass-like monocots that live for multiple years. **Annual Graminoids (AnnG)** are linear-leaved, grass-like monocots that complete their life cycle (mature, flower, and die) in one year. **Ferns and fern-allies (Fern)** are non-flowering vascular plants that reproduce by spores.

Range (Appendices A, B, and C)

Range represents the distribution of a species within Utah and the state's contribution to the plant's overall global range. **Disjunct (Disj)** taxa have their Utah distribution separated from the main, contiguous portion of their range by a gap of more than 800 km (ca 500 miles). **Introduced (Intro)** taxa are those that are not native to Utah or North America but have become naturalized (breeding on their own without human assistance). **Local Endemics (LocEn)** are taxa whose entire global range is restricted to an area of less than 16,500 km² (ca 6,370 mi², or 1° of latitude × 2° of longitude). **Peripheral (Periph)** taxa have a widespread global distribution but occur at the margin of their contiguous range in Utah and occupy less than 5% of the state's area (usually only within a few miles of the state border). **Regional Endemics (RegEn)** are taxa with a global range of 16,500–250,000 km² (an area about the size of the state of Wyoming). **Sparse** taxa occur widely across Utah or North America but their range within Utah is small and patchy, with populations restricted to specialized or uncommon habitats. **Widespread (Wide)** taxa have global ranges exceeding 250,000 km² and occur over at least 10% of the state.

Park status (Appendices A, C, and D)

Park status identifies whether a species is Present (**Pres**),

Historical (**Hist**), or Reported (**Rep**) for Cedar Breaks National Monument. Species are considered Present if a confirmed voucher or documented observation has been made within monument boundaries since 1970. Historical species have been confirmed with a voucher from the monument but have not been relocated since before 1970. Reported species are listed for the monument in the literature (Roberts and Jean 1989; NCPN in ed.; Springer et al. 2006), but have not been corroborated with a voucher specimen. Species that may potentially occur in CEBR are listed in Appendix B. Rejected taxa (listed in Appendix C) have either been falsely reported (**FalsRep**) in the literature based on misidentified herbarium specimens or are considered Questionable (**Ques?**) because park reports are from well outside their known or expected range.

Pop. size (Appendix A)

Population size refers to the abundance and frequency with which a species occurs within Cedar Breaks National Monument. Abundance data are derived from Roberts and Jean (1989), NCPN (in ed.), and personal observations. Abundant (**Abun**) taxa have large populations, a broad ecological amplitude (often being dominant in one to several vegetation types), or occur extensively across the monument. Common (**Com**) taxa have large local populations but may be restricted to a single vegetation type or do not occur across the entire monument. Uncommon (**Unc**) taxa have low to medium-sized populations, a narrow ecological amplitude (or at least contribute relatively little to total vegetative cover), or a small range across the monument. Rare taxa usually have low population numbers and are restricted to a single location within the monument. A “?” indicates that population size is unknown.

Source (Appendix A)

Sources provide the basis for the assigned park status. In the case of Present and Historical taxa, sources are herbarium records (with collector, collection number, and repository) that were corroborated during this study. For reported taxa, the source is a published or unpublished reference citing the species within the monument. Specimen repositories include the Cedar Breaks National Monument herbarium (**CEBR**), Brigham Young University (**BRY**), Utah State University (**USU**), New York Botanical Garden (**NY**), and the University of Wyoming's Rocky Mountain Herbarium (**RM**).

Year doc. (Appendix A)

Year documented indicates the first year in which a species was confirmed or reported to occur in Cedar Breaks National Monument. This year does not necessarily correspond with the date of the voucher specimen cited under Source. “NA” indicates that the first year is not known (used mostly for ‘reported’ taxa).

Comments (Appendices A, B, C, and D)

This column includes additional comments on the status of a particular species in the monument, the place of origin for introduced species, legal status, and other data.

Nativity (Appendix D)

Nativity indicates whether a species is native to Utah or Introduced (Intro) based on Fertig (2007).

Flower time (Appendix D)

Flower time refers to the months in which a species is most likely to be in flower. NA indicates a species that is a non-flowering fern or gymnosperm.

Habitat (Appendix D)

The distribution of species across generalized habitats in Cedar Breaks National Monument is indicated by an “x” in the columns SubFir through Wet and is derived from the Cedar Breaks NM vegetation classification (NCPN in ed.), Roberts and Jean (1989), Buchanan (1992), and Welsh et al. (2003). **SubFir** = Subalpine fir/Engelmann spruce forest. **White Fir** = White Fir–Douglas-fir–Aspen forests. **SubMdw** = Subalpine meadows above the amphitheater rim. **Wet** = Wetlands. Additional comments are included for species that are restricted to a particular soil/geologic type (including the Claron endemics) or are found mostly in disturbed sites.

Appendix A. Confirmed, historical, and reported vascular plant taxa of Cedar Breaks National Monument organized by family and scientific name with taxonomic and biogeographic notes.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Aceraceae	<i>Acer glabrum</i> var. <i>glabrum</i>	Includes vars. <i>neomexicanum</i> , <i>douglasii</i> , & <i>tripartitum</i>	Rocky Mountain maple	Shrub	Wide	Unc	Pres	Jean 170 (CEBR)	1988	Some CEBR specimens are transitional to <i>A. glabrum</i> var. <i>diffusum</i> .
Apocynaceae	<i>Apocynum androsaemifolium</i> var. <i>androsaemifolium</i>		spreading dogbane	PerF	Wide	Unc	Pres	Fertig & Reynolds 23345 (CEBR)	2007	
Apocynaceae	<i>Apocynum cannabinum</i>	Includes vars. <i>cannabinum</i> , <i>glaberrimum</i> , & <i>angustifolium</i>	common dogbane	PerF	Wide	Unc	Rep	Roberts & Jean (1989)	1989	
Berberidaceae	<i>Mahonia repens</i>	<i>Berberis repens</i>	Oregon-grape	Shrub	Wide	Com	Pres	Palmer & Palmer 1048 (CEBR)	1981	
Betulaceae	<i>Betula occidentalis</i>	<i>B. fontinalis</i>	water birch	Tree	Wide	Unc	Pres	Fertig 22981 (CEBR)	1989	
Boraginaceae	<i>Lithospermum multiflorum</i>		southwestern stoneseed	PerF	Wide	Unc	Pres	Palmer & Palmer 1048 (CEBR)	1981	
Boraginaceae	<i>Mertensia arizonica</i>		aspen bluebell	PerF	Wide	Abun	Pres	Palmer & Palmer 1122 (CEBR)	1934	
Campanulaceae	<i>Campanula parryi</i>	<i>C. parryi</i> var. <i>parryi</i>	Parry's harebell	PerF	Wide	NA	Hist	Crawford F-56 (CEBR)	1946	
Caprifoliaceae	<i>Lonicera involutrata</i>	<i>Distegia involutrata</i>	black twinberry	Shrub	Wide	Unc	Pres	Palmer & Palmer 1074 (CEBR)	1946	
Caprifoliaceae (Adoxaceae)	<i>Sambucus caerulea</i>	<i>S. nigra</i> ssp. <i>caerulea</i> , <i>S. cerulea</i>	blue elderberry	Shrub	Wide	Unc	Pres	Fertig & Reynolds 23348 (CEBR)	2007	Previous reports were based on misidentified specimens of <i>S. racemosa</i>

Appendix A. Confirmed, historical, and reported vascular plant taxa of Cedar Breaks National Monument, organized by family and scientific name with taxonomic and biogeographic notes, cont.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Caprifoliaceae (Adoxaceae)	<i>Sambucus racemosa</i> var. <i>microbotrys</i>	<i>S. microbotrys</i> ; included in var. <i>racemosa</i> by some authors	red elderberry	Shrub	Wide	Unc	Pres	Buchanan s.n. (CEBR)	1954	
Caprifoliaceae	<i>Symphoricarpos oreophilus</i> var. <i>utahensis</i>	<i>S. rotundifolius</i>	mountain snowberry	Shrub	Wide	Unc	Pres	Palmer & Palmer 1113 (CEBR)	1981	
Caryophyllaceae (Alsinaeae)	<i>Arenaria fendleri</i> var. <i>eastwoodiae</i>	<i>Eremogone eastwoodiae</i> var. <i>eastwoodiae</i> , <i>A.</i> <i>eastwoodiae</i>	Eastwood's sandwort	PerF	Wide	Rare	Pres	Palmer & Palmer 1214 (CEBR)	1981	
Caryophyllaceae (Alsinaeae)	<i>Arenaria fendleri</i> var. <i>glabrescens</i>	<i>A. kingii</i> ssp. <i>uintahensis</i> , <i>compacta</i> , & <i>plateauensis</i> , <i>Eremogone</i> <i>kingii</i> var. <i>glabrescens</i> , <i>E.</i> <i>kingii</i> var. <i>uintahensis</i>	basin sandwort	PerF	Wide	Unc	Pres	Croft 44CB (CEBR)	1930	Type locality of var. <i>plateauensis</i> is Cedar Breaks Rim, Cedar Breaks NM; Iron Co., UT (Maguire 19024 NY).
Caryophyllaceae (Alsinaeae)	<i>Arenaria lanuginosa</i>	<i>A. saxosa</i> , <i>A.</i> <i>lanuginosa</i> var. <i>saxosa</i> , <i>Spergulastrum</i> <i>lanuginosum</i> ssp. <i>saxosum</i>	sprawling sandwort	PerF	Wide	NA	Hist	Degener & Peiler 16431 (NY)	1942	
Caryophyllaceae	<i>Lychnis drummondii</i>	<i>Silene drummondii</i> ssp. <i>drummondii</i> , <i>S. drummondii</i> ssp. <i>striata</i> ; includes vars. <i>striata</i> , <i>kruckebergii</i> , & <i>drummondii</i> , <i>Gastrolychnis</i> <i>drummondii</i>	Drummond's catchfly	PerF	Wide	Unc	Pres	Palmer & Palmer 1120 (CEBR)	1981	
Caryophyllaceae	<i>Silene menziesii</i>	<i>S. menziesii</i> var. <i>menziesii</i> , <i>Anotites</i> <i>menziesii</i> var. <i>menziesii</i>	Menzies' campion	PerF	Wide	Rare	Pres	Fertig 22749 (CEBR)	2006	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Cedar Breaks National Monument, organized by family and scientific name with taxonomic and biogeographic notes, cont.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Caryophyllaceae	<i>Silene petersonii</i>	Includes vars. <i>minor</i> & <i>petersonii</i> and <i>S. clokeyi</i>	Peterson's campion	PerF	RegEn	Unc	Pres	Higgins 11217 (BRY)	1934	USFWS; former C2 candidate, USFS Region 4; Sensitive. Type locality is 1 mile above Baldy Ranger Station, Sanpete Co., UT (Maguire 20000 NY)
Caryophyllaceae (Alsiniaceae)	<i>Stellaria jamesiana</i>	<i>Pseudostellaria jamesiana</i>	James' chickweed	PerF	Wide	Unc	Pres	Palmer & Palmer 1132 (CEBR)	1947	
Caryophyllaceae (Alsiniaceae)	<i>Stellaria longipes</i> var. <i>longipes</i>	<i>Stellaria longipes</i> ssp. <i>stricta</i>	long-stalk starwort	PerF	Wide	Rare	Pres	Bruhn s.n. (CEBR)	1954	Includes var. <i>monantha</i> in <i>Flora of</i> <i>North America</i> 2005
Celastraceae	<i>Pachystima</i> <i>myrsinites</i>	<i>Paxistima myrsinites</i> , <i>Pachistima myrsinites</i>	mountain- lover	Shrub	Wide	Unc	Pres	Palmer & Palmer 1068 (CEBR)	1981	
Chenopodiaceae	<i>Chenopodium</i> <i>album</i> var. <i>album</i>	<i>C. album</i>	lambquarter	AnnF	Intro	Unc	Pres	Mason s.n. (CEBR)	1996	Native to Eurasia
Chenopodiaceae	<i>Chenopodium</i> <i>atrovirens</i>	<i>C. fremontii</i> var. <i>atrovirens</i>	mountain goosefoot	AnnF	Wide	Rare	Pres	Palmer 1133 (CEBR)	1939	
Chenopodiaceae	<i>Chenopodium</i> <i>capitatum</i> var. <i>parvicapitatum</i>	<i>C. overi</i> , <i>C. foliosum</i>	smallhead goosefoot	AnnF	Wide	Rare	Pres	Fertig 22927 (CEBR)	2006	Type locality is Indian Creek, Tushar Mtns., Beaver Co., UT (Martin & Welsh 17148 BRY)
Compositae (Asteraceae)	<i>Achillea</i> <i>millefolium</i> var. <i>lanulosa</i>	<i>A. lanulosa</i> , <i>A.</i> <i>millefolium</i> var. <i>occidentalis</i>	common yarrow	PerF	Wide	Com	Pres	Woodbury s.n. (CEBR)	1926	
Compositae (Asteraceae)	<i>Agoseris</i> <i>aurantiaca</i> var. <i>purpurea</i>		purplish agoseris	PerF	Wide	Unc	Pres	Palmer & Palmer 1134 (CEBR)	1981	Specimens in CEBR collection cannot be reliably determined to variety but are presumed to be var. <i>purpurea</i> based on range.

Appendix A. Confirmed, historical, and reported vascular plant taxa of Cedar Breaks National Monument, organized by family and scientific name with taxonomic and biogeographic notes, cont.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Compositae (Asteraceae)	<i>Agoseris glauca</i> var. <i>agrestis</i>	Included in var. <i>dasycephala</i> by some authors	fields agoseris	PerF	Sparse	Rare	Pres	Harms s.n. (CEBR)	2005	
Compositae (Asteraceae)	<i>Agoseris glauca</i> var. <i>dasycephala</i>		short agoseris	PerF	Wide	Unc	Pres	Nelson 8981 (CEBR)	1934	
Compositae (Asteraceae)	<i>Antennaria</i> <i>microphylla</i>	Includes <i>A. rosea</i>	small-leaf pussytoes	PerF	Wide	Unc	Pres	Palmer & Palmer 1186 (CEBR)	1970	Some specimens represent <i>A. rosea</i> form.
Compositae (Asteraceae)	<i>Antennaria</i> <i>parvifolia</i>		common pussytoes	PerF	Wide	Rare	Pres	Palmer & Palmer 1030 (BRY)	1981	
Compositae (Asteraceae)	<i>Antennaria</i> <i>pulcherrima</i>	<i>A. pulcherrima</i> ssp. <i>pulcherrima</i>	showy pussytoes	PerF	Sparse	Rare	Pres	Palmer & Palmer 1277 (CEBR)	1981	
Compositae (Asteraceae)	<i>Antennaria</i> <i>rosulata</i>		Breaks pussytoes	PerF	Wide	Unc	Pres	Bruhn s.n. (CEBR)	1954	
Compositae (Asteraceae)	<i>Arnica cordifolia</i> var. <i>cordifolia</i>	Vars. not recognized in <i>Flora of North America</i> (2006). Misspelled var. <i>cordata</i> in <i>Utah Flora</i> (2003).	heartleaf arnica	PerF	Wide	Unc	Pres	Buchanan s.n. (CEBR)	1954	
Compositae (Asteraceae)	<i>Arnica mollis</i>	Includes <i>A. ovata</i>	hairy arnica	PerF	Wide	Unc	Pres	Buchanan & Mansor s.n. (CEBR)	1979	
Compositae (Asteraceae)	<i>Arnica parryi</i>	<i>A. parryi</i> var. <i>parryi</i>	rayless arnica	PerF	Wide	Unc	Pres	Palmer & Palmer 1081 (CEBR)	1981	
Compositae (Asteraceae)	<i>Artemisia cana</i> var. <i>viscidula</i>	<i>Seriphidium canum</i> ssp. <i>viscidulum</i>	silver sagebrush	Shrub	Wide	Unc	Pres	Palmer & Palmer 1051 (CEBR)	1979	
Compositae (Asteraceae)	<i>Artemisia</i> <i>dracunculus</i> ssp. <i>glauc</i>	<i>Oligosporus dracunculus</i> . Vars. not recognized in <i>Flora of North America</i> (2006)	tarragon	PerF	Wide	Unc	Pres	Jean 1145 (CEBR)	1989	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Cedar Breaks National Monument, organized by family and scientific name with taxonomic and biogeographic notes, cont.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Compositae (Asteraceae)	<i>Artemisia ludoviciana</i> var. <i>ludoviciana</i>		Louisiana wormwood	PerF	Wide	Unc	Pres	Jean 107 (CEBR)	1988	Specimens in CEBR collection cannot be reliably determined to variety but are presumably var. <i>ludoviciana</i> based on range.
Compositae (Asteraceae)	<i>Aster ascendens</i>	<i>A. chilensis</i> ssp. <i>ascendens</i> , <i>A. ascendens</i> , <i>Symphotrichum</i> <i>ascendens</i> , <i>Virgularia</i> <i>ascendens</i>	Pacific aster	PerF	Wide	Unc	Pres	Fertig 22987 (CEBR)	2006	
Compositae (Asteraceae)	<i>Aster foliaceus</i> var. <i>canbyi</i>	<i>Symphotrichum</i> <i>foliaceum</i> var. <i>canbyi</i>	Canby's aster	PerF	Wide	Unc	Pres	Bruhn s.n. (CEBR)	1954	
Compositae (Asteraceae)	<i>Aster foliaceus</i> var. <i>parryi</i>	<i>Symphotrichum</i> <i>foliaceum</i> var. <i>parryi</i>	Parry's aster	PerF	Wide	Unc	Pres	Fertig 22907 (CEBR)	1934	
Compositae (Asteraceae)	<i>Aster spathulatus</i>	<i>A. occidentalis</i> , <i>Symphotrichum</i> <i>spathulatum</i>	western aster	PerF	Wide	Unc	Pres	Palmer & Palmer 1296 (CEBR)	1970	
Compositae (Asteraceae)	<i>Aster wasatchensis</i> var. <i>wasatchensis</i>	<i>Eurybia wasatchensis</i> , <i>Eucephalus wasatchensis</i> , <i>Herrickia wasatchensis</i>	Markagunt aster	PerF	LocEn	Com	Pres	Buchanan s.n. (CEBR)	1977	Type locality is Tate Mine near Marysville, Piute Co., UT (Jones 5861 POM).
Compositae (Asteraceae)	<i>Aster welshii</i>	<i>Symphotrichum welshii</i>	Welsh's aster	PerF	LocEn	Rare	Pres	Fertig & Reynolds 23356 (CEBR)	2007	Type locality is Zion Canyon, Zion NP, Washington Co., UT (Welsh & Hays 24379 BRY).
Compositae (Asteraceae)	<i>Chaenactis douglasii</i>	Includes vars. <i>douglasii</i> & <i>montana</i>	hoary dusty- maiden	PerF	Wide	Unc	Pres	Fertig & Reynolds 23342 (CEBR)	2007	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Cedar Breaks National Monument, organized by family and scientific name with taxonomic and biogeographic notes, cont.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Compositae (Asteraceae)	<i>Chrysopsis villosa</i> var. <i>minor</i>	<i>C. villosa</i> var. <i>hispidula</i> , <i>Heterotheca villosa</i> var. <i>hispidula</i> , <i>H. villosa</i> var. <i>minor</i>	hispid golden- aster	PerF	Wide	Unc	Pres	Palmer & Palmer 1293 (CEBR)	1981	
Compositae (Asteraceae)	<i>Chrysothamnus</i> <i>nauseosus</i> var. <i>consimilis</i>	<i>Ericameria nauseosa</i> var. <i>consimilis</i> , <i>E. nauseosa</i> var. <i>oreophila</i> . Included in <i>C. nauseosus</i> var. <i>oreophilus</i> by some authors	greenish rabbitbrush	Shrub	Wide	Unc	Pres	Fertig & Reynolds 23392 (CEBR)	2007	Specimen is vegetative and cannot be definitively determined to variety
Compositae (Asteraceae)	<i>Chrysothamnus</i> <i>parryi</i> var. <i>nevadensis</i>	<i>Ericameria parryi</i> var. <i>nevadensis</i> , <i>C. parryi</i> var. <i>attenuatus</i>	Nevada rabbitbrush	Shrub	Wide	Unc	Pres	Fertig 22984 (CEBR)	2006	
Compositae (Asteraceae)	<i>Cirsium arizonicum</i>	Includes vars. <i>arizonicum</i> & <i>nidulum</i>	Arizona thistle	PerF	Wide	Unc	Pres	Bruhn s.n. (CEBR)	1954	
Compositae (Asteraceae)	<i>Cirsium wheeleri</i> var. <i>wheeleri</i>	Vars. not recognized in <i>Flora of North America</i> (2006)	Wheeler's thistle	PerF	Wide	Com	Pres	Crawford F-80 (CEBR)	1946	
Compositae (Asteraceae)	<i>Erigeron</i> <i>compositus</i> var. <i>glabratus</i>	<i>E. compositus</i> var. <i>discoideus</i>	cut-leaved daisy	PerF	Wide	Unc	Pres	Malm, Louie, & Alexander s.n. (CEBR)	1954	
Compositae (Asteraceae)	<i>Erigeron flagellaris</i>		trailing daisy	PerF	Wide	Unc	Pres	Palmer & Palmer 1082 (CEBR)	1970	
Compositae (Asteraceae)	<i>Erigeron</i> <i>peregrinus</i> var. <i>callianthemus</i>	<i>E. peregrinus</i> var. <i>scaposus</i> , <i>E. glacialis</i> var. <i>glacialis</i>	wandering fleabane	PerF	Wide	Unc	Pres	Palmer & Palmer 1156 (CEBR)	1954	
Compositae (Asteraceae)	<i>Erigeron sionis</i> var. <i>trilobatus</i>	<i>E. proselyticus</i> , <i>E.</i> <i>flagellaris</i> var. <i>trilobatus</i> , Var. not recognized by some authors	Cedar Breaks daisy	PerF	LocEn	Unc	Pres	Jean 1103 (CEBR)	1934	USFWS: former C2 candidate. Type locality of <i>E. proselyticus</i> is "canyon to Cedar Breaks"; Iron Co., UT (Maguire 14947 NY).
Compositae (Asteraceae)	<i>Erigeron speciosus</i> var. <i>macranthus</i>		aspen daisy	PerF	Wide	Com	Pres	Buchanan s.n. (CEBR)	1977	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Cedar Breaks National Monument, organized by family and scientific name with taxonomic and biogeographic notes, cont.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Compositae (Asteraceae)	<i>Erigeron speciosus</i> var. <i>mollis</i>	<i>E. subtrinervis</i> var. <i>subtrinervis</i>	hairy pretty daisy	PerF	Wide	Unc	Pres	Crawford F-53 (CEBR)	1946	
Compositae (Asteraceae)	<i>Erigeron ursinus</i> var. <i>ursinus</i>	Vars. not recognized in <i>Flora of North America</i> (2006)	bear daisy	PerF	Wide	Com	Pres	Palmer & Palmer 1210 (CEBR)	1934	
Compositae (Asteraceae)	<i>Erigeron vagus</i>	Utah material may represent an undescribed variety	Payson's daisy	PerF	Wide	Unc	Pres	Nelson 9025 (RM)	1970	
Compositae (Asteraceae)	<i>Gutierrezia</i> <i>sarothrae</i>		broom snakeweed	Shrub	Wide	Unc	Pres	Fertig 23337 (CEBR)	1989	
Compositae (Asteraceae)	<i>Haplopappus</i> <i>clementis</i>	<i>Pyrrocoma clementis</i> var. <i>clementis</i>	Clement's goldenweed	PerF	Wide	Unc	Pres	Boyle 759 (CEBR)	1940	
Compositae (Asteraceae)	<i>Haplopappus</i> <i>macronema</i>	<i>H. macronema</i> var. <i>linearis</i> , <i>H. macronema</i> var. <i>canescens</i> , <i>Ericameria</i> <i>discoidea</i> var. <i>linearis</i> , <i>E.</i> <i>discoidea</i> var. <i>discoidea</i> , <i>Macronema discoideum</i>	narrowleaf goldenweed	Shrub	Wide	Unc	Pres	Croft 60CB (CEBR)	1934	
Compositae (Asteraceae)	<i>Haplopappus</i> <i>zionis</i>	<i>Ericameria zionis</i>	Cedar Breaks goldenbush	Shrub	LocEn	Rare	Pres	Jean 1112 (CEBR)	1989	BLM (UT): Sensitive; USFWS: former C2 candidate. Type locality is Cedar Canyon; Iron Co., UT (Anderson, Welsh, & Chatterley 5094 BRY).
Compositae (Asteraceae)	<i>Helenium hoopesii</i>	<i>Hymenoxys hoopesii</i> , <i>Dugaldia hoopesii</i>	orange sneezeweed	PerF	Wide	Unc	Pres	Palmer & Palmer 1149 (CEBR)	1977	
Compositae (Asteraceae)	<i>Helianthella</i> <i>uniflora</i>		little sunflower	PerF	Wide	Unc	Pres	Crawford F-26 (CEBR)	1946	
Compositae (Asteraceae)	<i>Hymenopappus</i> <i>filifolius</i> var. <i>cinereus</i>	Includes vars. <i>lugens</i> , <i>pauciflorus</i> , <i>megacephalus</i> , & <i>tomentosus</i>	common hyalineherb	PerF	Wide	Unc	Pres	Palmer & Palmer 1152 (CEBR)	1978	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Cedar Breaks National Monument, organized by family and scientific name with taxonomic and biogeographic notes, cont.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Compositae (Asteraceae)	<i>Hymenopappus filifolius</i> var. <i>nudipes</i>		alpine hyalineherb	PerF	RegEn	NA	Pres	Nelson 9013 (RM)	1935	Type locality is 15 miles N of Orderville, Kane Co., UT (Maguire 18740 NY)
Compositae (Asteraceae)	<i>Machaeranthera commixta</i>	<i>M. bigelovii</i> var. <i>commixta</i> , <i>Dieteria bigelovii</i> var. <i>commixta</i>	Bigelow's aster	PerF	RegEn	Unc	Pres	Palmer 1263 (CEBR)	1935	Type locality is Bromide Pass, Henry Mts., Garfield Co., UT (Jones 5695y US)
Compositae (Asteraceae)	<i>Rudbeckia montana</i>	<i>R. occidentalis</i> var. <i>montana</i>	montane coneflower	PerF	RegEn	NA	Hist	Crawford F-77 (CEBR)	1946	
Compositae (Asteraceae)	<i>Senecio atratus</i>		black groundsel	PerF	Wide	Unc	Pres	Palmer 1244 (CEBR)	1934	
Compositae (Asteraceae)	<i>Senecio canus</i>	<i>Packera cana</i>	woolly groundsel	PerF	Wide	Unc	Pres	Palmer 1172 (CEBR)	1981	
Compositae (Asteraceae)	<i>Senecio eremophilus</i> var. <i>kingii</i>		cut-leaved groundsel	PerF	Wide	Unc	Pres	Buchanan s.n. (CEBR)	1977	
Compositae (Asteraceae)	<i>Senecio hartianus</i>	<i>Packera hartiana</i>	Hart's groundsel	PerF	RegEn	Rare	Pres	Fertig & Reynolds 23350 (CEBR)	2007	
Compositae (Asteraceae)	<i>Senecio integerrimus</i> var. <i>exaltatus</i>		western groundsel	PerF	Wide	Unc	Pres	Dickman s.n. (CEBR)	1933	
Compositae (Asteraceae)	<i>Senecio malmstenii</i>	<i>Packera malmstenii</i>	Podunk groundsel	PerF	LocEn	Rare	Pres	Jean 1110 (CEBR)	1989	USFS Region 4: Sensitive, USFWS: former C2 candidate. Type locality is Little Podunk Creek, Kane Co., UT (Malmsten 131 US).
Compositae (Asteraceae)	<i>Senecio multilobatus</i>	<i>Packera multilobata</i>	basin groundsel	PerF	Wide	Com	Pres	Palmer 1026 (CEBR)	1981	
Compositae (Asteraceae)	<i>Senecio spartioides</i> var. <i>spartioides</i>	Vars. not recognized in <i>Flora of North America</i> (2006)	broom groundsel	PerF	Wide	NA	Hist	Crawford F-146 (CEBR)	1947	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Cedar Breaks National Monument, organized by family and scientific name with taxonomic and biogeographic notes, cont.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Compositae (Asteraceae)	<i>Solidago multiradiata</i> var. <i>scopulorum</i>		Rocky Mountain goldenrod	PerF	Wide	Com	Pres	Palmer & Palmer 1129 (CEBR)	1934	
Compositae (Asteraceae)	<i>Solidago parryi</i>	<i>Haplopappus parryi</i> , <i>Oreochrysum parryi</i>	Parry's goldenweed	PerF	Wide	Unc	Pres	Palmer & Palmer 1301 (CEBR)	1935	
Compositae (Asteraceae)	<i>Solidago velutina</i>	<i>S. sparsiflora</i> , <i>S. velutina</i> var. <i>sparsiflora</i>	three-nerve goldenrod	PerF	Wide	Unc	Pres	Palmer & Palmer 1257 (CEBR)	1981	
Compositae (Asteraceae)	<i>Taraxacum officinale</i>		common dandelion	PerF	Intro	Unc	Pres	Buchanan & Dickman s.n. (CEBR)	1977	Native to Eurasia
Compositae (Asteraceae)	<i>Townsendia leptotes</i>		common townsendia	PerF	Wide	Rare	Pres	Fertig & Reynolds 23257 (CEBR)	2007	
Compositae (Asteraceae)	<i>Townsendia montana</i> var. <i>minima</i>	<i>T. alpigena</i> var. <i>minima</i> , <i>T. minima</i>	Bryce Canyon townsendia	PerF	LocEn	Unc	Pres	Jean 117 (CEBR)	1989	USFWS: Category 3C. Type locality is rim of Bryce Canyon, Bryce Canyon NP, Garfield Co., Utah (Eastwood & Howell 727 CAS).
Compositae (Asteraceae)	<i>Tragopogon dubius</i>	<i>T. dubius</i> var. <i>major</i>	yellow salsify	PerF	Intro	Unc	Pres	Palmer & Palmer 1115 (CEBR)	1981	Native to Europe
Compositae (Asteraceae)	<i>Viguiera multiflora</i> var. <i>multiflora</i>	<i>Heliomeris multiflora</i> var. <i>multiflora</i>	showy goldeneye	PerF	Wide	Unc	Pres	Palmer & Palmer 1261 (CEBR)	1934	
Cornaceae	<i>Cornus sericea</i> var. <i>sericea</i>	<i>C. stolonifera</i> , <i>Swida</i> <i>sericea</i>	red-osier dogwood	Shrub	Wide	Unc	Pres	Fertig & Reynolds 23393 (CEBR)	2007	
Cruciferae (Brassicaceae)	<i>Arabis drummondii</i>	<i>Boechea angustifolia</i> , <i>B.</i> <i>drummondii</i> , <i>B. stricta</i>	Drummond's rockcross	PerF	Wide	Unc	Pres	Croft 24CB (CEBR)	1934	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Cedar Breaks National Monument, organized by family and scientific name with taxonomic and biogeographic notes, cont.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Cruciferae (Brassicaceae)	<i>Arabis holboellii</i> var. <i>fendleri</i>	<i>A. holboellii</i> var. <i>fendleri</i> , <i>Boechea fendleri</i> var. <i>spatifolia</i> . Vars. not recognized in Holmgren et al. (2005)	Fendler's rockcross	PerF	Wide	Unc	Pres	Fertig & Reynolds 23344 (CEBR)	2007	
Cruciferae (Brassicaceae)	<i>Cardamine</i> <i>cordifolia</i> var. <i>cordifolia</i>		heartleaf bittercress	PerF	Wide	Unc	Pres	Palmer & Palmer 1076 (CEBR)	1934	
Cruciferae (Brassicaceae)	<i>Cardamine</i> <i>cordifolia</i> var. <i>incana</i>		heartleaf bittercress	PerF	RegEn	Rare	Pres	Bruhn s.n. (CEBR)	1954	
Cruciferae (Brassicaceae)	<i>Descurainia incana</i> var. <i>sonnei</i>	<i>D. richardsonii</i> var. <i>sonnei</i> , <i>D. incisa</i> var. <i>incisa</i> , <i>D. incana</i> ssp. <i>incisa</i> , <i>D. incana</i> var. <i>incana</i>	mountain tansy-mustard	AnnF	Wide	Unc	Pres	Croft 32CB (CEBR)	1934	
Cruciferae (Brassicaceae)	<i>Draba asprella</i> var. <i>zionensis</i>	<i>D. zionensis</i>	Zion draba	PerF	LocEn	Rare	Pres	Dickman s.n. (CEBR)	1977	USFWS: Category 3C. Type locality is Zion Canyon, Zion NP, Washington Co., UT (Jones s.n. POM). CEBR report may be based on a collection actually made in Zion NP
Cruciferae (Brassicaceae)	<i>Draba stenoloba</i> var. <i>nana</i>	<i>D. albertina</i>	slender whitlow-grass	PerF	Wide	Unc	Pres	Jean 130 (CEBR)	1942	
Cruciferae (Brassicaceae)	<i>Draba subalpina</i>		Breaks draba	PerF	LocEn	Unc	Pres	Boyle 1033 (CEBR)	1930	USFWS: Category 3C. Type locality is Cedar Breaks, Cedar Breaks NM; Iron Co., UT (Goodman & Hitchcock 1622 MO)
Cruciferae (Brassicaceae)	<i>Erysimum asperum</i> var. <i>purshii</i>	<i>E. asperum</i> var. <i>arkansanum</i> ; included in var. <i>capitatum</i> by some authors	sand dune wallflower	PerF	Wide	Unc	Pres	Palmer & Palmer 1067 (CEBR)	1940	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Cedar Breaks National Monument, organized by family and scientific name with taxonomic and biogeographic notes, cont.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Cruciferae (Brassicaceae)	<i>Physaria rubicundula</i> var. <i>rubicundula</i>	<i>P. rubicundula</i> , <i>Lesquerella rubicundula</i> , <i>L. hitchcockii</i>	Breaks bladderpod	PerF	LocEn	Unc	Pres	Jean 153 (CEBR)	1989	USFWS: Category 3C. Type locality is Red Canyon, Garfield Co., UT (Eggleston 8198 US)
Cruciferae (Brassicaceae)	<i>Physaria wardii</i>	<i>Lesquerella wardii</i> ; included in <i>P. kingii</i> var. <i>parvifolia</i> by some authors	Ward's bladderpod	PerF	RegEn	Unc	Pres	Buchanan s.n. (CEBR)	1977	Type locality is Aquarius Plateau, Garfield Co., UT (Ward 589 GH)
Cruciferae (Brassicaceae)	<i>Rorippa curvipes</i> var. <i>curvipes</i>		blunt-leaf yellowcress	PerF	Wide	Unc	Pres	Fertig 23330 (CEBR)	1935	
Cruciferae (Brassicaceae)	<i>Rorippa islandica</i> var. <i>glabra</i>	<i>R. palustris</i> var. <i>glabra</i>	smooth yellowcress	PerF	Wide	Rare	Pres	Palmer & Palmer 1181 (CEBR)	1981	
Cruciferae (Brassicaceae)	<i>Thlaspi arvense</i>		field pennycress	AnnF	Intro	Rare	Rep	NCPN (in ed.)	2005	Native to Europe
Cruciferae (Brassicaceae)	<i>Thlaspi montanum</i> var. <i>montanum</i>	<i>Noccaea montana</i>	alpine pennycress	PerF	Wide	Unc	Pres	Dickman s.n. (CEBR)	1935	
Cupressaceae	<i>Juniperus communis</i> var. <i>depressa</i>	<i>J. communis</i> ssp. <i>alpina</i>	common juniper	Shrub	Wide	Unc	Pres	Fertig 22732 (CEBR)	1989	
Cupressaceae	<i>Juniperus scopulorum</i>	<i>Sabina scopulorum</i>	Rocky Mountain juniper	Tree	Wide	Unc	Pres	Fertig 22979 (CEBR)	1989	
Cyperaceae	<i>Carex aquatilis</i>	<i>C. aquatilis</i> var. <i>aquatilis</i>	water sedge	PerG	Wide	Unc	Pres	Harms s.n. (CEBR)	1977	
Cyperaceae	<i>Carex aurea</i>	<i>C. garberi</i>	golden sedge	PerG	Wide	Unc	Pres	Palmer & Palmer 1229 (CEBR)	1981	
Cyperaceae	<i>Carex dioica</i>	<i>C. gynocrates</i> , <i>C. dioica</i> ssp. <i>gynocrates</i>	northern bog sedge	PerG	Wide	Rare	Pres	Tendick AT09070701 (CEBR)	2007	
Cyperaceae	<i>Carex egglestonii</i>		Eggleston's sedge	PerG	RegEn	Unc	Pres	Palmer & Palmer 1227 (CEBR)	1981	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Cedar Breaks National Monument, organized by family and scientific name with taxonomic and biogeographic notes, cont.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Cyperaceae	<i>Carex elynoides</i>		kobresia sedge	PerG	Wide	Rare	Hist	Lewis 144 (BRY)	1952	
Cyperaceae	<i>Carex heteroneura</i> var. <i>chalciolepis</i>	<i>C. atrata</i> var. <i>chalciolepis</i> , <i>C. chalciolepis</i>	blackened sedge	PerG	Wide	Unc	Pres	Palmer & Palmer 1079	1981	
Cyperaceae	<i>Carex interior</i>		inland sedge	PerG	Wide	Rare	Pres	Palmer & Palmer 1280 (CEBR)	1981	
Cyperaceae	<i>Carex microptera</i>	<i>C. microptera</i> var. <i>microptera</i> , <i>C. festivella</i> , <i>C. macloviana</i> var. <i>microptera</i>	small-wing sedge	PerG	Wide	Unc	Pres	Palmer & Palmer 1221 (CEBR)	1970	
Cyperaceae	<i>Carex norvegica</i> var. <i>stevenii</i>	<i>C. stevenii</i>	Scandinavian sedge	PerG	Wide	Unc	Pres	Palmer & Palmer 1220 (CEBR)	1981	
Cyperaceae	<i>Carex occidentalis</i>		western sedge	PerG	Wide	Rare	Pres	Palmer & Palmer 1015 (CEBR)	1981	
Cyperaceae	<i>Carex pellita</i>	<i>C. lanuginosa</i>	woolly sedge	PerG	Wide	Rare	Pres	Harms s.n. (CEBR)	2005	
Cyperaceae	<i>Carex petasata</i>		liddon sedge	PerG	Wide	Unc	Pres	Palmer & Palmer 1141 (CEBR)	1981	
Cyperaceae	<i>Carex rossii</i>	<i>C. deflexa</i> var. <i>boottii</i> , <i>C.</i> <i>brevipes</i> , <i>C. pityophila</i>	Ross' sedge	PerG	Wide	Com	Pres	Fertig 22740 (CEBR)	1989	
Cyperaceae	<i>Carex saxatilis</i>	<i>C. saxatilis</i> ssp. <i>laxa</i>	russet sedge	PerG	Wide	Unc	Pres	Palmer & Palmer 1278 (CEBR)	1981	
Cyperaceae	<i>Carex scirpoidea</i> var. <i>scirpoidea</i>		slender sedge	PerG	Sparse	Unc	Pres	Palmer & Palmer 1228 (CEBR)	1981	
Cyperaceae	<i>Carex utriculata</i>	<i>C. rostrata</i> (<i>sensu lato</i>)	beaked sedge	PerG	Wide	Rare	Pres	Palmer & Palmer 1222 (CEBR)	1981	
Cyperaceae	<i>Carex vesicaria</i>		blister sedge	PerG	Wide	Unc	Pres	Harms s.n. (CEBR)	1981	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Cedar Breaks National Monument, organized by family and scientific name with taxonomic and biogeographic notes, cont.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Cyperaceae	<i>Eleocharis palustris</i>	Includes <i>E. macrostachya</i> , <i>E. erythropoda</i> , & <i>E.</i> <i>uniglumis</i>	common spikerush	PerG	Wide	Rare	Pres	Harms s.n. (CEBR)	1989	
Cyperaceae	<i>Eleocharis quinqueflora</i>	<i>E. pauciflora</i> ; includes <i>E.</i> <i>suksdorfiana</i>	few-flower spikerush	PerG	Wide	Rare	Pres	Nelson 8985 (RM)	1970	
Elaeagnaceae	<i>Shepherdia canadensis</i>		Canada buffaloberry	Shrub	Wide	Unc	Pres	Malm s.n. (CEBR)	1981	
Equisetaceae	<i>Equisetum arvense</i>		field horsetail	Fern	Wide	Unc	Pres	Buchanan s.n. (CEBR)	1977	
Equisetaceae	<i>Equisetum laevigatum</i>	<i>Hippochaeta laevigata</i> , <i>E.</i> <i>kansanum</i>	smooth scouring-rush	Fern	Wide	Unc	Pres	Palmer & Palmer 1012 (CEBR)	1981	
Equisetaceae	<i>Equisetum variegatum</i>	<i>E. variegatum</i> var. <i>variegatum</i> , <i>Hippochaete</i> <i>variegata</i>	northern scouring-rush	Fern	Disj	Rare	Pres	Jean 1160 (CEBR)	1989	
Equisetaceae	<i>Equisetum x ferrisii</i>	Hybrid of <i>E. hyemale</i> x <i>E.</i> <i>laevigatum</i>	Ferris' scouring-rush	Fern	Sparse	Rare	Pres	Nelson 9030 (RM)	1970	
Ericaceae	<i>Arctostaphylos patula</i>		greenleaf manzanita	Shrub	Wide	Com	Pres	Palmer & Palmer 1013 (CEBR)	1981	
Euphorbiaceae	<i>Euphorbia brachycera</i>	<i>E. robusta</i> , <i>E. brachycera</i> var. <i>robusta</i> , <i>Tithymalus</i> <i>brachyceras</i>	shorthorn spurge	PerF	Wide	Com	Pres	Palmer & Palmer 1071 (CEBR)	1981	
Fagaceae	<i>Quercus gambelii</i> var. <i>gambelii</i>		Gambel oak	Tree	Wide	Unc	Pres	Palmer & Palmer 1016 (CEBR)	1981	
Fumariaceae	<i>Corydalis aurea</i> var. <i>occidentalis</i>	<i>C. curvisiliqua</i> ssp. <i>occidentalis</i>	golden corydalis	PerF	Wide	Rare	Pres	Fertig 23339 (CEBR)	2007	
Gentianaceae	<i>Gentiana affinis</i> var. <i>affinis</i>	<i>Pneumonanthe affinis</i>	Rocky Mountain gentian	PerF	Wide	Unc	Pres	Crawford s.n (CEBR)	1946	
Gentianaceae	<i>Gentiana parryi</i>	<i>Pneumonanthe parryi</i>	Parry's gentian	PerF	Wide	Rare	Pres	Bruhn s.n. (CEBR)	1946	
Gentianaceae	<i>Gentianella heterosepala</i>	<i>G. amarella</i> var. <i>heterosepala</i>	Engelmann's gentian	PerF	Wide	Unc	Pres	Palmer & Palmer 1287 (CEBR)	1934	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Cedar Breaks National Monument, organized by family and scientific name with taxonomic and biogeographic notes, cont.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Gentianeaceae	<i>Gentianella tortuosa</i>	<i>Gentiana tortuosa</i>	Jones' gentian	AnnF	RegEn	Unc	Pres	Palmer & Palmer 1302 (CEBR)	1940	Type locality is Panguitch Lake, Garfield Co., UT (Jones 6008 POM)
Gentianeaceae	<i>Gentianopsis detonsa</i> var. <i>elegans</i>	<i>Gentianella detonsa</i> var. <i>elegans</i> , <i>Gentiana detonsa</i> , <i>Gentianopsis thermalis</i>	meadow gentian	AnnF	Wide	Unc	Pres	Boyle 764 (CEBR)	1934	
Gentianeaceae	<i>Swertia radiata</i>	<i>Frasera speciosa</i>	elkweed	PerF	Wide	Unc	Pres	Palmer & Palmer 1097 (CEBR)	1954	
Geraniaceae	<i>Geranium caespitosum</i> var. <i>marginale</i>	<i>G. caespitosum</i> var. <i>atropurpureum</i>	small-leaf geranium	PerF	Wide	Rare	Pres	Fertig & Reynolds 23355 (CEBR)	2007	Type locality is Aquarius Plateau, head of Poison Creek, Garfield Co., UT (Rydberg & Carlton 7401 NY)
Geraniaceae	<i>Geranium richardsonii</i>		Richardson's crane's-bill	PerF	Wide	Com	Pres	Buchanan s.n. (CEBR)	1970	
Gramineae (Poaceae)	<i>Agropyron cristatum</i>	<i>A. cristatum</i> var. <i>cristatum</i> , <i>A. cristatum</i> ssp. <i>pectinatum</i> , <i>A. pectinatum</i> , <i>A. sibiricum</i> , <i>A. desertorum</i> , <i>A. fragile</i>	crested wheatgrass	PerG	Intro	Unc	Pres	Jean 157 (CEBR)	1989	Native to Eurasia.
Gramineae (Poaceae)	<i>Agrostis scabra</i>	<i>A. hiemalis</i> , <i>A. geminata</i>	ticklegrass	PerG	Wide	Rare	Pres	Bruhn s.n. (CEBR)	1954	
Gramineae (Poaceae)	<i>Agrostis stolonifera</i>	<i>A. alba</i> , <i>A. gigantea</i>	redtop	PerG	Intro	Unc	Pres	Jean 1116 (CEBR)	1970	Native to Eurasia and Africa
Gramineae (Poaceae)	<i>Agrostis x idahoensis</i>	<i>A. idahoensis</i>	Idaho bentgrass	PerG	Wide	Rare	Pres	Harms s.n. (CEBR)	2005	
Gramineae (Poaceae)	<i>Blepharoneuron tricholepis</i>		pine dropseed	PerG	Wide	Unc	Pres	Bruhn s.n. (CEBR)	1954	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Cedar Breaks National Monument, organized by family and scientific name with taxonomic and biogeographic notes, cont.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Gramineae (Poaceae)	<i>Bromus anomalus</i>	<i>Bromus porteri</i> , <i>Bromus frondosus</i> , <i>Bromopsis porteri</i> . According to Flora of North America (2007), material ascribed to <i>B. anomalus</i> in regional floras is mostly <i>B. porteri</i> or <i>B. lanatipes</i> .	nodding brome	PerG	Wide	Unc	Pres	Jean 1139 (CEBR)	1981	
Gramineae (Poaceae)	<i>Bromus carinatus</i>	<i>B. marginatus</i> , <i>B. polyanthus</i> , <i>Ceratochloa carinata</i>	mountain brome	PerG	Wide	Com	Pres	Palmer & Palmer 1248 (CEBR)	1954	
Gramineae (Poaceae)	<i>Bromus ciliatus</i>	Includes vars. <i>ciliatus</i> & <i>richardsonii</i> , <i>Bromopsis canadensis</i>	fringed brome	PerG	Wide	Com	Pres	Bruhn s.n. (CEBR)	1954	
Gramineae (Poaceae)	<i>Bromus inermis</i> var. <i>inermis</i>	<i>Bromopsis inermis</i>	smooth brome	PerG	Intro	Com	Pres	Bruhn s.n. (CEBR)	1954	Native to Eurasia
Gramineae (Poaceae)	<i>Bromus tectorum</i>	<i>Anisantha tectorum</i>	cheatgrass	AnnG	Intro	Unc	Pres	Palmer & Palmer 1019 (CEBR)	1981	Native to Eurasia
Gramineae (Poaceae)	<i>Calamagrostis scopulorum</i>		Jones' reedgrass	PerG	Wide	Unc	Pres	Bruhn s.n. (CEBR)	1954	
Gramineae (Poaceae)	<i>Calamagrostis stricta</i>	<i>C. neglecta</i> , <i>C. inexpansa</i>	slimstem reedgrass	PerG	Wide	Unc	Pres	Palmer & Palmer 1285 (CEBR)	1954	
Gramineae (Poaceae)	<i>Dactylis glomerata</i>		orchard grass	PerG	Intro	Unc	Pres	Johnson s.n. (CEBR)	1986	Native to Eurasia and Africa
Gramineae (Poaceae)	<i>Danthonia intermedia</i>		timber oatgrass	PerG	Wide	Rare	Pres	Jean 1129 (CEBR)	1989	
Gramineae (Poaceae)	<i>Deschampsia cespitosa</i>	<i>D. caespitosa</i>	tufted hairgrass	PerG	Wide	Com	Pres	Boyle 1049 (CEBR)	1935	
Gramineae (Poaceae)	<i>Elymus cinereus</i>	<i>Leymus cinereus</i>	Great Basin wildrye	PerG	Wide	Rare	Pres	Palmer & Palmer 1258 (CEBR)	1981	
Gramineae (Poaceae)	<i>Elymus elymoides</i>	<i>E. elymoides</i> var. <i>elymoides</i> , <i>Sitanion hystrix</i>	squirreltail	PerG	Wide	Com	Pres	Palmer & Palmer 1142 (CEBR)	1935	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Cedar Breaks National Monument, organized by family and scientific name with taxonomic and biogeographic notes, cont.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Gramineae (Poaceae)	<i>Elymus glaucus</i>	<i>E. glaucus</i> var. <i>glaucus</i>	blue wildrye	PerG	Wide	Unc	Pres	Palmer & Palmer 1298 (CEBR)	1981	
Gramineae (Poaceae)	<i>Elymus hispidus</i>	<i>E. hispidus</i> var. <i>hispidus</i> , <i>Agropyron</i> <i>intermedium</i> , <i>Elytrigia</i> <i>intermedia</i> , <i>Thinopyrum</i> <i>intermedium</i>	intermediate wheatgrass	PerG	Intro	Unc	Pres	Jean 1116 (CEBR)	1989	Native to Eurasia
Gramineae (Poaceae)	<i>Elymus lanceolatus</i>	<i>E. lanceolatus</i> var. <i>lanceolatus</i> , <i>Agropyron</i> <i>dasytachyum</i> var. <i>dasytachyum</i> ; includes var. <i>riparium</i> , <i>A. albicans</i> var. <i>albicans</i> , <i>A. albicans</i> var. <i>griffithsii</i>	thickspike wheatgrass	PerG	Wide	Unc	Pres	Jean 1116 (CEBR)	1989	
Gramineae (Poaceae)	<i>Elymus scribneri</i>	<i>Agropyron scribneri</i>	Scribner wheatgrass	PerG	Wide	Unc	Pres	Palmer & Palmer 1268 (CEBR)	1970	
Gramineae (Poaceae)	<i>Elymus smithii</i>	<i>Agropyron smithii</i> , <i>Pascopyrum smithii</i> ; includes vars. <i>smithii</i> & <i>palmeri</i>	western wheatgrass	PerG	Wide	Unc	Pres	Fertig 22922 (CEBR)	2006	
Gramineae (Poaceae)	<i>Elymus spicatus</i>	<i>Agropyron spicatum</i> , <i>Pseudoroegneria spicata</i> ; includes ssp. <i>inermis</i> & <i>spicata</i>	bluebunch wheatgrass	PerG	Wide	Unc	Pres	Palmer & Palmer 1020 (CEBR)	1981	
Gramineae (Poaceae)	<i>Elymus trachycaulus</i>	<i>E. trachycaulus</i> var. <i>trachycaulus</i> , <i>E.</i> <i>alaskanus</i> ssp. <i>latiglumis</i> , <i>Agropyron caninum</i> , <i>A. subsecundum</i> , <i>A. trachycaulum</i> , <i>A.</i> <i>latiglume</i>	slender wheatgrass	PerG	Wide	Com	Pres	Palmer & Palmer 1291 (CEBR)	1935	
Gramineae (Poaceae)	<i>Festuca ovina</i> var. <i>brevifolia</i>	<i>F. brachyphylla</i> var. <i>brachyphylla</i> , <i>F.</i> <i>brachyphylla</i> ssp. <i>coloradensis</i>	alpine sheep fescue	PerG	Wide	Unc	Pres	Palmer & Palmer 1238 (CEBR)	1935	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Cedar Breaks National Monument, organized by family and scientific name with taxonomic and biogeographic notes, cont.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Gramineae (Poaceae)	<i>Festuca ovina</i> var. <i>saximontana</i>	<i>F. ovina</i> var. <i>rydbergii</i> , <i>F.</i> <i>saximontana</i>	Rocky Mountain fescue	PerG	Wide	Unc	Pres	Bruhn s.n. (CEBR)	1954	
Gramineae (Poaceae)	<i>Glyceria striata</i>	Includes <i>G. elata</i>	fowl mannagrass	PerG	Wide	Unc	Pres	Palmer & Palmer 1124 (CEBR)	1981	
Gramineae (Poaceae)	<i>Hordeum brachyantherum</i>	<i>Critesion brachyantherum</i>	meadow barley	PerG	Wide	Unc	Pres	Palmer & Palmer 1171 (CEBR)	1935	
Gramineae (Poaceae)	<i>Koeleria macrantha</i>	<i>K. cristata</i> , <i>K.</i> <i>pyramidata</i> , <i>K. nitida</i>	junegrass	PerG	Wide	Unc	Pres	Palmer & Palmer 1118 (CEBR)	1981	
Gramineae (Poaceae)	<i>Melica bulbosa</i>	<i>Bromelica bulbosa</i>	oniongrass	PerG	Wide	Rare	Pres	Jean 1116 (CEBR)	1989	
Gramineae (Poaceae)	<i>Muhlenbergia andina</i>		foxtail muhly	PerG	Wide	Unc	Pres	Palmer & Palmer 1299 (CEBR)	1981	
Gramineae (Poaceae)	<i>Muhlenbergia filiformis</i>		pullup muhly	AnnG	Wide	Unc	Pres	Jean 1158 (CEBR)	1989	
Gramineae (Poaceae)	<i>Muhlenbergia richardsonis</i>		mat muhly	PerG	Wide	Rare	Pres	Bruhn H-185 (BRY)	1955	
Gramineae (Poaceae)	<i>Oryzopsis micrantha</i>	<i>Piptatherum micranthum</i>	littleseed ricegrass	PerG	Wide	Rare	Pres	Fertig 22925 (CEBR)	2006	
Gramineae (Poaceae)	<i>Phleum alpinum</i>	<i>P. commutatum</i>	alpine timothy	PerG	Wide	Unc	Pres	Dickman s.n. (CEBR)	1935	
Gramineae (Poaceae)	<i>Phleum pratense</i>		timothy	PerG	Intro	Unc	Pres	Bruhn s.n. (CEBR)	1954	Native to Eurasia
Gramineae (Poaceae)	<i>Poa annua</i>		annual bluegrass	AnnG	Intro	Rare	Pres	Fertig 22733 (CEBR)	2006	Native to Eurasia and W North America

Appendix A. Confirmed, historical, and reported vascular plant taxa of Cedar Breaks National Monument, organized by family and scientific name with taxonomic and biogeographic notes, cont.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Gramineae (Poaceae)	<i>Poa arctica</i>	Includes vars. <i>arctica</i> & <i>grayana</i>	Arctic bluegrass	PerG	Wide	?	Hist	Harrison 9847 (BRY)	1940	Report from CEBR herbarium and by Roberts and Jean (1989) based on misidentified specimen of <i>P.</i> <i>secunda</i> .
Gramineae (Poaceae)	<i>Poa compressa</i>		Canada bluegrass	PerG	Intro	Unc	Pres	Palmer & Palmer 1087 (CEBR)	1981	Native to Eurasia
Gramineae (Poaceae)	<i>Poa fendleriana</i>	<i>P. longiligula</i> , <i>P.</i> <i>fendleriana</i> ssp. <i>longiligula</i> ; includes reports of <i>P. cusickii</i> & <i>P.</i> <i>epilis</i>	muttongrass	PerG	Wide	Com	Pres	Palmer & Palmer 1063 (CEBR)	1954	
Gramineae (Poaceae)	<i>Poa glauca</i> var. <i>glauca</i>	<i>P. nemoralis</i> ssp. <i>interior</i> , <i>P. interior</i>	interior bluegrass	PerG	Wide	Unc	Pres	Bruhn s.n. (CEBR)	1954	
Gramineae (Poaceae)	<i>Poa nervosa</i> var. <i>wheeleri</i>	<i>P. wheeleri</i>	Wheeler bluegrass	PerG	Wide	Rare	Pres	Bruhn s.n. (CEBR)	1954	
Gramineae (Poaceae)	<i>Poa pratensis</i>	<i>P. agassizensis</i>	Kentucky bluegrass	PerG	Intro	Com	Pres	Palmer & Palmer 1168 (CEBR)	1954	Native to Europe
Gramineae (Poaceae)	<i>Poa secunda</i>	Includes <i>P. gracillima</i> , <i>P.</i> <i>juncifolia</i> , <i>P. sandbergii</i> , <i>P. canbyi</i> , <i>P. scabrella</i> , <i>P.</i> <i>nevadensis</i> , <i>P. ampla</i> , and all vars. of <i>P. secunda</i>	Sandberg's bluegrass	PerG	Wide	Unc	Pres	Palmer & Palmer 1204 (CEBR)	1954	Material from CEBR includes the " <i>Poa</i> <i>gracillima</i> " phase.
Gramineae (Poaceae)	<i>Stipa comata</i> var. <i>comata</i>	<i>Hesperostipa comata</i> var. <i>comata</i>	needle-and- thread	PerG	Wide	NA	Rep	Roberts & Jean (1989)	1989	
Gramineae (Poaceae)	<i>Stipa hymenoides</i>	<i>Oryzopsis hymenoides</i> , <i>Achnatherum</i> <i>hymenoides</i>	Indian ricegrass	PerG	Wide	Unc	Pres	Palmer & Palmer 1018 (CEBR)	1981	
Gramineae (Poaceae)	<i>Stipa lettermanii</i>	<i>Achnatherum lettermanii</i>	Letterman's needlegrass	PerG	Wide	Com	Pres	Palmer & Palmer 1121 (CEBR)	1935	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Cedar Breaks National Monument, organized by family and scientific name with taxonomic and biogeographic notes, cont.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Gramineae (Poaceae)	<i>Stipa nelsonii</i> var. <i>nelsonii</i>	<i>Achnatherum nelsonii</i> var. <i>nelsonii</i> , S. <i>columbiana</i> var. <i>nelsonii</i>	Nelson's needlegrass	PerG	Wide	Unc	Pres	Palmer & Palmer 1259 (CEBR)	1981	
Gramineae (Poaceae)	<i>Trisetum spicatum</i>	Includes ssp. <i>alaskanum</i> & <i>congdonii</i> , T. <i>montanum</i>	spike trisetum	PerG	Wide	Unc	Pres	Palmer & Palmer 1093 (CEBR)	1935	
Hydrophyllaceae	<i>Phacelia heterophylla</i>	Includes ssp. <i>heterophylla</i> & var. <i>virgata</i>	wand phacelia	PerF	Wide	Unc	Pres	Palmer & Palmer 1250 (CEBR)	1981	
Iridaceae	<i>Iris missouriensis</i>		Rocky Mountain iris	PerF	Wide	Unc	Pres	Fertig & Reynolds 23456 (CEBR)	1989	
Juncaceae	<i>Juncus arcticus</i>	<i>J. arcticus</i> var. <i>balticus</i> , <i>J. arcticus</i> ssp. <i>ater</i> , <i>J.</i> <i>balticus</i> var. <i>montanus</i> ; includes var. <i>mexicanus</i>	Baltic rush	PerG	Wide	Rare	Pres	Harms s.n. (CEBR)	2005	
Juncaceae	<i>Juncus confusus</i>		perplexing rush	PerG	Wide	Unc	Pres	Fertig & Reynolds 23328 (CEBR)	2007	
Juncaceae	<i>Juncus ensifolius</i> var. <i>brunnescens</i>	Included in <i>J. ensifolius</i> var. <i>montanus</i> by some authors, <i>J. saximontanus</i> forma <i>brunnescens</i>	Tracy's rush	PerG	Wide	Unc	Pres	Palmer & Palmer 1008 (CEBR)	1981	
Juncaceae	<i>Juncus ensifolius</i> var. <i>montanus</i>	<i>J. saximontanus</i> ; includes <i>J. tracyi</i> , <i>J. xiphoides</i>	mountain rush	PerG	Wide	Rare	Pres	Fertig 22911 (CEBR)	2006	
Juncaceae	<i>Juncus longistylus</i>		longstyle rush	PerG	Wide	Unc	Pres	Palmer & Palmer 1232 (CEBR)	1970	
Juncaceae	<i>Juncus mertensianus</i>		Mertens' rush	PerG	Wide	Rare	Pres	Palmer & Palmer 1187 (CEBR)	1981	
Juncaceae	<i>Luzula parviflora</i>		small-flowered woodrush	PerG	Wide	Unc	Pres	Palmer & Palmer 1176 (CEBR)	1981	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Cedar Breaks National Monument, organized by family and scientific name with taxonomic and biogeographic notes, cont.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Labiatae (Lamiaceae)	<i>Monardella odoratissima</i>	<i>M. odoratissima</i> var. <i>glauca</i> , <i>M. glauca</i>	stinking horsemint	PerF	Wide	Unc	Pres	Palmer & Palmer 1243 (CEBR)	1970	
Labiatae (Lamiaceae)	<i>Prunella vulgaris</i> var. <i>lanceolata</i>		self-heal	PerF	Wide	Rare	Pres	Fertig & Reynolds 23349 (CEBR)	2007	
Leguminosae (Fabaceae)	<i>Astragalus argophyllus</i> var. <i>panguicensis</i>		Panguitch milkvetch	PerF	RegEn	Unc	Pres	Fertig 22989 (CEBR)	1966	Type locality is Panguitch Lake, Garfield Co., UT (Jones 6023f POM)
Leguminosae (Fabaceae)	<i>Astragalus kentrophyta</i> var. <i>elatus</i>		tall kentrophyta	PerF	Wide	Unc	Pres	Palmer & Palmer 1300 (CEBR)	1970	
Leguminosae (Fabaceae)	<i>Astragalus kentrophyta</i> var. <i>tegetarius</i>	<i>A. kentrophyta</i> var. <i>implexus</i>	mountain kentrophyta	PerF	Wide	NA	Rep	Welsh 21286 (NY)	1982	Reported from Cedar Breaks vicinity by Welsh. Other reports are based on misidentified specimens of var. <i>elatus</i> .
Leguminosae (Fabaceae)	<i>Astragalus limnocharis</i> var. <i>limnocharis</i>		Navajo Lake milkvetch	PerF	LocEn	Unc	Pres	Jean 317 (CEBR)	1942	USFS Region 4: Sensitive, USFWS: former C2 candidate. Type locality is Navajo Lake, Kane Co., UT (Maguire 19474 NY)
Leguminosae (Fabaceae)	<i>Astragalus lonchocarpus</i>		great rushy milkvetch	PerF	Wide	Rare	Pres	Palmer & Palmer 1108 (CEBR)	1981	
Leguminosae (Fabaceae)	<i>Astragalus miser</i> var. <i>oblongifolius</i>		Rydberg's weedy milkvetch	PerF	Wide	Com	Pres	Dickman s.n. (CEBR)	1930	
Leguminosae (Fabaceae)	<i>Astragalus tenellus</i>		pulse milkvetch	PerF	Wide	Unc	Pres	Palmer & Palmer 1256 (CEBR)	1981	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Cedar Breaks National Monument, organized by family and scientific name with taxonomic and biogeographic notes, cont.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Leguminosae (Fabaceae)	<i>Lathyrus lanszwertii</i> var. <i>laetivirens</i>	<i>L. laetivirens</i>	largeflower sweetpea	PerF	RegEn	Unc	Pres	Palmer & Palmer 1144 (CEBR)	1981	
Leguminosae (Fabaceae)	<i>Lotus utahensis</i>		Utah trefoil	PerF	RegEn	Rare	Pres	Palmer & Palmer s.n. (CEBR)	1939	Type locality is W of Carmel, Kane Co., UT (Ferguson & Ottley 5613 NY)
Leguminosae (Fabaceae)	<i>Lupinus argenteus</i> var. <i>argentatus</i>	<i>L. argenteus</i> spp. <i>spathulatus</i>	silvery lupine	PerF	Wide	Com	Pres	Fertig 22928 (CEBR)	2006	Previous reports from CEBR herbarium based on misidentified specimens of var. <i>rubricaulis</i> .
Leguminosae (Fabaceae)	<i>Lupinus argenteus</i> var. <i>argenteus</i>		silvery lupine	PerF	Wide	NA	Hist	Degener & Peiler s.n. (NY)	1942	
Leguminosae (Fabaceae)	<i>Lupinus argenteus</i> var. <i>rubricaulis</i>		subalpine lupine	PerF	Wide	Com	Pres	Bruhn s.n. (CEBR)	1954	
Leguminosae (Fabaceae)	<i>Lupinus kingii</i> var. <i>kingii</i>		King's lupine	AnnF	Wide	Rare	Pres	Louie, Malm, & Alexander s.n. (CEBR)	2001	
Leguminosae (Fabaceae)	<i>Lupinus lepidus</i> var. <i>utahensis</i>	<i>L. lepidus</i> var. <i>caespitosus</i> , <i>L.</i> <i>caespitosus</i> var. <i>utahensis</i>	stemless lupine	PerF	Wide	Unc	Pres	Jean 1124 (CEBR)	1989	
Leguminosae (Fabaceae)	<i>Melilotus officinalis</i>		yellow sweet- clover	PerF	Intro	Unc	Pres	Johnson s.n. (CEBR)	1986	Native to Europe
Leguminosae (Fabaceae)	<i>Oxytropis oreophila</i> var. <i>oreophila</i>		mountain locoweed	PerF	Wide	Unc	Pres	Palmer & Palmer 1269 (CEBR)	1935	Type locality is Aquiarius Plateau, Garfield Co., UT (Ward 541 GH)
Leguminosae (Fabaceae)	<i>Trifolium longipes</i> var. <i>rusbyi</i>	<i>T. longipes</i> var. <i>brachypus</i>	Rusby's clover	PerF	Wide	Com	Pres	Palmer & Palmer 1040 (CEBR)	1930	
Leguminosae (Fabaceae)	<i>Vicia americana</i> var. <i>americana</i>		American vetch	PerF	Wide	Unc	Pres	Palmer & Palmer 1016 (CEBR)	1981	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Cedar Breaks National Monument, organized by family and scientific name with taxonomic and biogeographic notes, cont.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Liliaceae (Alliaceae)	<i>Allium bisceptrum</i>	Includes vars. <i>bisceptrum</i> & <i>palmeri</i> .	twincrest onion	PerF	Wide	NA	Hist	Woodbury s.n. (BRY)	1947	
Liliaceae (Calochortaceae)	<i>Calochortus nuttallii</i>		sego-lily	PerF	Wide	Unc	Pres	Palmer & Palmer 1028 (CEBR)	1981	State flower of Utah
Liliaceae	<i>Fritillaria atropurpurea</i>		leopard-lily	PerF	Wide	Unc	Pres	Boyle 1038 (CEBR)	1941	
Liliaceae (Convallariaceae or Ruscaceae)	<i>Smilacina stellata</i>	<i>Maianthemum stellatum</i>	starry false Solomon's-seal	PerF	Wide	Unc	Pres	Palmer & Palmer 1049 (CEBR)	1954	
Liliaceae (Melanthiaceae)	<i>Zigadenus elegans</i>	<i>Anticlea elegans</i>	mountain death camas	PerF	Wide	Unc	Pres	Louie, Malm, & Alexander s.n. (CEBR)	1925	
Linaceae	<i>Linum kingii</i>	<i>Mesyniopsis kingii</i>	King's yellow flax	PerF	Wide	Unc	Pres	Palmer & Palmer 1211 (CEBR)	1981	
Linaceae	<i>Linum perenne</i> ssp. <i>lewisii</i>	<i>L. lewisii</i> var. <i>lewisii</i> , <i>Adenolinum lewisii</i>	blue flax	PerF	Wide	Unc	Pres	Palmer & Palmer 1241 (CEBR)	1954	
Malvaceae	<i>Malva neglecta</i>		common mallow	AnnF	Intro	Rare	Pres	Johnston s.n. (CEBR)	1987	Native to Eurasia
Monotropaceae (Ericaceae)	<i>Pterospora andromedea</i>		woodland pinedrops	PerF	Wide	Rare	Pres	Fertig & Reynolds photo (CEBR)	2007	Previous reports from CEBR herbarium based on misidentified specimens of <i>Pyrola chlorantha</i>
Onagraceae	<i>Epilobium angustifolium</i> var. <i>canescens</i>	<i>Chamerion angustifolium</i> var. <i>canescens</i> , <i>C. angustifolium</i> ssp. <i>circumvagum</i> , <i>C. danielsii</i>	fireweed	PerF	Wide	Com	Pres	Dickman & Buchanan s.n. (CEBR)	1935	
Onagraceae	<i>Epilobium halleanum</i>		Hall's willow- herb	PerF	Wide	Rare	Pres	Fertig 22912 (CEBR)	2006	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Cedar Breaks National Monument, organized by family and scientific name with taxonomic and biogeographic notes, cont.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Onagraceae	<i>Epilobium hornemannii</i> var. <i>hornemannii</i>		Hornemann's willow-herb	PerF	Wide	Unc	Pres	Palmer & Palmer 1127 (CEBR)	1977	
Onagraceae	<i>Oenothera caespitosa</i> var. <i>marginata</i>		long-tube evening-primrose	PerF	Wide	Unc	Pres	Palmer & Palmer 1022 (CEBR)	1954	
Onagraceae	<i>Oenothera flava</i> var. <i>flava</i>	<i>O. flava</i>	yellow evening-primrose	PerF	Wide	Unc	Pres	Palmer & Palmer 1155 (CEBR)	1981	
Orchidaceae	<i>Corallorhiza maculata</i>	<i>C. maculata</i> var. <i>maculata</i>	spotted coral-root	PerF	Wide	Rare	Pres	Palmer & Palmer 1145 (CEBR)	1981	
Orchidaceae	<i>Goodyera oblongifolia</i>		giant rattlesnake-plantain	PerF	Wide	Unc	Pres	Jean 101 (CEBR)	1988	
Orchidaceae	<i>Habenaria dilatata</i> var. <i>dilatata</i>	<i>Platanthera dilatata</i> var. <i>dilatata</i>	white bog-orchid	PerF	Sparse	Rare	Pres	Dickman & Buchanan s.n. (CEBR)	1977	
Orchidaceae	<i>Habenaria hyperborea</i>	<i>Limnorchis hyperborea</i> ; includes <i>Platanthera aquilonis</i> , <i>P. huronensis</i>	northern bog orchid	PerF	Wide	Unc	Pres	Palmer & Palmer 1158 (CEBR)	1981	
Orchidaceae	<i>Habenaria sparsiflora</i> var. <i>sparsiflora</i>	<i>Platanthera sparsiflora</i> , Vars. not recognized in <i>Flora of North America</i> 2003	slender bog orchid	PerF	Wide	Rare	Pres	Palmer & Palmer 1106 (CEBR)	1981	
Pinaceae	<i>Abies concolor</i>		white fir	Tree	Wide	Com	Pres	Fertig 22742 (CEBR)	1989	
Pinaceae	<i>Abies lasiocarpa</i>	<i>A. bifolia</i>	subalpine fir	Tree	Wide	Com	Pres	Palmer & Palmer 1101 (CEBR)	1981	
Pinaceae	<i>Picea engelmannii</i>		Engelmann spruce	Tree	Wide	Com	Pres	Malm, Louie, & Alexander s.n. (CEBR)	1989	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Cedar Breaks National Monument, organized by family and scientific name with taxonomic and biogeographic notes, cont.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Pinaceae	<i>Picea pungens</i>		blue spruce	Tree	Wide	Unc	Pres	Fertig 22980 (CEBR)	1989	State tree of UT and CO
Pinaceae	<i>Pinus edulis</i>		two-needle pinyon	Tree	Wide	NA	Rep	Roberts & Jean (1989)	1989	
Pinaceae	<i>Pinus flexilis</i>		limber pine	Tree	Wide	Unc	Pres	Nelson 9031 (RM)	1970	
Pinaceae	<i>Pinus longaeva</i>	<i>P. aristata</i>	western bristlecone pine	Tree	Wide	Com	Pres	Malm, Louie, & Alexander s.n. (CEBR)	1989	
Pinaceae	<i>Pinus ponderosa</i> var. <i>scopulorum</i>		ponderosa pine	Tree	Wide	Unc	Pres	Fertig 22982 (CEBR)	1989	
Pinaceae	<i>Pseudotsuga menziesii</i> var. <i>glauca</i>		Douglas-fir	Tree	Wide	Unc	Pres	Fertig 23310 (CEBR)	1989	
Plantaginaceae	<i>Plantago tweedyi</i>		Tweedy's plantain	PerF	Wide	Unc	Pres	Palmer & Palmer 1236 (CEBR)	1981	
Polemoniaceae	<i>Collomia linearis</i>		small collomia	AnnF	Wide	Unc	Pres	Palmer & Palmer 1194 (CEBR)	1981	
Polemoniaceae	<i>Ipomopsis aggregata</i> var. <i>aggregata</i>	<i>Gilia aggregata</i> var. <i>aggregata</i>	scarlet gilia	PerF	Wide	Unc	Pres	Fertig & Reynolds 23352 (CEBR)	1989	
Polemoniaceae	<i>Ipomopsis tridactyla</i>	<i>Gilia tridactyla</i> ; <i>I. spicata</i> ssp. <i>tridactyla</i>	Cedar Breaks gilia	PerF	LocEn	Unc	Pres	Buchanan s.n. (CEBR)	1935	Type locality is Brigham Peak, Piute Co., UT (Jones 5949 NY)
Polemoniaceae	<i>Phlox pulvinata</i>	<i>P. sibirica</i> ssp. <i>pulvinata</i> , <i>P. caespitosa</i>	cushion phlox	PerF	Wide	Unc	Pres	Dickman s.n. (CEBR)	1940	
Polemoniaceae	<i>Polemonium caeruleum</i> var. <i>pterospermum</i>	<i>P. occidentale</i> , <i>P. caeruleum</i> ssp. <i>amygdalinum</i>	western Jacob's-ladder	PerF	Wide	Rare	Pres	Harms s.n. (CEBR)	1947	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Cedar Breaks National Monument, organized by family and scientific name with taxonomic and biogeographic notes, cont.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Polemoniaceae	<i>Polemonium pulcherrimum</i> var. <i>delicatum</i>	<i>P. pulcherrimum</i> var. <i>pulcherrimum</i>	pretty Jacob's-ladder	PerF	Wide	Unc	Pres	Bruhn s.n. (CEBR)	1954	
Polygonaceae	<i>Eriogonum panguicense</i> var. <i>alpestre</i>	<i>E. chrysocephalum</i> var. <i>alpestre</i>	Cedar Breaks wild buckwheat	PerF	LocEn	Com	Pres	Goodman & Hitchcock 1601 (NY holotype)	1930	Type locality of var. <i>alpestre</i> is Cedar Breaks NM; Iron Co., UT (Goodman & Hitchcock 1601)
Polygonaceae	<i>Eriogonum umbellatum</i> var. <i>porteri</i>		Porter's wild buckwheat	PerF	RegEn	Com	Pres	Buchanan s.n. (CEBR)	1930	
Polygonaceae	<i>Eriogonum umbellatum</i> var. <i>umbellatum</i>		sulfur wild buckwheat	PerF	Wide	Rare	Pres	Bruhn s.n. (CEBR)	1935	
Polygonaceae	<i>Polygonum aviculare</i>	<i>P. arenastrum</i> , <i>P. aviculare</i> ssp. <i>aviculare</i>	yard knotweed	AnnF	Intro	Unc	Pres	Jean 121 (CEBR)	1989	Native to Eurasia.
Polygonaceae	<i>Polygonum bistortoides</i>	<i>Bistorta bistortoides</i>	American bistort	PerF	Wide	Unc	Pres	Palmer & Palmer 1163 (CEBR)	1934	
Polygonaceae	<i>Polygonum douglasii</i> var. <i>douglasii</i>	<i>P. douglasii</i>	Douglas' knotweed	AnnF	Wide	Unc	Pres	Palmer & Palmer 1272 (CEBR)	1981	
Polygonaceae	<i>Polygonum douglasii</i> var. <i>johnstonii</i>	<i>P. sawatchense</i> var. <i>sawatchense</i>	Sawatch knotweed	AnnF	Wide	Rare	Pres	Bruhn s.n. (CEBR)	1954	
Polygonaceae	<i>Polygonum viviparum</i>	<i>Bistorta vivipara</i>	alpine bistort	PerF	Wide	Rare	Pres	Crawford F-59 (CEBR)	1946	
Polygonaceae	<i>Rumex occidentalis</i>	<i>R. aquaticus</i> var. <i>fenestratus</i> , <i>R. aquaticus</i> ssp. <i>occidentalis</i>	western dock	PerF	Wide	Unc	Pres	Palmer & Palmer 1088 (CEBR)	1935	
Polygonaceae	<i>Rumex salicifolius</i> ssp. <i>triangulivalvis</i>	<i>R. mexicanus</i> , <i>R. salicifolius</i> var. <i>mexicanus</i> , <i>R. utahensis</i> , <i>R. triangulivalvis</i>	willow dock	PerF	Wide	Unc	Pres	Bruhn s.n. (CEBR)	1954	
Polypodiaceae (Adiantaceae)	<i>Cryptogramma crispa</i> var. <i>acrostichoides</i>	<i>C. acrostichoides</i>	parsley-fern	Fern	Wide	NA	Hist	s.n.	1935	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Cedar Breaks National Monument, organized by family and scientific name with taxonomic and biogeographic notes, cont.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Polypodiaceae (Aspleniaceae)	<i>Cystopteris fragilis</i>	Includes <i>C. utahensis</i> , <i>C. reevesiana</i> , & <i>C. tenuis</i>	brittle bladder fern	Fern	Wide	Rare	Pres	Fertig 22924 (CEBR)	2006	
Portulacaceae	<i>Claytonia lanceolata</i>	<i>C. lanceolata</i> var. <i>lanceolata</i> . Welsh et al. (2003) include <i>C. rosea</i> .	lanceleaf springbeauty	PerF	Wide	Unc	Pres	Boyle 1030 (CEBR)	1941	
Portulacaceae	<i>Lewisia pygmaea</i>	<i>Oreobroma pygmaea</i> . Includes <i>L. nevadensis</i>	alpine bitter- root	PerF	Wide	Unc	Pres	Palmer & Palmer 1039 (CEBR)	1942	
Primulaceae	<i>Androsace septentrionalis</i>	Includes ssp. <i>puberulenta</i> , <i>subumbellata</i> , & var. <i>subbilifera</i>	pygmy-flower rock-jasmine	AnnF	Wide	Unc	Pres	Dickman & Buchanan s.n. (CEBR)	1954	
Primulaceae	<i>Dodecatheon alpinum</i>		alpine shooting-star	PerF	Wide	NA	Hist	Goodman & Hitchcock 1609 (NY)	1930	Located in Ashdown Gorge Wilderness Area (Fertig 23378) in 2007
Primulaceae	<i>Dodecatheon pulchellum</i> var. <i>pulchellum</i>	<i>D. pauciflorum</i> . Includes "subvars" from UT Flora <i>coriaceum</i> , <i>atwoodii</i> , & <i>huberi</i>	dark-throat shooting-star	PerF	Wide	Unc	Pres	Palmer & Palmer 1034 (CEBR)	1942	
Primulaceae	<i>Primula parryi</i>		Parry's primrose	PerF	Wide	Unc	Pres	Palmer & Palmer 1066 (CEBR)	1942	
Pyrolaceae (Ericaceae)	<i>Pyrola asarifolia</i>	<i>P. rotundifolia</i> ssp. <i>asarifolia</i>	pink wintergreen	PerF	Wide	Unc	Pres	Palmer & Palmer 1295 (CEBR)	1981	
Pyrolaceae (Ericaceae)	<i>Pyrola chlorantha</i>	<i>P. virens</i>	green- flowered wintergreen	PerF	Wide	Rare	Pres	Dickman & Buchanan s.n. (CEBR)	1977	
Pyrolaceae (Ericaceae)	<i>Pyrola picta</i>	<i>P. picta</i> var. <i>picta</i> ; includes <i>P. dentata</i>	whiteveined wintergreen	PerF	Wide	Unc	Pres	Jean 134 (CEBR)	1988	
Pyrolaceae (Ericaceae)	<i>Pyrola secunda</i>	<i>Orthilia secunda</i>	sidebells pyrola	PerF	Wide	Com	Pres	Palmer & Palmer 1289 (CEBR)	1981	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Cedar Breaks National Monument, organized by family and scientific name with taxonomic and biogeographic notes, cont.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Ranunculaceae (Helleboraceae)	<i>Aconitum columbianum</i> var. <i>columbianum</i>	Includes var. <i>ochroleucum</i>	Columbian monkshood	PerF	Wide	Unc	Pres	Palmer & Palmer 1166 (CEBR)	1935	
Ranunculaceae	<i>Anemone multifida</i>	<i>A. tetonensis</i> ; includes vars. <i>multifida</i> , <i>saxicola</i> , & <i>stylosa</i>	cutleaf anemone	PerF	Wide	Unc	Pres	Dickman & Buchanan s.n. (CEBR)	1940	
Ranunculaceae (Helleboraceae)	<i>Aquilegia coerulea</i>	<i>A. caerulea</i> ; includes vars. <i>ochroleuca</i> & <i>pinetorum</i>	Colorado columbine	PerF	Wide	Unc	Pres	Boyle 733 (CEBR)	1935	
Ranunculaceae (Helleboraceae)	<i>Aquilegia scopulorum</i> var. <i>scopulorum</i>		rock columbine	PerF	RegEn	Rare	Pres	Jean 108 (CEBR)	1988	
Ranunculaceae	<i>Caltha leptosepala</i>	<i>C. biflora</i> , <i>Psychrophila leptosepala</i>	white marshmarigold	PerF	Wide	Unc	Pres	Croft 34CB (CEBR)	1930	
Ranunculaceae	<i>Clematis columbiana</i>	<i>C. pseudoalpina</i> , <i>Atragene columbiana</i>	Columbian virgin's-bower	PerF	Wide	Unc	Pres	Palmer & Palmer 1014 (CEBR)	1981	
Ranunculaceae (Helleboraceae)	<i>Delphinium barbeyi</i>		subalpine larkspur	PerF	RegEn	Unc	Pres	Boyle 754 (CEBR)	1930	
Ranunculaceae	<i>Ranunculus alismifolius</i> var. <i>montanus</i>		plantain buttercup	PerF	Wide	Unc	Pres	Crawford F-13 (CEBR)	1929	
Ranunculaceae	<i>Ranunculus inamoenus</i>	<i>R. inamoenus</i> var. <i>inamoenus</i> . Includes var. <i>alpeophilus</i>	drab buttercup	PerF	Wide	Unc	Pres	Dickman s.n. (CEBR)	1942	
Ranunculaceae (Thalictraceae)	<i>Thalictrum fendleri</i>		Fendler's meadow-rue	PerF	Wide	Unc	Pres	Crawford F-54 (CEBR)	1930	
Rhamnaceae	<i>Ceanothus martinii</i>		Utah mountain-lilac	Shrub	Wide	Unc	Pres	Palmer & Palmer 1011 (CEBR)	1981	
Rosaceae	<i>Amelanchier utahensis</i>		Utah serviceberry	Shrub	Wide	NA	Pres	Fertig & Reynolds 23346 (CEBR)	1989	Type locality is Toquerville, Washington Co., UT (Jones 1716 GH)

Appendix A. Confirmed, historical, and reported vascular plant taxa of Cedar Breaks National Monument, organized by family and scientific name with taxonomic and biogeographic notes, cont.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Rosaceae	<i>Cercocarpus ledifolius</i> var. <i>intermontanus</i>	<i>C. ledifolius</i> var. <i>intercedens</i>	curl-leaf mountain mahogany	Shrub	Wide	Unc	Pres	Fertig 22913 (CEBR)	1989	Hybrids between <i>C. ledifolius</i> & <i>C. montanus</i> (Jean 1103 CEBR) have been documented in CEBR.
Rosaceae	<i>Cercocarpus montanus</i>		alder-leaf mountain mahogany	Shrub	Wide	Rare	Pres	Fertig & Reynolds 23606 (CEBR)	2007	
Rosaceae	<i>Fragaria virginiana</i>	Includes ssp. <i>glauca</i> & <i>platypetala</i>	Virginia strawberry	PerF	Wide	Unc	Pres	Palmer 1047 (CEBR)	1935	
Rosaceae	<i>Geum macrophyllum</i> var. <i>perincisum</i>		large-leaved avens	PerF	Wide	Rare	Pres	Bruhn s.n. (CEBR)	1954	
Rosaceae	<i>Geum triflorum</i> var. <i>ciliatum</i>	<i>Erythrocoma triflora</i>	prairie smoke	PerF	Wide	Unc	Pres	Palmer & Palmer 1182 (CEBR)	1935	
Rosaceae	<i>Ivesia sabulosa</i>		Sevier ivesia	PerF	RegEn	Rare	Pres	Palmer & Palmer 1255 (CEBR)	1981	
Rosaceae	<i>Potentilla diversifolia</i> var. <i>diversifolia</i>		wedgeleaf cinquefoil	PerF	Wide	Unc	Pres	Palmer & Palmer 1207 (CEBR)	1981	
Rosaceae	<i>Potentilla fruticosa</i>	<i>Pentaphylloides fruticosa</i> , <i>Pentaphylloides floribunda</i> , <i>Dasiphora fruticosa</i> ssp. <i>floribunda</i>	shrubby cinquefoil	Shrub	Wide	Unc	Pres	Palmer & Palmer 1151 (CEBR)	1946	
Rosaceae	<i>Potentilla gracilis</i> var. <i>pulcherrima</i>	<i>P. pulcherrima</i>	beautiful cinquefoil	PerF	Wide	Unc	Pres	Crawford F-31 (CEBR)	1946	
Rosaceae	<i>Potentilla hippiana</i>	<i>P. hippiana</i> var. <i>hippiana</i>	woolly cinquefoil	PerF	Wide	Rare	Pres	Palmer & Palmer 1140 (CEBR)	1981	
Rosaceae	<i>Purshia tridentata</i>		antelope bitterbrush	Shrub	Wide	Unc	Pres	Palmer & Palmer 1007 (CEBR)	1981	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Cedar Breaks National Monument, organized by family and scientific name with taxonomic and biogeographic notes, cont.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Rosaceae	<i>Rosa nutkana</i> var. <i>hispid</i>		Nootka rose	Shrub	Wide	?	Rep	Roberts & Jean (1989), Buchanan (1992)	1989	
Rosaceae	<i>Rosa woodsii</i>	<i>R. woodsii</i> var. <i>ultramontana</i>	Woods' rose	Shrub	Wide	Unc	Pres	Fertig 22983 (CEBR)	1989	
Rosaceae	<i>Rubus idaeus</i> var. <i>strigosus</i>	<i>R. idaeus</i> var. <i>aculeatissimus</i> , <i>R. idaeus</i> <i>ssp. melanolasius</i>	common red raspberry	Shrub	Wide	Unc	Pres	Fertig 22923 (CEBR)	1989	
Rubiaceae	<i>Galium triflorum</i>		sweet-scented bedstraw	Perf	Wide	Rare	Pres	Fertig & Reynolds 23394 (CEBR)	2007	
Salicaceae	<i>Populus angustifolia</i>		narrow-leaved cottonwood	Tree	Wide	Unc	Pres	Fertig 22986a (CEBR)	1989	
Salicaceae	<i>Populus tremuloides</i>		quaking aspen	Tree	Wide	Com	Pres	Fertig 22741 (CEBR)	1989	
Salicaceae	<i>Populus x intercurrents</i>	<i>P. acuminata</i> , <i>P. x acuminata</i> , hybrid between <i>P. fremontii</i> & <i>P. angustifolia</i>	lance-leaf cottonwood	Tree	Wide	Unc	Pres	Fertig 22986b (CEBR)	2006	
Salicaceae	<i>Salix arizonica</i>		Arizona willow	Shrub	RegEn	Unc	Pres	Atwood & Sidles 20137 (BRY)	1981	USFS Region 4: Sensitive, USFWS: 3C
Salicaceae	<i>Salix boothii</i>		Booth's willow	Shrub	Wide	Unc	Pres	Bruhn s.n. (CEBR)	1954	
Salicaceae	<i>Salix brachycarpa</i>		short-fruit willow	Shrub	Wide	Unc	Pres	Harms s.n. (CEBR)	1981	
Salicaceae	<i>Salix exigua</i> var. <i>stenophylla</i>	<i>S. exigua</i> var. <i>exigua</i>	coyote willow	Shrub	Wide	Unc	Pres	Palmer & Palmer 1017 (CEBR)	1981	
Salicaceae	<i>Salix scouleriana</i>		Scouler's willow	Shrub	Wide	Unc	Pres	Jean 135 (CEBR)	1988	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Cedar Breaks National Monument, organized by family and scientific name with taxonomic and biogeographic notes, cont.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Saxifragaceae (Hydrangeaceae)	<i>Jamesia americana</i> var. <i>zionis</i>		Zion jamesia	Shrub	LocEn	Rare	Pres	Jean 1111 (CEBR)	1989	USFS Region 4: Sensitive, BLM (UT): Sensitive, USFWS: former C2 candidate. Type locality is S Fork Indian Canyon, Kane Co., UT (Tuhy 1411 NY).
Saxifragaceae	<i>Lithophragma</i> <i>glabrum</i> var. <i>ramulosum</i>	<i>L. bulbifera</i> , <i>L. glabra</i>	fringe cup woodland star	PerF	Wide	Unc	Pres	Palmer & Palmer 1038 (CEBR)	1981	
Saxifragaceae (Parnassiaceae)	<i>Parnassia palustris</i> var. <i>montanensis</i>	Includes var. <i>tenuis</i>	marsh grass-of- Parnassus	PerF	Wide	Unc	Pres	Palmer & Palmer 1215 (CEBR)	1941	
Saxifragaceae (Grossulariaceae)	<i>Ribes cereum</i> var. <i>inebrians</i>	<i>R. cereum</i> var. <i>pedicellare</i>	wax currant	Shrub	Wide	Unc	Pres	Buchanan s.n. (CEBR)	1954	
Saxifragaceae (Grossulariaceae)	<i>Ribes montigenum</i>		alpine prickly currant	Shrub	Wide	Com	Pres	Palmer & Palmer 1059 (CEBR)	1954	
Saxifragaceae (Grossulariaceae)	<i>Ribes</i> <i>viscosissimum</i> var. <i>viscosissimum</i>		sticky currant	Shrub	Wide	Unc	Pres	Jean 134 (CEBR)	1988	
Saxifragaceae	<i>Saxifraga</i> <i>odontoloma</i>	<i>S. arguta</i> , <i>Micranthes</i> <i>odontoloma</i>	brook saxifrage	PerF	Wide	Unc	Pres	Harms s.n. (CEBR)	1934	
Saxifragaceae	<i>Saxifraga</i> <i>rhomboidea</i>	<i>Micranthes rhomboidea</i>	diamond leaf saxifrage	PerF	Wide	Unc	Pres	Dickman s.n. (CEBR)	1942	
Scrophulariaceae	<i>Castilleja</i> <i>linariifolia</i>	<i>C. linariaefolia</i>	Wyoming paintbrush	PerF	Wide	Unc	Pres	Palmer & Palmer 1292 (CEBR)	1981	
Scrophulariaceae	<i>Castilleja miniata</i>		scarlet paintbrush	PerF	Wide	Com	Pres	Palmer & Palmer 1157 (CEBR)	1954	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Cedar Breaks National Monument, organized by family and scientific name with taxonomic and biogeographic notes, cont.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Scrophulariaceae	<i>Castilleja parvula</i> var. <i>revealii</i>	<i>C. revealii</i>	Reveal's paintbrush	PerF	LocEn	Rare	Pres	Jean 1111 (CEBR)	1989	USFS Region 4: Sensitive, USFWS: former C2 candidate. Type locality is road to Bryce Point, Bryce Canyon NP, Garfield Co., UT (Holmgren & Reveal 2017 NY).
Scrophulariaceae	<i>Castilleja rhexifolia</i> var. <i>rhexifolia</i>	<i>C. rhexifolia</i>	rhexia-leaved paintbrush	PerF	Wide	Rare	Pres	Fertig 23333 (CEBR)	1989	
Scrophulariaceae	<i>Castilleja rhexifolia</i> var. <i>sulphurea</i>	<i>C. sulphurea</i>	sulphur paintbrush	PerF	Wide	NA	Rep	Roberts & Jean (1989)	1989	
Scrophulariaceae	<i>Mimulus guttatus</i>		yellow monkeyflower	PerF	Wide	Unc	Pres	Palmer & Palmer 1180 (CEBR)	1954	
Scrophulariaceae	<i>Pedicularis groenlandica</i>		elephant-head	PerF	Wide	Unc	Pres	Palmer & Palmer 1191 (CEBR)	1934	
Scrophulariaceae	<i>Pedicularis parryi</i> var. <i>parryi</i>	Includes var. <i>mogollonica</i>	Parry's lousewort	PerF	Wide	Unc	Pres	Louie, Malm, & Alexander s.n. (CEBR)	1954	
Scrophulariaceae	<i>Penstemon eatonii</i> var. <i>undosus</i>		undulate penstemon	PerF	Wide	Unc	Pres	Palmer & Palmer 1009 (CEBR)	1981	
Scrophulariaceae	<i>Penstemon leiophyllus</i> var. <i>leiophyllus</i>		Markagunt penstemon	PerF	LocEn	Unc	Pres	Boyle 732 (CEBR)	1930	Type locality is Mammoth Creek, Markagunt Plateau, Garfield Co., UT (Jones 6026b US)
Scrophulariaceae	<i>Penstemon rydbergii</i> var. <i>aggregatus</i>		Rydberg's penstemon	PerF	RegEn	Unc	Pres	Buchanan & Dickman s.n. (CEBR)	1934	
Scrophulariaceae	<i>Penstemon whippleanus</i>		Whipple's penstemon	PerF	Wide	Unc	Pres	Crawford F-41 (CEBR)	1930	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Cedar Breaks National Monument, organized by family and scientific name with taxonomic and biogeographic notes, cont.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Scrophulariaceae	<i>Synthyris laciniata</i>	<i>S. pinnatifida</i> var. <i>laciniata</i>	cutleaf synthyris	PerF	RegEn	Unc	Pres	Palmer & Palmer 1044 (CEBR)	1941	Type locality is Fish Lake Mts., Sevier Co., UT (Ward 327 GH)
Scrophulariaceae	<i>Veronica americana</i>		American brooklime	PerF	Wide	Rare	Pres	Bruhn s.n. (CEBR)	1954	
Scrophulariaceae	<i>Veronica serpyllifolia</i>	<i>Veronica serpyllifolia</i> var. <i>humifusa</i> , <i>Veronicastrum serpyllifolium</i> ssp. <i>humifusum</i>	thyme-leaved speedwell	PerF	Wide	Unc	Pres	Palmer & Palmer 1235 (CEBR)	1954	
Scrophulariaceae	<i>Veronica wormskjoldii</i>	<i>V. nutans</i>	American alpine speedwell	PerF	Wide	Unc	Pres	Palmer & Palmer 1190 (CEBR)	1981	
Tamaricaceae	<i>Tamarix chinensis</i>	<i>T. pentandra</i> , <i>T. ramosissima</i>	five-stamen tamarisk	Shrub	Intro	Rare	Pres	Fertig & Reynolds 2397 (CEBR)	2007	Native to Eurasia. Known only from saplings
Umbelliferae (Apiaceae)	<i>Angelica pinnata</i>		pinnate angelica	PerF	Wide	Unc	Pres	Palmer & Palmer 1219 (CEBR)	1946	
Umbelliferae (Apiaceae)	<i>Cymopterus lemmonii</i>	<i>Pseudocymopterus montanus</i>	Lemmon's spring-parsley	PerF	Wide	Unc	Pres	Palmer & Palmer 1086 (CEBR)	1934	
Umbelliferae (Apiaceae)	<i>Cymopterus minimus</i>		least spring- parsley	PerF	LocEn	Unc	Pres	Palmer & Palmer 1056 (CEBR)	1929	USFS Region 4: Sensitive, USFWS: former C2 candidate. Type locality is Cedar Breaks, Cedar Breaks NM; Iron Co., UT (Mathias 703 MO).
Umbelliferae (Apiaceae)	<i>Ligusticum porteri</i>		southern ligusticum	PerF	Wide	Com	Pres	Palmer & Palmer 1096 (CEBR)	1935	
Umbelliferae (Apiaceae)	<i>Lomatium minimum</i>		least lomatium	PerF	LocEn	Unc	Pres	Palmer & Palmer 1271 (CEBR)	1935	USFWS: Category 3C. Type locality is Bryce Canyon, Garfield Co., UT (Mathias 670 MO).

Appendix A. Confirmed, historical, and reported vascular plant taxa of Cedar Breaks National Monument, organized by family and scientific name with taxonomic and biogeographic notes, cont.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Umbelliferae (Apiaceae)	<i>Osmorhiza depauperata</i>		blunt sweet- cicely	PerF	Wide	Unc	Pres	Buchanan s.n. (CEBR)	1979	
Valerianaceae	<i>Valeriana edulis</i>		tobacco-root	PerF	Wide	Unc	Pres	Palmer & Palmer 1138 (CEBR)	1954	
Valerianaceae	<i>Valeriana occidentalis</i>		western valerian	PerF	Wide	Rare	Pres	Bruhn s.n. (CEBR)	1954	
Violaceae	<i>Viola canadensis</i>	<i>V. canadensis</i> var. <i>rugulosa</i> , <i>V. scopulorum</i> , <i>V. rydbergii</i>	Canadian white violet	PerF	Wide	Unc	Pres	Boyle 738 (CEBR)	1940	
Violaceae	<i>Viola nephrophylla</i>	<i>V. sororia</i> var. <i>affinis</i>	northern bog violet	PerF	Wide	Unc	Pres	Palmer & Palmer 1208 (CEBR)	1977	
Viscaceae	<i>Arceuthobium cyanocarpum</i>	<i>A. campylopodium</i> var. <i>cyanocarpum</i>	limber pine dwarf- mistletoe	PerF	Sparse	Unc	Pres	Nelson 9031 (RM)	1970	Typically parasitic on <i>Pinus flexilis</i>
Viscaceae	<i>Arceuthobium douglasii</i>		Douglas-fir mistletoe	PerF	Wide	Rare	Pres	Fertig & Reynolds 23608 (CEBR)	2007	Typically parasitic on <i>Pseudotsuga menziesii</i> (rarely on <i>Abies</i> or <i>Picea</i> species)

Appendix B. Potential (unconfirmed) vascular plant taxa of Cedar Breaks National Monument.

Family	Species name	Synonyms/Taxonomic notes	Common name	Life form	Range	Comments
Aceraceae	<i>Acer grandidentatum</i>		bigtooth maple	Tree	Wide	Occurs in Ashdown Gorge Wilderness Area (Fertig 23377)
Aceraceae	<i>Acer negundo</i>	<i>A. negundo</i> var. <i>interius</i> , <i>Negundo aceroides</i> ssp. <i>interius</i>	box elder	Tree	Wide	
Amaranthaceae	<i>Amaranthus retroflexus</i>		redroot pigweed	AnnF	Intro	Native to Central America
Anacardiaceae	<i>Rhus aromatica</i> var. <i>simplicifolia</i>	<i>R. trilobata</i> var. <i>simplicifolia</i>	squawbush	Shrub	Wide	
Anacardiaceae	<i>Rhus aromatica</i> var. <i>trilobata</i>	<i>R. trilobata</i> var. <i>trilobata</i>	squawbush	Shrub	Wide	
Anacardiaceae	<i>Toxicodendron rydbergii</i>	<i>Rhus radicans</i> , <i>T. radicans</i>	western poison ivy	Shrub	Wide	
Boraginaceae	<i>Cryptantha cinerea</i> var. <i>abortiva</i>		abortive cryptanth	Perf	Periph	
Boraginaceae	<i>Cryptantha cinerea</i> var. <i>cinerea</i>	Includes <i>C. atwoodii</i>	ashy cryptanth	Perf	Wide	
Boraginaceae	<i>Cryptantha confertiflora</i>		basin yellow cryptanth	Perf	Wide	
Boraginaceae	<i>Hackelia floribunda</i>		showy stickseed	Perf	Wide	
Boraginaceae	<i>Hackelia patens</i> var. <i>patens</i>		spotted stickseed	Perf	Wide	
Boraginaceae	<i>Lappula occidentalis</i> var. <i>cupulata</i>	<i>L. texana</i> , <i>L. redowskii</i> var. <i>cupulata</i> , <i>L. marginata</i>	cupseed stickseed	AnnF	Wide	
Boraginaceae	<i>Lithospermum incisum</i>		showy stoneseed	Perf	Wide	
Boraginaceae	<i>Lithospermum ruderale</i>		western stoneseed	Perf	Wide	
Boraginaceae	<i>Mertensia fusiformis</i>	Included in <i>M. oblongifolia</i> by some authors	spindle-rooted bluebell	Perf	RegEn	
Cactaceae	<i>Coryphantha vivipara</i> var. <i>arizonica</i>	<i>Escobaria vivipara</i> var. <i>arizonica</i>	Arizona pincushion	Perf	Wide	Vars. not recognized in <i>Flora of North America</i> (2003)
Caryophyllaceae (Asteraceae)	<i>Arenaria macradenia</i>	<i>Eremogone macradenia</i> var. <i>macradenia</i>	shrubby sandwort	Perf	Periph	Vars. not recognized in Welsh et al. (2003)
Caryophyllaceae (Asteraceae)	<i>Arenaria obtusiloba</i>	<i>Minuartia obtusiloba</i> , <i>Lidia obtusiloba</i>	Rydberg's sandwort	Perf	Wide	
Caryophyllaceae (Asteraceae)	<i>Arenaria rubella</i> var. <i>filiorum</i>	<i>A. filiorum</i> , <i>Minuartia filiorum</i> ; included in <i>M. macrantha</i> by some authors	beach sandwort	Perf	RegEn	Type locality is Navajo Lake; Iron Co., UT (Maguire 19472 NY). Considered a synonym of <i>Minuartia macrantha</i> in <i>Flora of North America</i> (2005).

Appendix B. Potential (unconfirmed) taxa of Cedar Breaks National Monument, cont.

Family	Species name	Synonyms/Taxonomic notes	Common name	Life form	Range	Comments
Caryophyllaceae (Aisinaceae)	<i>Arenaria rubella</i> var. <i>rubella</i>	<i>Minuartia rubella</i> , <i>Tryphane rubella</i>	reddish sandwort	PerF	Wide	
Caryophyllaceae	<i>Cerastium beerianum</i>	<i>C. beerianum</i> ssp. <i>earlei</i> , <i>C. beerianum</i> var. <i>capillare</i>	Bering chickweed	PerF	Wide	Vars. not recognized in <i>Flora of North America</i> (2005)
Caryophyllaceae	<i>Cerastium nutans</i>		nodding chickweed	AnnF	Sparse	Not reported for UT in <i>Flora of North America</i> (2005)
Caryophyllaceae	<i>Silene scouleri</i> ssp. <i>pringlei</i>	UT material included in <i>Silene scouleri</i> ssp. <i>hallii</i> by some authors	Scouler's campion	PerF	Periph	
Caryophyllaceae	<i>Stellaria umbellata</i>		umbrella starwort	PerF	Wide	
Chenopodiaceae	<i>Atriplex canescens</i> var. <i>canescens</i>	<i>A. canescens</i> var. <i>occidentalis</i>	fourwing saltbush	Shrub	Wide	
Chenopodiaceae	<i>Chenopodium fremontii</i> var. <i>fremontii</i>	<i>C. fremontii</i>	Fremont's goosefoot	AnnF	Wide	
Chenopodiaceae	<i>Monolepis nuttalliana</i>		Nuttall's poverty-weed	AnnF	Wide	
Compositae (Asteraceae)	<i>Ambrosia acanthicarpa</i>	<i>Franseria acanthicarpa</i>	bur ragweed	AnnF	Wide	
Compositae (Asteraceae)	<i>Antennaria umbrinella</i>		mountain pussytoes	PerF	Wide	
Compositae (Asteraceae)	<i>Arnica chamissonis</i> var. <i>foliosa</i>	<i>A. chamissonis</i> var. <i>andina</i>	Chamisso's arnica	PerF	Wide	
Compositae (Asteraceae)	<i>Artemisia carruthii</i>		Carruth's wormwood	PerF	Wide	Occurs in Ashdown Gorge Wilderness Area (Fertig 2007 observation)
Compositae (Asteraceae)	<i>Artemisia frigida</i>		fringed sagebrush	Shrub	Wide	
Compositae (Asteraceae)	<i>Artemisia nova</i> var. <i>nova</i>	<i>A. arbuscula</i> var. <i>nova</i> , <i>Seriphidium novum</i>	black sagebrush	Shrub	Wide	
Compositae (Asteraceae)	<i>Artemisia tridentata</i> var. <i>vaseyana</i>	Includes <i>A. tridentata</i> var. <i>pauciflora</i> , <i>Seriphidium vaseyanum</i>	mountain big sagebrush	Shrub	Wide	Occurs in Ashdown Gorge Wilderness Area (Fertig 23358)
Compositae (Asteraceae)	<i>Aster eatonii</i>	<i>Symphotrichum eatonii</i> , <i>A. bracteolatus</i>	Eaton's aster	PerF	Wide	
Compositae (Asteraceae)	<i>Bahia dissecta</i>		cutleaf	PerF	Wide	

Appendix B. Potential (unconfirmed) taxa of Cedar Breaks National Monument, cont.

Family	Species name	Synonyms/Taxonomic notes	Common name	Life form	Range	Comments
Compositae (Asteraceae)	<i>Balsamorhiza sagittata</i>		arrowleaf balsamroot	PerF	Wide	Occurs in Ashdown Gorge Wilderness Area (Fertig 2007 observation)
Compositae (Asteraceae)	<i>Brickellia grandiflora</i>		tassel-flower brickellbrush	PerF	Wide	
Compositae (Asteraceae)	<i>Chrysothamnus nauseosus</i> var. <i>graveolens</i> , <i>E. nauseosa</i> var. <i>glabrata</i> , some authors include <i>C. nauseosus</i> var. <i>oreophilus</i>	<i>Ericameria nauseosa</i> var. <i>graveolens</i> , <i>E. nauseosa</i> var. <i>glabrata</i> , some authors include <i>C. nauseosus</i> var. <i>oreophilus</i>	glabrate rabbitbrush	Shrub	Wide	
Compositae (Asteraceae)	<i>Chrysothamnus nauseosus</i> var. <i>leiospermus</i>	<i>Ericameria nauseosa</i> var. <i>leiosperma</i>	smoothseed rabbitbrush	Shrub	RegEn	Type locality is St. George, Washington Co., UT (Palmer s.n. NY)
Compositae (Asteraceae)	<i>Chrysothamnus vaseyi</i>		Vasey's rabbitbrush	Shrub	Wide	
Compositae (Asteraceae)	<i>Chrysothamnus viscidiflorus</i> var. <i>lanceolatus</i>		lanceleaf rabbitbrush	Shrub	Wide	
Compositae (Asteraceae)	<i>Chrysothamnus viscidiflorus</i> var. <i>viscidiflorus</i>		green rabbitbrush	Shrub	Wide	
Compositae (Asteraceae)	<i>Cichorium intybus</i>		chicory	PerF	Intro	Native to Eurasia
Compositae (Asteraceae)	<i>Cirsium arvense</i>	Includes vars. <i>horridum</i> & <i>integrifolium</i> , <i>Breea arvensis</i>	Canada thistle	PerF	Intro	Utah state noxious weed. Native to Eurasia
Compositae (Asteraceae)	<i>Cirsium clavatum</i> var. <i>clavatum</i>		Fish Lake thistle	PerF	RegEn	Type locality is Fish Lake, Sevier Co., UT (Jones 5715 NY)
Compositae (Asteraceae)	<i>Cirsium clavatum</i> var. <i>markaguntensis</i>		Margakunt thistle	PerF	LocEn	Type locality is Cedar Canyon; Iron Co., UT (Atwood & Higgins 5918 BRY)
Compositae (Asteraceae)	<i>Cirsium scariosum</i> var. <i>scariosum</i>		elk thistle	PerF	Wide	
Compositae (Asteraceae)	<i>Cirsium vulgare</i>		bull thistle	PerF	Intro	Native to Europe. Occurs in Ashdown Gorge Wilderness Area (Fertig 23390)
Compositae (Asteraceae)	<i>Conyza canadensis</i> var. <i>glabrata</i>	Includes var. <i>canadensis</i>	Canadian horseweed	AnnF	Wide	

Appendix B. Potential (unconfirmed) taxa of Cedar Breaks National Monument, cont.

Family	Species name	Synonyms/Taxonomic notes	Common name	Life form	Range	Comments
Compositae (Asteraceae)	<i>Crepis intermedia</i>	<i>Psilochenia intermedia</i>	gray hawksbeard	PerF	Wide	Occurs in Ashdown Gorge Wilderness Area (Fertig 22736)
Compositae (Asteraceae)	<i>Erigeron argentatus</i>		silver daisy	PerF	Wide	
Compositae (Asteraceae)	<i>Erigeron divergens</i> var. <i>divergens</i>		spreading daisy	PerF	Wide	Occurs in Ashdown Gorge Wilderness Area (Fertig 23370)
Compositae (Asteraceae)	<i>Erigeron eatonii</i>		Eaton's daisy	PerF	Wide	
Compositae (Asteraceae)	<i>Gaillardia pinnatifida</i>		Hopi blanketflower	PerF	Wide	
Compositae (Asteraceae)	<i>Grindelia squarrosa</i> var. <i>serrulata</i>		curly-cup gumweed	PerF	Wide	
Compositae (Asteraceae)	<i>Haplopappus acaulis</i> var. <i>glabratus</i>		glabrate goldenweed	PerF	Wide	
Compositae (Asteraceae)	<i>Haplopappus armerioides</i> var. <i>armerioides</i>	<i>Stenotus armerioides</i> var. <i>armerioides</i>	thrift goldenweed	PerF	Wide	
Compositae (Asteraceae)	<i>Haplopappus scopulorum</i> var. <i>hirtellus</i>	<i>Hesperodoria scopulorum</i>	spindly goldenbush	Shrub	RegEn	Type locality is Cedar Canyon; Iron Co., UT (Garrett 6051 US)
Compositae (Asteraceae)	<i>Hymenopappus filifolius</i> var. <i>nanus</i>		Great Basin hyalineherb	PerF	Wide	
Compositae (Asteraceae)	<i>Hymenoxys acaulis</i> var. <i>arizonica</i>	<i>Tetranneuris acaulis</i> var. <i>arizonica</i>	Arizona hymenoxys	PerF	Wide	
Compositae (Asteraceae)	<i>Hymenoxys acaulis</i> var. <i>caespitosa</i>	<i>H. acaulis</i> var. <i>lanata</i> , <i>Tetranneuris acaulis</i> var. <i>caespitosa</i> , <i>T. brevifolia</i>	lanate hymenoxys	PerF	Wide	
Compositae (Asteraceae)	<i>Hymenoxys richardsonii</i> var. <i>richardsonii</i>	<i>Picradenia richardsonii</i> var. <i>richardsonii</i>	Colorado rubber-plant	PerF	Wide	Occurs in Ashdown Gorge Wilderness Area (Fertig & Reynolds 23452)
Compositae (Asteraceae)	<i>Iva axillaris</i>		poverty-weed	PerF	Wide	
Compositae (Asteraceae)	<i>Lactuca tatarica</i> var. <i>pulchella</i>	<i>L. pulchella</i> , <i>L. oblongifolia</i>	blue lettuce	PerF	Wide	
Compositae (Asteraceae)	<i>Machaeranthera canescens</i> var. <i>canescens</i>	<i>Aster canescens</i>	hoary aster	PerF	Wide	

Appendix B. Potential (unconfirmed) taxa of Cedar Breaks National Monument, cont.

Family	Species name	Synonyms/Taxonomic notes	Common name	Life form	Range	Comments
Compositae (Asteraceae)	<i>Machaeranthera canescens</i> var. <i>monticola</i>	Included in <i>M. canescens</i> var. <i>canescens</i> by some authors	bracteate aster	PerF	RegEn	
Compositae (Asteraceae)	<i>Madia glomerata</i>		mountain tarweeed	AnnF	Wide	
Compositae (Asteraceae)	<i>Senecio dimorphophyllus</i> var. <i>dimorphophyllus</i>	<i>Packera dimorphophylla</i> var. <i>dimorphophylla</i> ; UT material is var. <i>paysonii</i> (not <i>dimorphophyllus</i>), according to Cronquist (1994)	two-leaf groundsel	PerF	RegEn	
Compositae (Asteraceae)	<i>Solidago simplex</i>	<i>S. spathulata</i> ; includes vars. <i>nana</i> & <i>simplex</i>	coast goldenrod	PerF	Wide	
Compositae (Asteraceae)	<i>Tetradymia canescens</i>		spineless horsebrush	Shrub	Wide	
Compositae (Asteraceae)	<i>Townsendia excapa</i>		stemless townsendia	PerF	Wide	
Crassulaceae	<i>Sedum rhodanthum</i>	<i>Rhodiola rhodantha</i> , <i>Clementisia rhodantha</i>	redpod stoncrop	PerF	Wide	
Cruciferae (Brassicaceae)	<i>Arabis holboellii</i> var. <i>pinetorum</i>	<i>Boechea holboellii</i> var. <i>pinetorum</i> . Name may be misapplied, according to Holmgren et al. (2005)	Holboell's rockcress	PerF	Wide	
Cruciferae (Brassicaceae)	<i>Capsella bursa-pastoris</i>		shepherd's-purse	AnnF	Intro	Native to Europe. Occurs in Ashdown Gorge Wilderness Area (Fertig 23391)
Cruciferae (Brassicaceae)	<i>Chorispora tenella</i>		blue mustard	AnnF	Intro	Native to Asia
Cruciferae (Brassicaceae)	<i>Descurainia californica</i>		California tansy-mustard	PerF	Wide	
Cruciferae (Brassicaceae)	<i>Descurainia pinnata</i> var. <i>intermedia</i>	Included in <i>D. pinnata</i> var. <i>osmiarum</i> by some authors	western tansy-mustard	AnnF	Wide	
Cruciferae (Brassicaceae)	<i>Descurainia pinnata</i> var. <i>osmiarum</i>	<i>D. pinnata</i> ssp. <i>halictorum</i>	western tansy-mustard	AnnF	Wide	
Cruciferae (Brassicaceae)	<i>Descurainia sophia</i>		flixweed	AnnF	Intro	Native to Europe. Occurs in Ashdown Gorge Wilderness Area (Fertig 23362)

Appendix B. Potential (unconfirmed) taxa of Cedar Breaks National Monument, cont.

Family	Species name	Synonyms/Taxonomic notes	Common name	Life form	Range	Comments
Cruciferae (Brassicaceae)	<i>Draba aurea</i>		golden draba	PerF	Wide	
Cruciferae (Brassicaceae)	<i>Draba crassifolia</i>		snowbed whitlow-grass	PerF	Wide	
Cruciferae (Brassicaceae)	<i>Draba cuneifolia</i> var. <i>cuneifolia</i>		wedgeleaf draba	AnnF	Wide	
Cruciferae (Brassicaceae)	<i>Lepidium densiflorum</i> var. <i>densiflorum</i>	Welsh et al. 2003 combine var. <i>macrocarpum</i> with var. <i>densiflorum</i>	prairie pepperwort	AnnF	Wide	Occurs in Ashdown Gorge Wilderness Area (Fertig 23365)
Cruciferae (Brassicaceae)	<i>Lepidium montanum</i> var. <i>heterophyllum</i>	<i>L. integrifolium</i> var. <i>heterophyllum</i>	Cedar Canyon pepperwort	PerF	LocEn	Type locality is near Cedar City; Iron Co., UT (Parry 16 GH)
Cruciferae (Brassicaceae)	<i>Lepidium perfoliatum</i>		clasping pepperwort	AnnF	Intro	Native to Europe
Cruciferae (Brassicaceae)	<i>Physaria chambersii</i> var. <i>chambersii</i>		Chambers' twinpod	PerF	Wide	
Cruciferae (Brassicaceae)	<i>Physaria intermedia</i>	<i>Lesquerella intermedia</i> , <i>L. alpina</i> var. <i>intermedia</i>	Watson's bladderpod	PerF	Wide	
Cruciferae (Brassicaceae)	<i>Physaria kingii</i> var. <i>parvifolia</i>	<i>Lesquerella kingii</i> ; Holmgren et al. (2005) include <i>P. wardii</i>	King's bladderpod	PerF	Wide	
Cruciferae (Brassicaceae)	<i>Smelowskia calycina</i> var. <i>americana</i>		fern-leaf false candytuft	PerF	Wide	
Cruciferae (Brassicaceae)	<i>Streptanthus cordatus</i>	<i>S. cordatus</i> var. <i>cordatus</i>	heart-leaf jewelflower	PerF	Wide	
Cyperaceae	<i>Carex bella</i>		beautiful sedge	PerG	Wide	
Cyperaceae	<i>Carex capillaris</i>		hair sedge	PerG	Wide	
Cyperaceae	<i>Carex douglasii</i>		Douglas' sedge	PerG	Wide	
Cyperaceae	<i>Carex ebenea</i>		ebony sedge	PerG	Wide	
Cyperaceae	<i>Carex nebrascensis</i>		Nebraska sedge	PerG	Wide	
Cyperaceae	<i>Carex phaeocephala</i>		dunhead sedge	PerG	Wide	
Cyperaceae	<i>Carex vallicola</i>		valley sedge	PerG	Wide	
Cyperaceae	<i>Eleocharis parishii</i>		Parish's spikerush	PerG	Wide	
Cyperaceae	<i>Eleocharis rostellata</i>		beaked spikerush	PerG	Wide	

Appendix B. Potential (unconfirmed) taxa of Cedar Breaks National Monument, cont.

Family	Species name	Synonyms/Taxonomic notes	Common name	Life form	Range	Comments
Cyperaceae	<i>Scirpus pungens</i> var. <i>longispicatus</i>	<i>Scirpus pungens</i> var. <i>polyphyllus</i> , <i>Schoenoplectus pungens</i> var. <i>longispicatus</i> , <i>Schoenoplectus pungens</i> var. <i>polyphyllus</i>	three-square bulrush	PerG	Wide	
Gramineae (Poaceae)	<i>Agrostis exarata</i>		spike bentgrass	PerG	Wide	
Gramineae (Poaceae)	<i>Alopecurus geniculatus</i>		marsh foxtail	PerG	Intro	Native to Eurasia
Gramineae (Poaceae)	<i>Calamagrostis purpurascens</i>		purple reedgrass	PerG	Wide	
Gramineae (Poaceae)	<i>Elymus junceus</i>	<i>Psathyrostachys juncea</i>	Russian wildrye	PerG	Intro	Native to Russia
Gramineae (Poaceae)	<i>Festuca pratensis</i>	<i>Lolium pratense</i> , <i>Schedonorus pratensis</i>	meadow fescue	PerG	Intro	Native to Eurasia
Gramineae (Poaceae)	<i>Festuca sororia</i>		ravine fescue	PerG	Sparse	
Gramineae (Poaceae)	<i>Glyceria borealis</i>		northern mannagrass	PerG	Wide	
Gramineae (Poaceae)	<i>Hordeum jubatum</i>	<i>Critesion jubatum</i>	foxtail barley	PerG	Wide	Occurs in Ashdown Gorge Wilderness Area (Fertig observation, 2007)
Gramineae (Poaceae)	<i>Muhlenbergia montana</i>	Includes <i>M. filiculmis</i>	mountain mulhy	PerG	Wide	
Gramineae (Poaceae)	<i>Munroa squarrosa</i>	<i>Monroa squarrosa</i>	false buffalograss	AnnG	Wide	
Gramineae (Poaceae)	<i>Poa leptocoma</i>		bog bluegrass	PerG	Wide	
Hydrophyllaceae	<i>Phacelia alba</i>	<i>P. neomexicana</i> var. <i>alba</i>	white scorpion-weed	AnnF	Wide	
Hydrophyllaceae	<i>Phacelia hastata</i>	Includes vars. <i>hastata</i> , <i>leucophylla</i> , & <i>alpina</i>	lanceleaf phacelia	PerF	Wide	
Iridaceae	<i>Sisyrinchium idahoense</i>	<i>S. idahoense</i> var. <i>occidentale</i>	Idaho blue-eyed grass	PerF	Wide	
Juncaceae	<i>Juncus parryi</i>		Parry's rush	PerG	Wide	
Labiatae (Lamiaceae)	<i>Agastache urticifolia</i>		nettle-leaf horsemint	PerF	Wide	Occurs in Ashdown Gorge Wilderness Area (Fertig 23388)
Labiatae (Lamiaceae)	<i>Dracocephalum parviflorum</i>	<i>Moldavica parviflora</i>	smallflower dragonhead	PerF	Wide	Occurs in Ashdown Gorge Wilderness Area (Fertig 23364)
Labiatae (Lamiaceae)	<i>Leonurus cardiaca</i>		motherwort	PerF	Intro	Native to Asia
Labiatae (Lamiaceae)	<i>Marrubium vulgare</i>		common horehound	PerF	Intro	Native to Eurasia
Labiatae (Lamiaceae)	<i>Mentha arvensis</i> var. <i>glabrata</i>	<i>M. arvensis</i> var. <i>canadensis</i>	field mint	PerF	Wide	
Leguminosae (Fabaceae)	<i>Astragalus argophyllus</i> var. <i>martinii</i>		Martin's milkvetch	PerF	Wide	

Appendix B. Potential (unconfirmed) taxa of Cedar Breaks National Monument, cont.

Family	Species name	Synonyms/Taxonomic notes	Common name	Life form	Range	Comments
Leguminosae (Fabaceae)	<i>Astragalus bisulcatus</i> var. <i>major</i>	Included in var. <i>bisulcatus</i> by Barneby (1989)	Johnson milkvetch	PerF	Wide	Type locality is Johnson, Kane Co., UT (Jones s.n. POM)
Leguminosae (Fabaceae)	<i>Astragalus cibarius</i>		browse milkvetch	PerF	Wide	
Leguminosae (Fabaceae)	<i>Astragalus humistratus</i> var. <i>humivagans</i>		groundcover milkvetch	PerF	RegEn	
Leguminosae (Fabaceae)	<i>Astragalus megacarpus</i> var. <i>parryi</i>	Includes var. <i>megacarpus</i> . Vars. not recognized by Barneby (1989)	great bladderly milkvetch	PerF	Wide	Type locality is Cedar Canyon; Iron Co., UT (Parry 51 GH)
Leguminosae (Fabaceae)	<i>Astragalus piutensis</i>	<i>A. marianus</i>	Sevier milkvetch	PerF	RegEn	Type locality is Marysville, Piute Co., UT (Jones 5355 NY)
Leguminosae (Fabaceae)	<i>Lupinus sericeus</i> var. <i>barbiger</i>	<i>L. barbiger</i> . Vars. not recognized by Barneby (1989)	sink lupine	PerF	RegEn	Type locality is Kane Co., UT (Siler s.n. GH)
Leguminosae (Fabaceae)	<i>Oxytropis deflexa</i> var. <i>sericea</i>		nodding locoweed	PerF	Wide	
Leguminosae (Fabaceae)	<i>Oxytropis oreophila</i> var. <i>jonesii</i>		Jones' locoweed	PerF	RegEn	Type locality is Red Canyon, Garfield Co., UT (Ripley & Barneby 8550 CAS)
Leguminosae (Fabaceae)	<i>Thermopsis montana</i>	<i>T. pinetorum</i> , <i>T. rhombifolia</i> var. <i>montana</i> ; includes <i>T. rhombifolia</i> var. <i>ovata</i>	montane golden pea	PerF	Wide	
Leguminosae (Fabaceae)	<i>Trifolium repens</i>		white clover	PerF	Intro	Native to Europe. Occurs in Ashdown Gorge Wilderness Area (Fertig 23384)
Liliaceae (Calochortaceae)	<i>Disporum trachycarpum</i>	<i>Prosartes trachycarpa</i>	rough-fruited fairy-bells	PerF	Wide	
Malvaceae	<i>Iliamna rivularis</i>	Includes vars. <i>diversa</i> & <i>rivularis</i>	wild hollyhock	PerF	Wide	
Malvaceae	<i>Sidalcea candida</i>	Includes vars. <i>candida</i> & <i>glabrata</i>	white checker-mallow	PerF	Wide	Occurs in Ashdown Gorge Wilderness Area (Fertig 23387)
Malvaceae	<i>Sphaeralcea coccinea</i>	Includes ssp. <i>coccinea</i> , <i>elata</i> , & <i>dissecta</i>	scarlet globe-mallow	PerF	Wide	
Onagraceae	<i>Camissonia breviflora</i>	<i>Oenothera breviflora</i>	dandelion camissonia	PerF	Wide	

Appendix B. Potential (unconfirmed) taxa of Cedar Breaks National Monument, cont.

Family	Species name	Synonyms/Taxonomic notes	Common name	Life form	Range	Comments
Onagraceae	<i>Epilobium brachycarpum</i>	<i>E. paniculatum</i> var. <i>paniculatum</i>	autumn willow-herb	AnnF	Wide	Occurs in Ashdown Gorge Wilderness Area (Fertig 23385)
Onagraceae	<i>Epilobium saximontanum</i>		Rocky Mountain willow-herb	PerF	Wide	
Onagraceae	<i>Oenothera caespitosa</i> var. <i>crinita</i>		Jones' evening-primrose	PerF	Wide	Type locality is Rabbit Valley, Wayne Co., UT (Ward 526 US)
Orchidaceae	<i>Habenaria dilatata</i> var. <i>leucostachys</i>	<i>Platanthera dilatata</i> var. <i>leucostachys</i> , <i>P. leucostachys</i>	Lindley's white bog-orchid	PerF	Wide	
Orobanchaceae	<i>Orobanche fasciculata</i>	<i>Aphyllon fasciculatum</i>	clustered broomrape	PerF	Wide	
Orobanchaceae	<i>Orobanche uniflora</i>	<i>O. uniflora</i> var. <i>occidentalis</i> , <i>Aphyllon uniflorum</i>	naked broomrape	PerF	Sparse	
Polemoniaceae	<i>Ipomopsis aggregata</i> var. <i>arizonica</i>	<i>Gilia aggregata</i> var. <i>arizonica</i>	scarlet gilia	PerF	Wide	
Polemoniaceae	<i>Ipomopsis aggregata</i> var. <i>macrocephala</i>	<i>I. tenuituba</i> , <i>Gilia aggregata</i> var. <i>macrocephala</i>	scarlet gilia	PerF	Wide	
Polemoniaceae	<i>Navarretia intertexta</i>	<i>N. intertexta</i> var. <i>propinqua</i>	Great Basin navarretia	AnnF	Sparse	
Polemoniaceae	<i>Phlox austromontana</i> var. <i>austromontana</i>		desert phlox	PerF	Wide	Type locality is Beaver Dam Mtns., Washington Co., UT (Fremont 447 US)
Polemoniaceae	<i>Phlox gladiiformis</i>		daggerleaf phlox	PerF	RegEn	Type locality is Cedar Canyon; Iron Co., UT (Jones 5208c POM)
Polemoniaceae	<i>Phlox longifolia</i>	Includes vars. <i>longifolia</i> & <i>stansburyi</i>	long-leaf phlox	PerF	Wide	
Polygalaceae	<i>Polygala subspinosa</i>		cushion milkwort	PerF	Wide	
Polygonaceae	<i>Eriogonum alatum</i>	<i>E. alatum</i> var. <i>alatum</i> , <i>Pterogonum alatum</i>	winged wild buckwheat	PerF	Wide	One report from CEBR herbarium was based on a misidentified specimen of <i>Valeriana edulis</i> .
Polygonaceae	<i>Eriogonum cernuum</i> var. <i>cernuum</i>		nodding wild buckwheat	AnnF	Wide	

Appendix B. Potential (unconfirmed) taxa of Cedar Breaks National Monument, cont.

Family	Species name	Synonyms/Taxonomic notes	Common name	Life form	Range	Comments
Polygonaceae	<i>Eriogonum corymbosum</i> var. <i>aurum</i>	Includes var. <i>glutinosum</i>	golden wild buckwheat	Shrub	RegEn	Type locality is St. George, Washington Co., UT (Jones 6091 POM). Considered a local endemic restricted to the Shivwits area of Washington Co. in <i>Flora of North America</i> (2005).
Polygonaceae	<i>Eriogonum racemosum</i> var. <i>racemosum</i>	<i>E. racemosum</i>	redroot wild buckwheat	PerF	Wide	
Polygonaceae	<i>Eriogonum umbellatum</i> var. <i>subaridum</i>		arid wild buckwheat	PerF	Wide	
Polygonaceae	<i>Rumex crispus</i>		curly dock	PerF	Intro	Native to Eurasia. Occurs in Ashdown Gorge Wilderness Area (Fertig 23371)
Polypodiaceae (Aspleniaceae)	<i>Polystichum lonchitis</i>		holly-fern	Fern	Wide	
Polypodiaceae (Aspleniaceae)	<i>Woodsia scopulina</i>	<i>W. scopulina</i> ssp. <i>scopulina</i> . Ssp. not recognized in Welsh et al. (2003)	Rocky Mountain woodsia	Fern	Wide	
Polypodiaceae (Densstaedtiaceae)	<i>Pteridium aquilinum</i> var. <i>pubescens</i>	<i>P. aquilinum</i> var. <i>lanuginosum</i>	bracken fern	Fern	Wide	
Portulacaceae	<i>Talinum parviflorum</i>	<i>Pheimeranthus parviflorus</i> , <i>P. confertiflorus</i>	small-flowered fame-flower	PerF	Wide	
Potamogetonaceae	<i>Potamogeton gramineus</i>	Includes vars. <i>maximus</i> & <i>gramineus</i>	grass pondweed	PerF	Wide	
Pyrolaceae (Ericaceae)	<i>Moneses uniflora</i>	<i>P. uniflora</i>	woodnymph	PerF	Wide	
Ranunculaceae (Helleboraceae)	<i>Delphinium nuttallianum</i>	<i>D. nelsonii</i>	Nuttall's larkspur	PerF	Wide	
Ranunculaceae	<i>Ranunculus cardiophyllus</i>		heart-leaf buttercup	PerF	Wide	
Ranunculaceae	<i>Ranunculus cymbalaria</i>	<i>R. cymbalaria</i> var. <i>cymbalaria</i> . Vars. not recognized in <i>Flora of North America</i> 1997	marsh buttercup	PerF	Wide	
Ranunculaceae	<i>Ranunculus flammula</i> var. <i>ovalis</i>	<i>R. flammula</i> var. <i>filiformis</i> , <i>R. flammula</i> var. <i>reptans</i> , <i>R. reptans</i>	creeping buttercup	PerF	Wide	

Appendix B. Potential (unconfirmed) taxa of Cedar Breaks National Monument, cont.

Family	Species name	Synonyms/Taxonomic notes	Common name	Life form	Range	Comments
Ranunculaceae	<i>Ranunculus sceleratus</i> var. <i>multifidus</i>	<i>Hecatonia scelerata</i>	blister buttercup	AnnF	Wide	
Ranunculaceae	<i>Ranunculus testiculatus</i>	<i>Ceratocephala orthoceras</i> , C. <i>testiculata</i>	bur buttercup	AnnF	Intro	Native to Eurasia
Rhamnaceae	<i>Ceanothus fendleri</i>		Fendler's mountain-lilac	Shrub	Wide	
Rosaceae	<i>Amelanchier alnifolia</i>		Saskatoon serviceberry	Shrub	Wide	Occurs in Ashdown Gorge Wilderness Area (Fertig 23376)
Rosaceae	<i>Fragaria vesca</i> var. <i>bracteata</i>	<i>F. vesca</i>	woodland strawberry	PerF	Wide	
Rosaceae	<i>Geum rossii</i> var. <i>turbinatum</i>	<i>Acomastylis rossii</i> ssp. <i>turbinata</i>	alpine avens	PerF	Wide	
Rosaceae	<i>Petrophyton caespitosum</i>	<i>Spiraea caespitosa</i>	rock spiraea	PerF	Wide	
Rosaceae	<i>Potentilla anserina</i>	<i>Argentina anserina</i>	silverweed	PerF	Wide	
Rosaceae	<i>Potentilla concinna</i> var. <i>proxima</i>	<i>P. proxima</i> . Vars. not recognized by Holmgren et al. (1997)	near cinquefoil	PerF	RegEn	Type locality is Mt. Belknap Peak, Piute Co., UT (Rydberg & Carlton 7369 NY)
Rosaceae	<i>Potentilla crinita</i>		hair-tuft cinquefoil	PerF	Wide	
Rosaceae	<i>Potentilla gracilis</i> var. <i>fastigiata</i>	<i>P. gracilis</i> var. <i>nuttallii</i> , <i>P. gracilis</i> var. <i>glabrata</i>	glabrate cinquefoil	PerF	Wide	
Rosaceae	<i>Potentilla pensylvanica</i>		Pennsylvania cinquefoil	PerF	Wide	
Rosaceae	<i>Prunus virginiana</i> var. <i>melanocarpa</i>	<i>Padus virginiana</i> ssp. <i>melanocarpa</i>	western chokecherry	Shrub	Wide	Occurs in Ashdown Gorge Wilderness Area (Fertig 23374)
Rosaceae	<i>Sibbaldia procumbens</i>		creeping sibbaldia	PerF	Wide	
Rubiaceae	<i>Galium aparine</i> var. <i>echinospermon</i>	<i>G. spurium</i>	cleavers	AnnF	Wide	
Rubiaceae	<i>Galium bifolium</i>		twin-leaf bedstraw	AnnF	Wide	
Rubiaceae	<i>Galium multiflorum</i> var. <i>multiflorum</i>		shrubby bedstraw	PerF	Wide	
Rubiaceae	<i>Galium trifidum</i>	Includes ssp. <i>columbianum</i> , <i>trifidum</i> & <i>subbiflorum</i>	small bedstraw	PerF	Wide	
Rubiaceae	<i>Kelloggia galioides</i>		milky kelloggia	PerF	Wide	
Salicaceae	<i>Salix planifolia</i>	<i>S. phyllicifolia</i> ; includes vars. <i>monica</i> & <i>planifolia</i>	planeleaf willow	Shrub	Wide	

Appendix B. Potential (unconfirmed) taxa of Cedar Breaks National Monument, cont.

Family	Species name	Synonyms/Taxonomic notes	Common name	Life form	Range	Comments
Santalaceae	<i>Comandra umbellata</i> var. <i>pallida</i>		bastard toadflax	PerF	Wide	
Saxifragaceae	<i>Heuchera rubescens</i> var. <i>versicolor</i>	<i>H. versicolor</i> . Vars. not recognized in <i>Intermountain Flora</i> (1997)	hairy alumroot	PerF	Wide	
Saxifragaceae	<i>Lithophragma tenellum</i>	<i>L. tenella</i>	slender woodlandstar	PerF	Wide	
Saxifragaceae	<i>Saxifraga rivularis</i>	<i>S. debilis</i> , <i>S. rivularis</i> var. <i>debilis</i> , <i>S. hyperborea</i> ssp. <i>debilis</i>	pygmy saxifrage	PerF	Wide	
Saxifragaceae (Grossulariaceae)	<i>Ribes inerme</i>		whitestem gooseberry	Shrub	Wide	
Scrophulariaceae	<i>Castilleja chromosa</i>	<i>C. angustifolia</i> var. <i>dubia</i> , <i>C. applegatei</i> ssp. <i>martinii</i>	desert paintbrush	PerF	Wide	
Scrophulariaceae	<i>Castilleja scabriflora</i> var. <i>scabriflora</i>		Eastwood's paintbrush	PerF	RegEn	
Scrophulariaceae	<i>Collinsia parviflora</i>		blue-eyed Mary	AnnF	Wide	Occurs in Ashdown Gorge Wilderness Area (Fertig observation, 2007)
Scrophulariaceae	<i>Cordylanthus kingii</i> var. <i>kingii</i>		King's bird's-beak	AnnF	RegEn	
Scrophulariaceae	<i>Pedicularis centranthera</i>		dwarf lousewort	PerF	Wide	
Scrophulariaceae	<i>Penstemon caespitosus</i> var. <i>suffruticosus</i>	<i>P. tusharensis</i>	Tushar penstemon	PerF	LocEn	Occurs in Ashdown Gorge Wilderness Area (Fertig & Reynolds 23357). Type locality is near Beaver, Tushar Mtns., Beaver Co., UT (Palmer s.n. GH)
Scrophulariaceae	<i>Penstemon comarrhenus</i>		dusty penstemon	PerF	RegEn	Type locality is Aquarius Plateau, Garfield Co., UT (Ward 462 GH)
Scrophulariaceae	<i>Penstemon confusus</i>		mistaken penstemon	PerF	RegEn	Type locality is Detroit, Juab Co., UT (Jones s.n. GH)
Scrophulariaceae	<i>Penstemon eatonii</i> var. <i>eatonii</i>		Eaton's firecracker	PerF	Wide	
Scrophulariaceae	<i>Penstemon linarioides</i> var. <i>sileri</i>		Siler's penstemon	PerF	RegEn	Type locality is Osmer, Kane Co., UT (Siler s.n. GH)
Scrophulariaceae	<i>Penstemon palmeri</i> var. <i>palmeri</i>		Palmer's penstemon	PerF	Wide	

Appendix B. Potential (unconfirmed) taxa of Cedar Breaks National Monument, cont.

Family	Species name	Synonyms/Taxonomic notes	Common name	Life form	Range	Comments
Scrophulariaceae	<i>Penstemon procerus</i> var. <i>aberrans</i>		smallflower penstemon	Perf	RegEn	
Scrophulariaceae	<i>Verbascum thapsus</i>		woolly mullein	Perf	Intro	Native to Eurasia
Scrophulariaceae	<i>Veronica biloba</i>	<i>Pocilla biloba</i>	two-lobed speedwell	AnnF	Intro	Native to Asia. Occurs in Ashdown Gorge Wilderness Area (Fertig, 2007 observation)
Scrophulariaceae	<i>Veronica peregrina</i> var. <i>xalapensis</i>		purslane speedwell	AnnF	Wide	
Solanaceae	<i>Nicotiana attenuata</i>		coyote tobacco	AnnF	Wide	
Solanaceae	<i>Physalis hederifolia</i> var. <i>fendleri</i>	<i>P. fendleri</i> , <i>P. hederifolia</i> var. <i>cordifolia</i> , <i>P. hederifolia</i> var. <i>fendleri</i>	Fendler's ground-cherry	Perf	Wide	
Solanaceae	<i>Physalis hederifolia</i> var. <i>palmeri</i>	<i>P. hederifolia</i> var. <i>palmeri</i>	Palmer's ground-cherry	Perf	RegEn	
Sparganiaceae	<i>Sparganium angustifolium</i>		narrowleaved burr-reed	Perf	Wide	
Umbelliferae (Apiaceae)	<i>Cymopterus purpureus</i> var. <i>purpureus</i>	<i>C. purpureus</i>	Colorado Plateau spring-parsley	Perf	RegEn	
Umbelliferae (Apiaceae)	<i>Lomatium nevadense</i> var. <i>parishii</i>		Nevada lomatium	Perf	Wide	
Umbelliferae (Apiaceae)	<i>Lomatium parryi</i>		Parry's lomatium	Perf	Wide	Type locality is "Southern Utah" (Parry 85)
Umbelliferae (Apiaceae)	<i>Lomatium scabrum</i> var. <i>scabrum</i>		rough lomatium	Perf	RegEn	Type locality is Frisco, Beaver Co., UT (Jones 1864 US)
Umbelliferae (Apiaceae)	<i>Osmorhiza occidentalis</i>		western sweet-cicely	Perf	Wide	
Urticaceae	<i>Urtica dioica</i> var. <i>occidentalis</i>	<i>U. dioica</i> ssp. <i>holosericea</i> , <i>U. gracilis</i> ssp. <i>holosericea</i>	stinging nettle	Perf	Wide	
Violaceae	<i>Viola adunca</i>		hook-spur violet	Perf	Wide	

The vascular plant species on this list are known from the vicinity of Cedar Breaks National Monument in Iron County, Utah, but have not previously been reported or confirmed for the monument. Species on this list are derived from a checklist of potential species for NCPN parks prepared by Dr. N. Duane Atwood of Brigham Young University in 2001 or from the *Atlas of the Vascular Flora of Utah* (Albee et al. 1988). Some species from Appendix C could be considered as potentially occurring in the monument, but are not included here.

Appendix C. Rejected (falsely reported or questionable) vascular plant taxa of Cedar Breaks National Monument.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Comments
Boraginaceae	<i>Mertensia ciliata</i>		streamside bluebell	PerF	Wide	FalsRep	Reports from CEBR herbarium based on misidentified specimens of <i>M. arizonica</i> .
Brassicaceae	<i>Draba rectifruca</i>		mountain draba	AnnF	RegEn	FalsRep	Report from CEBR herbarium based on a misidentified specimen of <i>D. stenoloba</i> var. <i>nana</i> .
Caryophyllaceae (Asteraceae)	<i>Stellaria borealis</i>		boreal chickweed	PerF	Wide	FalsRep	Report from CEBR based on a misidentified specimen of <i>S. jamesiana</i> . Not native to Utah.
Compositae (Asteraceae)	<i>Anaphalis margaritacea</i>		pearly-everlasting	PerF	Wide	FalsRep	Report from CEBR herbarium based on a misidentified specimen of <i>A. pulcherrima</i> .
Compositae (Asteraceae)	<i>Arnica latifolia</i> var. <i>latifolia</i>		broadleaf arnica	PerF	Wide	FalsRep	Report from CEBR herbarium based on a misidentified specimen of <i>A. mollis</i> .
Compositae (Asteraceae)	<i>Aster kingii</i>	<i>Machaeranthera kingii</i> . Includes var. <i>barnebyana</i> , <i>Tonestus kingii</i>	King's aster	PerF	LocEn	FalsRep	Report from CEBR herbarium based on a misidentified specimen of <i>Machaeranthera commixta</i> . USFS Region 4: Sensitive, USFWS: former C2 candidate
Compositae (Asteraceae)	<i>Cirsium calcareum</i> var. <i>calcareum</i>	Included in <i>C. arizonicum</i> var. <i>bipinnatum</i> (<i>Flora of North America</i> 2006)	Caineville thistle	PerF	LocEn	FalsRep	Reports from CEBR herbarium based on misidentified specimens of <i>C. wheeleri</i> var. <i>wheeleri</i> .
Compositae (Asteraceae)	<i>Cirsium calcareum</i> var. <i>pulchellum</i>	Included in <i>C. arizonicum</i> var. <i>bipinnatum</i> (<i>Flora of North America</i> 2006)	pretty thistle	PerF	Wide	FalsRep	Reports from CEBR herbarium based on misidentified specimens of <i>C. wheeleri</i> var. <i>wheeleri</i> . Vars. not recognized in Intermountain Flora, 1994.
Compositae (Asteraceae)	<i>Erigeron engelmannii</i>		Engelmann's daisy	PerF	Wide	FalsRep	Reports from CEBR herbarium are based on misidentified specimens of <i>E. ursinus</i> var. <i>ursinus</i> .
Compositae (Asteraceae)	<i>Erigeron formosissimus</i>	<i>E. formosissimus</i> var. <i>formosissimus</i>	beautiful daisy	PerF	Wide	FalsRep	Reports from CEBR herbarium based on misidentified specimens of <i>E. ursinus</i> var. <i>ursinus</i> and <i>E. speciosus</i> var. <i>mollis</i>
Compositae (Asteraceae)	<i>Erigeron glabellus</i>	<i>E. glabellus</i> var. <i>glabellus</i>	smooth daisy	PerF	Wide	FalsRep	Report from CEBR herbarium based on a misidentified specimen of <i>E. peregrinus</i> var. <i>callianthemus</i> .

Appendix C. Rejected (falsely reported or questionable) taxa of Cedar Breaks National Monument, cont..

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Comments
Compositae (Asteraceae)	<i>Haplopappus integrifolius</i>	<i>Pyrrocoma integrifolia</i>	manystemmed goldenweed	PerF	RegEn	FalsRep	Not native to Utah; falsely reported based on misidentified specimens of <i>H. clementis</i> in CEBR herbarium.
Compositae (Asteraceae)	<i>Haplopappus lanceolatus</i>	<i>Pyrrocoma lanceolata</i>	meadow goldenweed	PerF	Wide	FalsRep	Report from CEBR herbarium and Buchanan (1992) based on misidentified specimens of <i>H. clementis</i> .
Compositae (Asteraceae)	<i>Hymenopappus tenuifolius</i>		Chalk Hills hyalineherb	PerF	Wide	FalsRep	Not native to Utah; falsely reported based on misidentified specimens of <i>H. filifolius</i> var. <i>cinereus</i> in CEBR herbarium.
Compositae (Asteraceae)	<i>Senecio crassulus</i>		thickleaf groundsel	PerF	Wide	Ques?	Reported by Buchanan (1992), but CEBR is well outside the known range of this species.
Compositae (Asteraceae)	<i>Senecio wernerifolius</i> var. <i>wernerifolius</i>	<i>Packera wernerifolia</i> var. <i>wernerifolia</i> , <i>S. werneriaefolius</i> . Vars. not recognized in <i>Flora of North America</i> (2006)	montane groundsel	Per F	Wide	FalsRep	Report from CEBR herbarium based on a misidentified specimen of <i>S. malmstenii</i> .
Cruciferae (Brassicaceae)	<i>Draba sobolifera</i>		creeping draba	PerF	LocEn	FalsRep	Report from CEBR herbarium based on a misidentified specimen of <i>D. asprella</i> var. <i>zionensis</i> . USFS Region 4: Sensitive, USFWS: former C2 candidate
Cruciferae (Brassicaceae)	<i>Rorippa teres</i>	<i>Radicula obtusa</i>	southern marsh yellowcress	PerF	Wide	FalsRep	Report from CEBR herbarium based on a misidentified specimen of <i>R. curvipes</i> var. <i>curvipes</i> . Not native to Utah.
Cyperaceae	<i>Carex albonigra</i>		white and black sedge	PerG	Wide	FalsRep	Report from CEBR herbarium based on a misidentified specimen of <i>C. norevegica</i> var. <i>stevenii</i>
Cyperaceae	<i>Carex hoodii</i>		Hood's sedge	PerG	Wide	FalsRep	Report from CEBR herbarium based on a misidentified specimen of <i>C. occidentalis</i> .
Cyperaceae	<i>Carex scirpoidea</i> var. <i>pseudoscirpoidea</i>		spike-rush sedge	PerG	Wide	FalsRep	Report from CEBR herbarium based on a misidentified specimen of <i>C. scirpoidea</i> var. <i>scirpoidea</i> .

Appendix C. Rejected (falsely reported or questionable) taxa of Cedar Breaks National Monument, cont..

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Comments
Gentianeaceae	<i>Gentianella amarella</i>	<i>Gentiana amarella</i> , <i>Gentianella amarella</i> ssp. <i>acuta</i> , <i>Gentianella amarella</i> var. <i>amarella</i> , <i>Gentianella acuta</i>	northern gentian	PerF	Wide	FalsRep	Report from Roberts and Jean (1989) based on misidentified specimens of <i>G. heterosepala</i> .
Gramineae (Poaceae)	<i>Elymus repens</i>	<i>Agropyron repens</i> , <i>Elytrigia repens</i>	quackgrass	PerG	Intro	FalsRep	Reports from CEBR herbarium are based on misidentified specimens of <i>E. trachycaulus</i> . Utah state noxious weed. Native to Eurasia
Gramineae (Poaceae)	<i>Poa pattersonii</i>	<i>P. abbreviata</i> ssp. <i>pattersonii</i>	Patterson's bluegrass	PerG	Sparse	FalsRep	Report from CEBR herbarium based on misidentified specimen of <i>P. compressa</i> .
Gramineae (Poaceae)	<i>Stipa pinetorum</i>	<i>Achnatherum pinetorum</i>	pine needlegrass	PerG	Wide	FalsRep	Report from CEBR herbarium based on misidentified specimen of <i>S. lettermanii</i> . Type locality is Panguitch Lake, Garfield Co., UT (Jones 6023 POM)
Leguminosae (Fabaceae)	<i>Astragalus allochrous</i>		halfmoon milkvetch	PerF	Wide	FalsRep	Not native to Utah, falsely reported based on misidentified specimens of <i>A. miser</i> var. <i>oblongifolius</i> in CEBR herbarium.
Leguminosae (Fabaceae)	<i>Lupinus polyphyllus</i> var. <i>ammophilus</i>	<i>L. ammophilus</i>	sand lupine	PerF	RegEn	FalsRep	Report from CEBR herbarium based on a misidentified specimen of <i>L. argenteus</i> var. <i>rubricaulis</i> .
Onagraceae	<i>Epilobium ciliatum</i>	<i>E. ciliatum</i> var. <i>ciliatum</i> , <i>E. watsonii</i> , <i>E. adenocaulon</i>	northern willow-herb	PerF	Wide	FalsRep	Reports from CEBR herbarium based on misidentified specimens of <i>E. hornemannii</i> var. <i>hornemannii</i> . Occurs in Ashdown Gorge Wilderness Area (Fertig 23389)
Polygonaceae	<i>Eriogonum brevicaule</i> var. <i>nanum</i>	<i>E. grayi</i>	dwarf wild buckwheat	PerF	LocEn	Ques?	Historical report for CEBR from NYBG herbarium is well beyond known range and probably erroneous.
Polygonaceae	<i>Eriogonum caespitosum</i>		matted wild buckwheat	PerF	Wide	FalsRep	Report from CEBR based on misidentified specimen of <i>E. panguicense</i> var. <i>alpestre</i> .
Polygonaceae	<i>Eriogonum coloradense</i>		Colorado buckwheat	PerF	LocEn	FalsRep	Endemic to Colorado; falsely attributed to Utah and CEBR based on misidentified specimen of <i>E. panguicense</i> var. <i>alpestre</i> .

Appendix C. Rejected (falsely reported or questionable) taxa of Cedar Breaks National Monument, cont..

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Comments
Ranunculaceae (Helleboraceae)	<i>Delphinium occidentale</i>	<i>D. glaucum</i> x <i>D. barbeyi</i> , <i>D. glaucum</i>	western larkspur	PerF	Wide	FalsRep	Report from CEBR herbarium and Buchanan (1992) based on misidentified specimens of <i>Aconitum columbianum</i> var. <i>columbianum</i> .
Ranunculaceae	<i>Ranunculus eschscholtzii</i> var. <i>eschscholtzii</i>		Eschscholtz's buttercup	PerF	Wide	FalsRep	Reports from CEBR herbarium and Buchanan (1992) based on misidentified specimens of <i>R. inamoenus</i> .
Rosaceae	<i>Potentilla arguta var. convallaria</i>	<i>Drymocallis arguta</i> ; includes ssp. <i>arguta</i>	tall cinquefoil	PerF	Wide	FalsRep	Report from CEBR herbarium is based on a misidentified specimen of <i>Geum macrophyllum</i> var. <i>perincisum</i> .
Salicaceae	<i>Salix bebbiana</i>		Bebb's willow	Shrub	Wide	FalsRep	Reports from CEBR herbarium based on misidentified specimen of <i>S. boothii</i> .
Salicaceae	<i>Salix glauca</i> var. <i>villosa</i>		gray-leaf willow	Shrub	Wide	FalsRep	Reports from CEBR herbarium are based on misidentified specimens of <i>S. brachycarpa</i> .
Scrophulariaceae	<i>Castilleja occidentalis</i>		western paintbrush	PerF	Periph	FalsRep	Report from CEBR herbarium based on a misidentified specimen of <i>C. miniata</i> .
Scrophulariaceae	<i>Penstemon cyananthus</i> var. <i>subglaber</i>	<i>P. holmgrenii</i>	Raft River penstemon	PerF	RegEn	FalsRep	Report from CEBR herbarium based on a misidentified specimen of <i>P. leiophyllus</i> var. <i>leiophyllus</i> .
Scrophulariaceae	<i>Penstemon laevis</i>		smooth penstemon	PerF	RegEn	FalsRep	Report from CEBR herbarium based on a misidentified specimen of <i>P. leiophyllus</i> var. <i>leiophyllus</i> . Type locality is Springdale, Washington Co., UT (Jones 5250 in part US).
Scrophulariaceae	<i>Penstemon speciosus</i>		showy penstemon	PerF	Periph	FalsRep	Report from CEBR herbarium based on a misidentified specimen of <i>P. leiophyllus</i> var. <i>leiophyllus</i> .

The vascular plant species on this list have been reported for Cedar Breaks National Monument from published and unpublished literature (Buchanan 1992; Roberts and Jean 1989) or from herbarium specimens, but are now believed to be erroneous because of misidentifications (False Reports or FalsRep) or because the monument is well outside the known or expected range of the species (Questionable or Ques?).

Appendix D. Confirmed, historical, and reported vascular plant taxa of Cedar Breaks National Monument organized by life form with ecological notes.

Family	Species name	Common name	Nativity	Park status	Flower time	Sub Fir	White Fir	Sub Mdw	Wet	Comments
Trees										
Betulaceae	<i>Betula occidentalis</i>	water birch	Native	Pres	Apr–May				X	
Cupressaceae	<i>Juniperus scopulorum</i>	Rocky Mountain juniper	Native	Pres	NA	X			X	
Fagaceae	<i>Quercus gambelii</i> var. <i>gambelii</i>	Gambel oak	Native	Pres	Apr–Jun		X		X	
Pinaceae	<i>Abies concolor</i>	white fir	Native	Pres	NA		X			
Pinaceae	<i>Abies lasiocarpa</i>	subalpine fir	Native	Pres	NA	X				
Pinaceae	<i>Picea engelmannii</i>	Engelmann spruce	Native	Pres	NA	X				
Pinaceae	<i>Picea pungens</i>	blue spruce	Native	Pres	NA				X	
Pinaceae	<i>Pinus edulis</i>	two-needle pinyon	Native	Rep	NA		X			
Pinaceae	<i>Pinus flexilis</i>	limber pine	Native	Pres	NA	X	X			
Pinaceae	<i>Pinus longaeva</i>	western bristlecone pine	Native	Pres	NA	X	X			
Pinaceae	<i>Pinus ponderosa</i> var. <i>scopulorum</i>	ponderosa pine	Native	Pres	NA	X				
Pinaceae	<i>Pseudotsuga menziesii</i> var. <i>glauca</i>	Douglas-fir	Native	Pres	NA	X				
Salicaceae	<i>Populus angustifolia</i>	narrow-leaved cottonwood	Native	Pres	Apr–Jun				X	
Salicaceae	<i>Populus tremuloides</i>	quaking aspen	Native	Pres	Mar–Jul	X	X		X	
Salicaceae	<i>Populus x intercurrentis</i>	lance-leaf cottonwood	Native	Pres	Apr–Jun				X	
Shrubs										
Aceraceae	<i>Acer glabrum</i> var. <i>glabrum</i>	Rocky Mountain maple	Native	Pres	Apr–Jun	X	X			
Berberidaceae	<i>Mahonia repens</i>	Oregon-grape	Native	Pres	Apr–Jun	X	X		X	
Caprifoliaceae	<i>Lonicera involucrata</i>	black twinberry	Native	Pres	May–Jul	X	X		X	
Caprifoliaceae (Adoxaceae)	<i>Sambucus caerulea</i>	blue elderberry	Native	Pres	May–Jul		X			
Caprifoliaceae (Adoxaceae)	<i>Sambucus racemosa</i> var. <i>microbotrys</i>	red elderberry	Native	Pres	Jun–Jul	X	X	X		
Caprifoliaceae	<i>Symphoricarpos oreophilus</i> var. <i>utahensis</i>	mountain snowberry	Native	Pres	Jun–Aug	X	X			
Celastraceae	<i>Pachystima myrsinites</i>	mountain-lover	Native	Pres	May–Aug	X	X			
Compositae (Asteraceae)	<i>Artemisia cana</i> var. <i>viscidula</i>	silver sagebrush	Native	Pres	Aug–Sep	X		X	X	

Appendix D. Confirmed, historical, and reported taxa of Cedar Breaks National Monument, organized by life form with ecological notes, cont.

Family	Species name	Common name	Nativity	Park status	Flower time	Sub Fir	White Fir	Sub Mdw	Wet	Comments
<i>Shrubs, cont.</i>										
Compositae (Asteraceae)	<i>Chrysothamnus nauseosus</i> var. <i>consimilis</i>	greenish rabbitbrush	Native	Pres	Aug–Oct		X			
Compositae (Asteraceae)	<i>Chrysothamnus parryi</i> var. <i>nevadensis</i>	Nevada rabbitbrush	Native	Pres	Jul–Sep		X			
Compositae (Asteraceae)	<i>Gutierrezia sarothrae</i>	broom snakeweed	Native	Pres	Jul–Oct		X			
Compositae (Asteraceae)	<i>Haplopappus macronema</i>	narrowleaf goldenweed	Native	Pres	Jul–Sep	X	X	X		Barrens
Compositae (Asteraceae)	<i>Haplopappus zionis</i>	Cedar Breaks goldenbush	Native	Pres	Jul–Aug					Claron barrens
Cornaceae	<i>Cornus sericea</i> var. <i>sericea</i>	red-osier dogwood	Native	Pres	May–Jul				X	
Cupressaceae	<i>Juniperus communis</i> var. <i>depressa</i>	common juniper	Native	Pres	NA	X	X	X		
Elaeagnaceae	<i>Shepherdia canadensis</i>	Canada buffaloberry	Native	Pres	May–Jul	X	X			
Ericaceae	<i>Arctostaphylos patula</i>	greenleaf manzanita	Native	Pres	Mar–Jul		X			
Rhamnaceae	<i>Ceanothus martinii</i>	Utah mountain-lilac	Native	Pres	Jun–Jul		X			
Rosaceae	<i>Amelanchier utahensis</i>	Utah serviceberry	Native	Pres	Apr–Jun		X		X	
Rosaceae	<i>Cercocarpus ledifolius</i> var. <i>intermontanus</i>	curl-leaf mountain mahogany	Native	Pres	May–Jun	X	X			Rocky sites
Rosaceae	<i>Cercocarpus montanus</i>	alder-leaf mountain mahogany	Native	Pres	May–Jun		X			
Rosaceae	<i>Potentilla fruticosa</i>	shrubby cinquefoil	Native	Pres	Jun–Aug		X	X	X	
Rosaceae	<i>Purshia tridentata</i>	antelope bitterbrush	Native	Pres	Apr–Jul		X			
Rosaceae	<i>Rosa nutkana</i> var. <i>hispida</i>	Nootka rose	Native	Rep	Jun–Jul	X				
Rosaceae	<i>Rosa woodsii</i>	Woods' rose	Native	Pres	May–Jul	X	X	X	X	
Rosaceae	<i>Rubus idaeus</i> var. <i>strigosus</i>	common red raspberry	Native	Pres	Jun–Aug	X			X	
Salicaceae	<i>Salix arizonica</i>	Arizona willow	Native	Pres	Jun–Jul				X	
Salicaceae	<i>Salix boothii</i>	Booth's willow	Native	Pres	May–Jun				X	
Salicaceae	<i>Salix brachycarpa</i>	short-fruit willow	Native	Pres	Jun–Jul				X	
Salicaceae	<i>Salix exigua</i> var. <i>stenophylla</i>	coyote willow	Native	Pres	Apr–Aug				X	
Salicaceae	<i>Salix scouleriana</i>	Scouler's willow	Native	Pres	Apr–Jun				X	

Appendix D. Confirmed, historical, and reported taxa of Cedar Breaks National Monument, organized by life form with ecological notes, cont.

Family	Species name	Common name	Nativity	Park status	Flower time	Sub Fir	White Fir	Sub Mdw	Wet	Comments
<i>Shrubs, cont.</i>										
Saxifragaceae (Hydrangeaceae)	<i>Jamesia americana</i> var. <i>zionis</i>	Zion jamesia	Native	Pres	May–Aug				X	Claron barrens
Saxifragaceae (Grossulariaceae)	<i>Ribes cereum</i> var. <i>inebrians</i>	wax currant	Native	Pres	Apr–Aug	X	X	X		
Saxifragaceae (Grossulariaceae)	<i>Ribes montigenum</i>	alpine prickly currant	Native	Pres	Apr–Aug	X	X	X	X	
Saxifragaceae (Grossulariaceae)	<i>Ribes viscosissimum</i> var. <i>viscosissimum</i>	sticky currant	Native	Pres	May–Aug	X	X			
Tamaricaceae	<i>Tamarix chinensis</i>	five-stamen tamarisk	Intro	Pres	Apr–Sep				X	
Perennial Forbs										
Apocynaceae	<i>Apocynum androsaemifolium</i> var. <i>androsaemifolium</i>	spreading dogbane	Native	Pres	Jun–Aug		X		X	
Apocynaceae	<i>Apocynum cannabinum</i>	common dogbane	Native	Rep	Jun–Aug				X	
Boraginaceae	<i>Lithospermum multiflorum</i>	southwestern stoneseed	Native	Pres	Jun–Aug		X	X		
Boraginaceae	<i>Mertensia arizonica</i>	aspen bluebell	Native	Pres	Jun–Aug	X	X		X	
Campanulaceae	<i>Campanula parryi</i>	Parry's harebell	Native	Hist	Jun–Sep			X		
Caryophyllaceae (Alsinaeae)	<i>Arenaria fendleri</i> var. <i>eastwoodiae</i>	Eastwood's sandwort	Native	Pres	May–Sep		X			
Caryophyllaceae (Alsinaeae)	<i>Arenaria fendleri</i> var. <i>glabrescens</i>	basin sandwort	Native	Pres	May–Aug	X	X	X		
Caryophyllaceae (Alsinaeae)	<i>Arenaria lanuginosa</i>	sprawling sandwort	Native	Hist	May–Aug		X			
Caryophyllaceae	<i>Lychnis drummondii</i>	Drummond's catchfly	Native	Pres	May–Sep	X	X			
Caryophyllaceae	<i>Silene menziesii</i>	Menzies' campion	Native	Pres	Jun–Aug	X		X		
Caryophyllaceae	<i>Silene petersonii</i>	Peterson's campion	Native	Pres	Jun–Sep					Claron barrens
Caryophyllaceae (Alsinaeae)	<i>Stellaria jamesiana</i>	James' chickweed	Native	Pres	Jun–Aug	X		X		
Caryophyllaceae (Alsinaeae)	<i>Stellaria longipes</i> var. <i>longipes</i>	long-stalk starwort	Native	Pres	May–Aug			X	X	
Compositae (Asteraceae)	<i>Achillea millefolium</i> var. <i>lanulosa</i>	common yarrow	Native	Pres	May–Sep	X	X	X	X	
Compositae (Asteraceae)	<i>Agoseris aurantiaca</i> var. <i>purpurea</i>	purplish agoseris	Native	Pres	Jun–Aug				X	

Appendix D. Confirmed, historical, and reported taxa of Cedar Breaks National Monument, organized by life form with ecological notes, cont.

Family	Species name	Common name	Nativity	Park status	Flower time	Sub Fir	White Fir	Sub Mdw	Wet	Comments
<i>Perennial Forbs, cont.</i>										
Compositae (Asteraceae)	<i>Agoseris glauca</i> var. <i>agrestis</i>	fields agoseris	Native	Pres	May-Sep			X		
Compositae (Asteraceae)	<i>Agoseris glauca</i> var. <i>dasycephala</i>	short agoseris	Native	Pres	May-Sep	X		X		
Compositae (Asteraceae)	<i>Antennaria microphylla</i>	small-leaf pussytoes	Native	Pres	Jun-Aug			X		
Compositae (Asteraceae)	<i>Antennaria parvifolia</i>	common pussytoes	Native	Pres	May-Jul	X	X			
Compositae (Asteraceae)	<i>Antennaria pulcherrima</i>	showy pussytoes	Native	Pres	Jul-Sep			X	X	
Compositae (Asteraceae)	<i>Antennaria rosulata</i>	Breaks pussytoes	Native	Pres	Jun-Aug	X		X		
Compositae (Asteraceae)	<i>Arnica cordifolia</i> var. <i>cordifolia</i>	heartleaf arnica	Native	Pres	May-Aug	X	X			
Compositae (Asteraceae)	<i>Arnica mollis</i>	hairy arnica	Native	Pres	Jul-Aug			X	X	
Compositae (Asteraceae)	<i>Arnica parryi</i>	rayless arnica	Native	Pres	Jun-Aug	X				
Compositae (Asteraceae)	<i>Artemisia dracunculus</i> ssp. <i>glauca</i>	tarragon	Native	Pres	Jul-Oct			X	X	
Compositae (Asteraceae)	<i>Artemisia ludoviciana</i> var. <i>ludoviciana</i>	Louisiana wormwood	Native	Pres	Jul-Oct		X		X	
Compositae (Asteraceae)	<i>Aster ascendens</i>	Pacific aster	Native	Pres	Jul-Oct			X	X	
Compositae (Asteraceae)	<i>Aster foliaceus</i> var. <i>canbyi</i>	Canby's aster	Native	Pres	Jul-Sep	X		X	X	
Compositae (Asteraceae)	<i>Aster foliaceus</i> var. <i>parryi</i>	Parry's aster	Native	Pres	Jul-Sep	X				
Compositae (Asteraceae)	<i>Aster spathulatus</i>	western aster	Native	Pres	Jul-Sep				X	
Compositae (Asteraceae)	<i>Aster wasatchensis</i> var. <i>wasatchensis</i>	Markagunt aster	Native	Pres	Jul-Sep					Claron barrens
Compositae (Asteraceae)	<i>Aster welshii</i>	Welsh's aster	Native	Pres	Aug-Oct				X	

Appendix D. Confirmed, historical, and reported taxa of Cedar Breaks National Monument, organized by life form with ecological notes, cont.

Family	Species name	Common name	Nativity	Park status	Flower time	Sub Fir	White Fir	Sub Mdw	Wet	Comments
<i>Perennial Forbs, cont.</i>										
Compositae (Asteraceae)	<i>Chaenactis douglasii</i>	hoary dusty-maiden	Native	Pres	May-Sep		X			
Compositae (Asteraceae)	<i>Chrysopsis villosa</i> var. <i>minor</i>	hispid golden-aster	Native	Pres	May-Sep	X	X	X		
Compositae (Asteraceae)	<i>Cirsium arizonicum</i>	Arizona thistle	Native	Pres	Jun-Aug	X	X	X	X	Barrens
Compositae (Asteraceae)	<i>Cirsium wheeleri</i> var. <i>wheeleri</i>	Wheeler's thistle	Native	Pres	Jul-Sep	X	X	X		
Compositae (Asteraceae)	<i>Erigeron compositus</i> var. <i>glabratus</i>	cut-leaved daisy	Native	Pres	May-Aug	X	X	X		
Compositae (Asteraceae)	<i>Erigeron flagellaris</i>	trailing daisy	Native	Pres	May-Aug			X		
Compositae (Asteraceae)	<i>Erigeron peregrinus</i> var. <i>callianthemus</i>	wandering fleabane	Native	Pres	Jul-Aug	X		X	X	
Compositae (Asteraceae)	<i>Erigeron sionis</i> var. <i>trilobatus</i>	Cedar Breaks daisy	Native	Pres	Apr-Sep			X	X	Claron Formation
Compositae (Asteraceae)	<i>Erigeron speciosus</i> var. <i>macranthus</i>	aspen daisy	Native	Pres	Jun-Aug		X			
Compositae (Asteraceae)	<i>Erigeron speciosus</i> var. <i>mollis</i>	hairy pretty daisy	Native	Pres	Jul-Aug	X				
Compositae (Asteraceae)	<i>Erigeron ursinus</i> var. <i>ursinus</i>	bear daisy	Native	Pres	Jun-Aug	X		X		
Compositae (Asteraceae)	<i>Erigeron vagus</i>	Payson's daisy	Native	Pres	Jun-Aug					Claron barrens
Compositae (Asteraceae)	<i>Haplopappus clementis</i>	Clement's goldenweed	Native	Pres	Jun-Sep		X	X	X	
Compositae (Asteraceae)	<i>Helenium hoopesii</i>	orange sneezeweed	Native	Pres	Jun-Aug			X	X	
Compositae (Asteraceae)	<i>Helianthella uniflora</i>	little sunflower	Native	Pres	Jun-Aug	X		X		
Compositae (Asteraceae)	<i>Hymenopappus filifolius</i> var. <i>cinereus</i>	common hyalineherb	Native	Pres	May-Oct	X	X	X		
Compositae (Asteraceae)	<i>Hymenopappus filifolius</i> var. <i>nudipes</i>	alpine hyalineherb	Native	Pres	May-Oct			X		

Appendix D. Confirmed, historical, and reported taxa of Cedar Breaks National Monument, organized by life form with ecological notes, cont.

Family	Species name	Common name	Nativity	Park status	Flower time	Sub Fir	White Fir	Sub Mdw	Wet	Comments
<i>Perennial Forbs, cont.</i>										
Compositae (Asteraceae)	<i>Machaeranthera commixta</i>	Bigelow's aster	Native	Pres	Jul–Aug	X	X	X		
Compositae (Asteraceae)	<i>Rudbeckia montana</i>	montane coneflower	Native	Hist	Jun–Sep		X			
Compositae (Asteraceae)	<i>Senecio atratus</i>	black groundsel	Native	Pres	Jul–Aug		X			Barrens
Compositae (Asteraceae)	<i>Senecio canus</i>	woolly groundsel	Native	Pres	May–Aug	X	X			
Compositae (Asteraceae)	<i>Senecio eremophilus</i> var. <i>kingii</i>	cut-leaved groundsel	Native	Pres	Jul–Sep	X		X		
Compositae (Asteraceae)	<i>Senecio hartianus</i>	Hart's groundsel	Native	Pres	Jun–Jul				X	
Compositae (Asteraceae)	<i>Senecio inegerimus</i> var. <i>exaltatus</i>	western groundsel	Native	Pres	Jun–Aug	X		X		
Compositae (Asteraceae)	<i>Senecio malmstenii</i>	Podunk groundsel	Native	Pres	Jun–Aug					Claron barrens
Compositae (Asteraceae)	<i>Senecio multilobatus</i>	basin groundsel	Native	Pres	Apr–Aug	X	X	X		
Compositae (Asteraceae)	<i>Senecio spartioides</i> var. <i>spartioides</i>	broom groundsel	Native	Hist	Jun–Oct			X		
Compositae (Asteraceae)	<i>Solidago multiradiata</i> var. <i>scopulorum</i>	Rocky Mountain goldenrod	Native	Pres	Jul–Aug	X	X	X		
Compositae (Asteraceae)	<i>Solidago parryi</i>	Parry's goldenweed	Native	Pres	Jul–Sep	X		X		
Compositae (Asteraceae)	<i>Solidago velutina</i>	three-nerve goldenrod	Native	Pres	Aug–Oct	X	X			
Compositae (Asteraceae)	<i>Taraxacum officinale</i>	common dandelion	Intro	Pres	Apr–Dec	X	X	X	X	
Compositae (Asteraceae)	<i>Townsendia leptotes</i>	common townsendia	Native	Pres	Jun–Jul			X		
Compositae (Asteraceae)	<i>Townsendia montana</i> var. <i>minima</i>	Bryce Canyon townsendia	Native	Pres	Apr–Jun					Claron barrens
Compositae (Asteraceae)	<i>Tragopogon dubius</i>	yellow salsify	Intro	Pres	May–Jul			X	X	

Appendix D. Confirmed, historical, and reported taxa of Cedar Breaks National Monument, organized by life form with ecological notes, cont.

Family	Species name	Common name	Nativity	Park status	Flower time	Sub Fir	White Fir	Sub Mdw	Wet	Comments
<i>Perennial Forbs, cont.</i>										
Compositae (Asteraceae)	<i>Viguiera multiflora</i> var. <i>multiflora</i>	showy goldeneye	Native	Pres	Jun-Sep	X		X	X	
Cruciferae (Brassicaceae)	<i>Arabis drummondii</i>	Drummond's rockcress	Native	Pres	May-Sep	X		X		
Cruciferae (Brassicaceae)	<i>Arabis holboellii</i> var. <i>fendleri</i>	Fendler's rockcress	Native	Pres	Apr-Aug		X			
Cruciferae (Brassicaceae)	<i>Cardamine cordifolia</i> var. <i>cordifolia</i>	heartleaf bittercress	Native	Pres	Jun-Sep				X	
Cruciferae (Brassicaceae)	<i>Cardamine cordifolia</i> var. <i>incana</i>	heartleaf bittercress	Native	Pres	Jun-Sep				X	
Cruciferae (Brassicaceae)	<i>Draba asprella</i> var. <i>zionensis</i>	Zion draba	Native	Pres	Apr-Jun		X			
Cruciferae (Brassicaceae)	<i>Draba stenoloba</i> var. <i>nana</i>	slender whitlow-grass	Native	Pres	Jun-Aug	X	X			
Cruciferae (Brassicaceae)	<i>Draba subalpina</i>	Breaks draba	Native	Pres	May-Aug	X	X			
Cruciferae (Brassicaceae)	<i>Enysimum asperum</i> var. <i>purshii</i>	sand dune wallflower	Native	Pres	Apr-Aug	X		X		
Cruciferae (Brassicaceae)	<i>Physaria rubicundula</i> var. <i>rubicundula</i>	Breaks bladderpod	Native	Pres	May-Jul		X	X		Claron Formation
Cruciferae (Brassicaceae)	<i>Physaria wardii</i>	Ward's bladderpod	Native	Pres	Jun-Jul			X		
Cruciferae (Brassicaceae)	<i>Rorippa curvipes</i> var. <i>curvipes</i>	blunt-leaf yellowcress	Native	Pres	May-Aug				X	
Cruciferae (Brassicaceae)	<i>Rorippa islandica</i> var. <i>glabra</i>	smooth yellowcress	Native	Pres	Jun-Sep				X	
Cruciferae (Brassicaceae)	<i>Thlaspi montanum</i> var. <i>montanum</i>	alpine pennycress	Native	Pres	Apr-Aug	X		X		
Euphorbiaceae	<i>Euphorbia brachycera</i>	shorthorn spurge	Native	Pres	May-Jun	X	X		X	
Fumariaceae	<i>Corydalis aurea</i> var. <i>occidentalis</i>	golden corydalis	Native	Pres	Apr-Sep		X			
Gentianaceae	<i>Gentiana affinis</i> var. <i>affinis</i>	Rocky Mountain gentian	Native	Pres	Jul-Sep			X	X	
Gentianaceae	<i>Gentiana parryi</i>	Parry's gentian	Native	Pres	Jul-Sep				X	
Gentianaceae	<i>Gentianella heterosepala</i>	Engelmann's gentian	Native	Pres	Jun-Aug	X				
Gentianaceae	<i>Swertia radiata</i>	elkweed	Native	Pres	Jun-Aug	X		X		

Appendix D. Confirmed, historical, and reported taxa of Cedar Breaks National Monument, organized by life form with ecological notes, cont.

Family	Species name	Common name	Nativity	Park status	Flower time	Sub Fir	White Fir	Sub Mdw	Wet	Comments
<i>Perennial Forbs, cont.</i>										
Geraniaceae	<i>Geranium caespitosum</i> var. <i>marginale</i>	small-leaf geranium	Native	Pres	Jun-Sep			X		
Geraniaceae	<i>Geranium richardsonii</i>	Richardson's crane's-bill	Native	Pres	Jun-Aug	X		X		
Hydrophyllaceae	<i>Phacelia heterophylla</i>	wand phacelia	Native	Pres	Jun-Aug	X				
Iridaceae	<i>Iris missouriensis</i>	Rocky Mountain iris	Native	Pres	May-Jul				X	
Labiatae (Lamiaceae)	<i>Monardella odoratissima</i>	stinking horsemint	Native	Pres	May-Aug	X	X			Claron barrens
Labiatae (Lamiaceae)	<i>Prunella vulgaris</i> var. <i>lanceolata</i>	self-heal	Native	Pres	May-Sep				X	
Leguminosae (Fabaceae)	<i>Astragalus argophyllus</i> var. <i>panguicensis</i>	Panguitch milkvetch	Native	Pres	May-Jul	X	X			
Leguminosae (Fabaceae)	<i>Astragalus kentrophyta</i> var. <i>elatus</i>	tall kentrophyta	Native	Pres	Jun-Sep	X	X	X		Barrens
Leguminosae (Fabaceae)	<i>Astragalus kentrophyta</i> var. <i>tegetarius</i>	mountain kentrophyta	Native	Rep	Jun-Sep	X				
Leguminosae (Fabaceae)	<i>Astragalus limnocharis</i> var. <i>limnocharis</i>	Navajo Lake milkvetch	Native	Pres	Jun-Sep		X		X	Claron barrens
Leguminosae (Fabaceae)	<i>Astragalus lonchocarpus</i>	great rushy milkvetch	Native	Pres	May-Jul				X	Barrens
Leguminosae (Fabaceae)	<i>Astragalus miser</i> var. <i>oblongifolius</i>	Rydberg's weedy milkvetch	Native	Pres	Jun-Aug	X	X	X		
Leguminosae (Fabaceae)	<i>Astragalus tenellus</i>	pulse milkvetch	Native	Pres	May-Aug		X			
Leguminosae (Fabaceae)	<i>Lathyrus lanszwertii</i> var. <i>laetivirens</i>	largeflower sweetpea	Native	Pres	May-Aug	X	X		X	
Leguminosae (Fabaceae)	<i>Lotus utahensis</i>	Utah trefoil	Native	Pres	May-Aug		X			
Leguminosae (Fabaceae)	<i>Lupinus argenteus</i> var. <i>argentatus</i>	silvery lupine	Native	Pres	May-Aug	X	X		X	
Leguminosae (Fabaceae)	<i>Lupinus argenteus</i> var. <i>argenteus</i>	silvery lupine	Native	Hist	May-Aug		X			
Leguminosae (Fabaceae)	<i>Lupinus argenteus</i> var. <i>rubricaulis</i>	subalpine lupine	Native	Pres	May-Aug	X			X	
Leguminosae (Fabaceae)	<i>Lupinus lepidus</i> var. <i>utahensis</i>	stemless lupine	Native	Pres	May-Aug					X

Appendix D. Confirmed, historical, and reported taxa of Cedar Breaks National Monument, organized by life form with ecological notes, cont.

Family	Species name	Common name	Nativity	Park status	Flower time	Sub Fir	White Fir	Sub Mdw	Wet	Comments
<i>Perennial Forbs, cont.</i>										
Leguminosae (Fabaceae)	<i>Melilotus officinalis</i>	yellow sweet-clover	Intro	Pres	May–Oct			X		
Leguminosae (Fabaceae)	<i>Oxytropis oreophila</i> var. <i>oreophila</i>	mountain locoweed	Native	Pres	May–Aug	X	X	X		
Leguminosae (Fabaceae)	<i>Trifolium longipes</i> var. <i>rusbyi</i>	Rusby's clover	Native	Pres	May–Aug	X		X	X	
Leguminosae (Fabaceae)	<i>Vicia americana</i> var. <i>americana</i>	American vetch	Native	Pres	May–Aug			X		
Liliaceae (Alliaceae)	<i>Allium bisceptrum</i>	twincrest onion	Native	Hist	May–Jul					Barrens
Liliaceae (Calochortaceae)	<i>Calochortus nuttallii</i>	sego-lily	Native	Pres	Jun–Jul			X		
Liliaceae	<i>Fritillaria atropurpurea</i>	leopard-lily	Native	Pres	Apr–Jul			X		
Liliaceae (Convallariaceae or Ruscaceae)	<i>Smilacina stellata</i>	starry false Solomon's-seal	Native	Pres	Apr–Jun	X	X		X	
Liliaceae	<i>Zigadenus elegans</i>	mountain death camas	Native	Pres	Jun–Aug	X		X	X	
Linaceae	<i>Linum kingii</i>	King's yellow flax	Native	Pres	May–Aug	X	X			
Linaceae	<i>Linum perenne</i> ssp. <i>lewisii</i>	blue flax	Native	Pres	Apr–Aug			X		
Monotropaceae (Ericaceae)	<i>Pterospora andromedea</i>	woodland pinedrops	Native	Pres	Jun–Sep	X	X			
Onagraceae	<i>Epilobium angustifolium</i> var. <i>canescens</i>	fireweed	Native	Pres	Jun–Sep	X	X			Barrens
Onagraceae	<i>Epilobium halleanum</i>	Hall's willow-herb	Native	Pres	Jun–Aug			X		
Onagraceae	<i>Epilobium hornemannii</i> var. <i>hornemannii</i>	Hornemann's willow-herb	Native	Pres	Jun–Aug			X		
Onagraceae	<i>Oenothera caespitosa</i> var. <i>marginata</i>	long-tube evening-primrose	Native	Pres	Apr–Jun			X		
Onagraceae	<i>Oenothera flava</i> var. <i>flava</i>	yellow evening-primrose	Native	Pres	Jun–Jul			X	X	
Orchidaceae	<i>Corallorhiza maculata</i>	spotted coral-root	Native	Pres	Jun–Jul	X				
Orchidaceae	<i>Goodyera oblongifolia</i>	giant rattlesnake-plantain	Native	Pres	Jul–Aug	X	X			
Orchidaceae	<i>Habenaria dilatata</i> var. <i>dilatata</i>	white bog-orchid	Native	Pres	Jun–Aug				X	
Orchidaceae	<i>Habenaria hyperborea</i>	northern bog orchid	Native	Pres	Jun–Aug				X	

Appendix D. Confirmed, historical, and reported taxa of Cedar Breaks National Monument, organized by life form with ecological notes, cont.

Family	Species name	Common name	Nativity	Park status	Flower time	Sub Fir	White Fir	Sub Mdw	Wet	Comments
<i>Perennial Forbs, cont.</i>										
Orchidaceae	<i>Habenaria sparsiflora</i> var. <i>sparsiflora</i>	slender bog orchid	Native	Pres	Jun-Jul				X	
Plantaginaceae	<i>Plantago tweedyi</i>	Tweedy's plantain	Native	Pres	Jun-Aug	X				
Polemoniaceae	<i>Ipomopsis aggregata</i> var. <i>aggregata</i>	scarlet gilia	Native	Pres	May-Aug		X			
Polemoniaceae	<i>Ipomopsis tridactyla</i>	Cedar Breaks gilia	Native	Pres	Jun-Aug			X		Barrens
Polemoniaceae	<i>Phlox pulvinata</i>	cushion phlox	Native	Pres	Jun-Aug			X		
Polemoniaceae	<i>Polemonium caeruleum</i> var. <i>pterospermum</i>	western Jacob's-ladder	Native	Pres	Jun-Aug				X	
Polemoniaceae	<i>Polemonium pulcherrimum</i> var. <i>delicatum</i>	pretty Jacob's-ladder	Native	Pres	Jun-Aug	X		X		
Polygonaceae	<i>Eriogonum panguicense</i> var. <i>alpestre</i>	Cedar Breaks wild buckwheat	Native	Pres	Jun-Sep		X	X		Claron barrens
Polygonaceae	<i>Eriogonum umbellatum</i> var. <i>porteri</i>	Porter's wild buckwheat	Native	Pres	Jul-Sep	X		X		
Polygonaceae	<i>Eriogonum umbellatum</i> var. <i>umbellatum</i>	sulfur wild buckwheat	Native	Pres	Jun-Sep	X		X		
Polygonaceae	<i>Polygonum bistortoides</i>	American bistort	Native	Pres	Jul-Sep			X		
Polygonaceae	<i>Polygonum viviparum</i>	alpine bistort	Native	Pres	Jun-Sep			X	X	
Polygonaceae	<i>Rumex occidentalis</i>	western dock	Native	Pres	May-Aug			X		
Polygonaceae	<i>Rumex salicifolius</i> ssp. <i>triangulivalvis</i>	willow dock	Native	Pres	May-Sep			X		
Portulacaceae	<i>Claytonia lanceolata</i>	lanceleaf springbeauty	Native	Pres	Apr-Jul			X		
Portulacaceae	<i>Lewisia pygmaea</i>	alpine bitter-root	Native	Pres	May-Aug			X		
Primulaceae	<i>Dodecatheon alpinum</i>	alpine shooting-star	Native	Hist	Apr-Sep				X	
Primulaceae	<i>Dodecatheon pulchellum</i> var. <i>pulchellum</i>	dark-throat shooting-star	Native	Pres	Mar-Aug				X	
Primulaceae	<i>Primula parryi</i>	Parry's primrose	Native	Pres	Jun-Sep	X			X	
Pyrolaceae (Ericaceae)	<i>Pyrola asarifolia</i>	pink wintergreen	Native	Pres	Jun-Aug	X	X			
Pyrolaceae (Ericaceae)	<i>Pyrola chlorantha</i>	green-flowered wintergreen	Native	Pres	Jun-Aug	X	X		X	

Appendix D. Confirmed, historical, and reported taxa of Cedar Breaks National Monument, organized by life form with ecological notes, cont.

Family	Species name	Common name	Nativity	Park status	Flower time	Sub Fir	White Fir	Sub Mdw	Wet	Comments
<i>Perennial Forbs, cont.</i>										
Pyrolaceae (Ericaceae)	<i>Pyrola picta</i>	whiteveined wintergreen	Native	Pres	Jun-Aug	X	X			
Pyrolaceae (Ericaceae)	<i>Pyrola secunda</i>	sidebells pyrola	Native	Pres	Jun-Aug	X	X			
Ranunculaceae (Helleboraceae)	<i>Aconitum columbianum</i> var. <i>columbianum</i>	Columbian monkshood	Native	Pres	Jun-Aug	X		X	X	
Ranunculaceae	<i>Anemone multifida</i>	cutleaf anemone	Native	Pres	Jun-Aug	X	X	X		
Ranunculaceae (Helleboraceae)	<i>Aquilegia coreulea</i>	Colorado columbine	Native	Pres	Jun-Aug	X				
Ranunculaceae (Helleboraceae)	<i>Aquilegia scopulorum</i> var. <i>scopulorum</i>	rock columbine	Native	Pres	Jun-Aug					Claron barrens
Ranunculaceae	<i>Caltha leptosepala</i>	white marshmarigold	Native	Pres	May-Jul				X	
Ranunculaceae	<i>Clematis columbiana</i>	Columbian virgin's-bower	Native	Pres	May-Sep	X	X			
Ranunculaceae (Helleboraceae)	<i>Delphinium barbeyi</i>	subalpine larkspur	Native	Pres	Jul-Aug	X		X		
Ranunculaceae	<i>Ranunculus alismifolius</i> var. <i>montanus</i>	plantain buttercup	Native	Pres	May-Jul			X	X	
Ranunculaceae	<i>Ranunculus inamoenus</i>	drab buttercup	Native	Pres	Jun-Sep	X		X		
Ranunculaceae (Thalictraceae)	<i>Thalictrum fendleri</i>	Fendler's meadow-rue	Native	Pres	Jun-Aug	X	X		X	
Rosaceae	<i>Fragaria virginiana</i>	Virginia strawberry	Native	Pres	Jun-Jul	X	X		X	
Rosaceae	<i>Geum macrophyllum</i> var. <i>perincisum</i>	large-leaved avens	Native	Pres	May-Aug				X	
Rosaceae	<i>Geum triflorum</i> var. <i>ciliatum</i>	prairie smoke	Native	Pres	Jun-Aug			X		
Rosaceae	<i>Ivesia sabulosa</i>	Sevier ivesia	Native	Pres	Jun-Aug					Claron barrens
Rosaceae	<i>Potentilla diversifolia</i> var. <i>diversifolia</i>	wedgeleaf cinquefoil	Native	Pres	Jun-Aug	X		X	X	
Rosaceae	<i>Potentilla gracilis</i> var. <i>pulcherrima</i>	beautiful cinquefoil	Native	Pres	Jun-Aug			X		
Rosaceae	<i>Potentilla hippiana</i>	woolly cinquefoil	Native	Pres	Jul-Aug			X		
Rubiaceae	<i>Galium triflorum</i>	sweet-scented bedstraw	Native	Pres	Jul-Aug				X	

Appendix D. Confirmed, historical, and reported taxa of Cedar Breaks National Monument, organized by life form with ecological notes, cont.

Family	Species name	Common name	Nativity	Park status	Flower time	Sub Fir	White Fir	Sub Mdw	Wet	Comments
<i>Perennial Forbs, cont.</i>										
Saxifragaceae	<i>Lithophragma glabrum</i> var. <i>ramulosum</i>	fringecup woodlandstar	Native	Pres	Mar–Aug	X			X	
Saxifragaceae (Parnassiaceae)	<i>Parnassia palustris</i> var. <i>montanensis</i>	marsh grass-of-Parnassus	Native	Pres	May–Oct				X	
Saxifragaceae	<i>Saxifraga odontoloma</i>	brook saxifrage	Native	Pres	May–Sep				X	
Saxifragaceae	<i>Saxifraga rhomboidea</i>	diamondleaf saxifrage	Native	Pres	May–Sep			X		
Scrophulariaceae	<i>Castilleja linariifolia</i>	Wyoming paintbrush	Native	Pres	Jul–Aug		X			
Scrophulariaceae	<i>Castilleja miniata</i>	scarlet paintbrush	Native	Pres	Jul–Aug	X		X	X	
Scrophulariaceae	<i>Castilleja parvula</i> var. <i>revealii</i>	Reveal's paintbrush	Native	Pres	Jun–Aug					Claron barrens
Scrophulariaceae	<i>Castilleja rhexifolia</i> var. <i>rhexifolia</i>	rhexia-leaved paintbrush	Native	Pres	Jul–Aug				X	Barrens
Scrophulariaceae	<i>Castilleja rhexifolia</i> var. <i>sulphurea</i>	sulphur paintbrush	Native	Rep	Jun–Aug			X	X	
Scrophulariaceae	<i>Mimulus guttatus</i>	yellow monkeyflower	Native	Pres	Jun–Aug				X	
Scrophulariaceae	<i>Pedicularis groenlandica</i>	elephant-head	Native	Pres	Jun–Aug				X	
Scrophulariaceae	<i>Pedicularis parryi</i> var. <i>parryi</i>	Parry's lousewort	Native	Pres	Jul–Aug			X	X	
Scrophulariaceae	<i>Penstemon eatonii</i> var. <i>undosus</i>	undulate penstemon	Native	Pres	May–Jul		X			
Scrophulariaceae	<i>Penstemon leiophyllus</i> var. <i>leiophyllus</i>	Markagunt penstemon	Native	Pres	Jun–Aug	X		X		
Scrophulariaceae	<i>Penstemon rydbergii</i> var. <i>aggregatus</i>	Rydberg's penstemon	Native	Pres	Jun–Jul			X		
Scrophulariaceae	<i>Penstemon whippleanus</i>	Whipple's penstemon	Native	Pres	Jul–Aug	X				
Scrophulariaceae	<i>Synthyris laciniata</i>	cutleaf synthyris	Native	Pres	Jun–Aug	X	X			
Scrophulariaceae	<i>Veronica americana</i>	American brooklime	Native	Pres	Jul–Aug				X	
Scrophulariaceae	<i>Veronica serpyllifolia</i>	thyme-leaved speedwell	Native	Pres	Jun–Aug				X	
Scrophulariaceae	<i>Veronica wormsjoldii</i>	American alpine speedwell	Native	Pres	Jul–Aug			X	X	
Umbelliferae (Apiaceae)	<i>Angelica pinnata</i>	pinnate angelica	Native	Pres	Jun–Aug	X		X	X	
Umbelliferae (Apiaceae)	<i>Cymopterus lemmonii</i>	Lemmon's spring-parsley	Native	Pres	Jul–Aug	X	X	X		Barrens

Appendix D. Confirmed, historical, and reported taxa of Cedar Breaks National Monument, organized by life form with ecological notes, cont.

Family	Species name	Common name	Nativity	Park status	Flower time	Sub Fir	White Fir	Sub Mdw	Wet	Comments
<i>Perennial Forbs, cont.</i>										
Umbelliferae (Apiaceae)	<i>Cymopterus minimus</i>	least spring-parsley	Native	Pres	Jul–Aug	X	X			Claron barrens
Umbelliferae (Apiaceae)	<i>Ligusticum porteri</i>	southern ligusticum	Native	Pres	Jun–Aug	X	X	X		
Umbelliferae (Apiaceae)	<i>Lomatium minimum</i>	least lomatium	Native	Pres	May–Jun		X	X		Claron barrens
Umbelliferae (Apiaceae)	<i>Osmorhiza depauperata</i>	blunt sweet-cicely	Native	Pres	Jun–Jul	X	X		X	
Valerianaceae	<i>Valeriana edulis</i>	tobacco-root	Native	Pres	Jun–Aug			X		
Valerianaceae	<i>Valeriana occidentalis</i>	western valerian	Native	Pres	May–Jul	X			X	
Violaceae	<i>Viola canadensis</i>	Canadian white violet	Native	Pres	Apr–Aug	X		X		
Violaceae	<i>Viola nephrophylla</i>	northern bog violet	Native	Pres	Apr–Jul				X	
Viscaceae	<i>Arceuthobium cyanocarpum</i>	limber pine dwarf-mistletoe	Native	Pres	Aug	X	X			
Viscaceae	<i>Arceuthobium douglasii</i>	Douglas-fir mistletoe	Native	Pres	Mar–May		X			
Annual Forbs										
Chenopodiaceae	<i>Chenopodium album</i> var. <i>album</i>	lambquarter	Intro	Pres	Jun–Sep			X		Disturbed
Chenopodiaceae	<i>Chenopodium atrovirens</i>	mountain goosefoot	Native	Pres	Jul–Sep	X		X		
Chenopodiaceae	<i>Chenopodium capitatum</i> var. <i>parvicapitatum</i>	smallhead goosefoot	Native	Pres	Jun–Sep	X				
Cruciferae (Brassicaceae)	<i>Descurainia incana</i> var. <i>sonnei</i>	mountain tansy-mustard	Native	Pres	Apr–Jul			X		
Cruciferae (Brassicaceae)	<i>Thlaspi arvense</i>	field pennycress	Intro	Rep	May–Aug			X		
Gentianaceae	<i>Gentianella tortuosa</i>	Jones' gentian	Native	Pres	Jul–Aug			X		Barrens
Gentianaceae	<i>Gentianopsis detonsa</i> var. <i>elegans</i>	meadow gentian	Native	Pres	Jul–Sep				X	
Leguminosae (Fabaceae)	<i>Lupinus kingii</i> var. <i>kingii</i>	King's lupine	Native	Pres	May–Aug			X		
Malvaceae	<i>Malva neglecta</i>	common mallow	Intro	Pres	Apr–Oct			X		Disturbed
Polemoniaceae	<i>Collomia linearis</i>	small collomia	Native	Pres	May–Aug			X		
Polygonaceae	<i>Polygonum aviculare</i>	yard knotweed	Intro	Pres	May–Oct			X		Disturbed

Appendix D. Confirmed, historical, and reported taxa of Cedar Breaks National Monument, organized by life form with ecological notes, cont.

Family	Species name	Common name	Nativity	Park status	Flower time	Sub Fir	White Fir	Sub Mdw	Wet	Comments
<i>Annual Forbs, cont.</i>										
Polygonaceae	<i>Polygonum douglasii</i> var. <i>douglasii</i>	Douglas' knotweed	Native	Pres	Jun-Oct			X		
Polygonaceae	<i>Polygonum douglasii</i> var. <i>johnstonii</i>	Sawatch knotweed	Native	Pres	Jun-Aug			X		
Primulaceae	<i>Androsace septentrionalis</i>	pygmy-flower rock-jasmine	Native	Pres	May-Aug	X	X	X		
Perennial Graminoids										
Cyperaceae	<i>Carex aquatilis</i>	water sedge	Native	Pres	Jun-Aug				X	
Cyperaceae	<i>Carex aurea</i>	golden sedge	Native	Pres	Apr-Aug				X	
Cyperaceae	<i>Carex dioica</i>	northern bog sedge	Native	Pres	Jun-Jul				X	
Cyperaceae	<i>Carex egglestonii</i>	Eggleston's sedge	Native	Pres	Jul-Aug			X		
Cyperaceae	<i>Carex elynoides</i>	kobresia sedge	Native	Hist	Jun-Aug				X	
Cyperaceae	<i>Carex heteroneura</i> var. <i>chalciolepis</i>	blackened sedge	Native	Pres	Jul-Aug			X		
Cyperaceae	<i>Carex interior</i>	inland sedge	Native	Pres	May-Jul				X	
Cyperaceae	<i>Carex microptera</i>	small-wing sedge	Native	Pres	Jun-Aug				X	
Cyperaceae	<i>Carex norvegica</i> var. <i>stevanii</i>	Scandinavian sedge	Native	Pres	Jun-Aug				X	
Cyperaceae	<i>Carex occidentalis</i>	western sedge	Native	Pres	Jun-Aug	X				
Cyperaceae	<i>Carex pellita</i>	woolly sedge	Native	Pres	May-Sep				X	
Cyperaceae	<i>Carex petasata</i>	liddon sedge	Native	Pres	May-Jul			X		
Cyperaceae	<i>Carex rossii</i>	Ross' sedge	Native	Pres	May-Aug	X	X			
Cyperaceae	<i>Carex saxatilis</i>	russet sedge	Native	Pres	Jun-Aug				X	
Cyperaceae	<i>Carex scirpoidea</i> var. <i>scirpoidea</i>	slender sedge	Native	Pres	Jun-Aug				X	
Cyperaceae	<i>Carex utriculata</i>	beaked sedge	Native	Pres	Jun-Aug				X	
Cyperaceae	<i>Carex vesicaria</i>	blister sedge	Native	Pres	Jun-Aug				X	
Cyperaceae	<i>Eleocharis palustris</i>	common spikerush	Native	Pres	May-Aug				X	
Cyperaceae	<i>Eleocharis quinqueflora</i>	few-flower spikerush	Native	Pres	Jun-Aug				X	
Gramineae (Poaceae)	<i>Agropyron cristatum</i>	crested wheatgrass	Intro	Pres	Jun-Aug			X		
Gramineae (Poaceae)	<i>Agrostis scabra</i>	ticklegass	Native	Pres	Jul-Aug			X	X	
Gramineae (Poaceae)	<i>Agrostis stolonifera</i>	redtop	Intro	Pres	Jun-Sep			X	X	
Gramineae (Poaceae)	<i>Agrostis x idahoensis</i>	Idaho bentgrass	Native	Pres	Jul-Aug			X		

Appendix D. Confirmed, historical, and reported taxa of Cedar Breaks National Monument, organized by life form with ecological notes, cont.

Family	Species name	Common name	Nativity	Park status	Flower time	Sub Fir	White Fir	Sub Mdw	Wet	Comments
<i>Perennial Graminoids, cont.</i>										
Gramineae (Poaceae)	<i>Blepharoneuron tricholepis</i>	pine dropseed	Native	Pres	Jul-Sep	X		X		
Gramineae (Poaceae)	<i>Bromus anomalus</i>	nodding brome	Native	Pres	Jun-Aug			X		
Gramineae (Poaceae)	<i>Bromus carinatus</i>	mountain brome	Native	Pres	May-Aug	X	X	X		
Gramineae (Poaceae)	<i>Bromus ciliatus</i>	fringed brome	Native	Pres	Jul-Sep	X	X			
Gramineae (Poaceae)	<i>Bromus inermis</i> var. <i>inermis</i>	smooth brome	Intro	Pres	Jun-Aug			X	X	
Gramineae (Poaceae)	<i>Calamagrostis scopulorum</i>	Jones' reedgrass	Native	Pres	Jul-Aug		X		X	Barrens
Gramineae (Poaceae)	<i>Calamagrostis stricta</i>	slimstem reedgrass	Native	Pres	Jul-Aug				X	
Gramineae (Poaceae)	<i>Dactylis glomerata</i>	orchard grass	Intro	Pres	Jun-Aug			X		
Gramineae (Poaceae)	<i>Danthonia intermedia</i>	timber oatgrass	Native	Pres	Jul-Aug			X		
Gramineae (Poaceae)	<i>Deschampsia cespitosa</i>	tufted hairgrass	Native	Pres	Jul-Sep			X	X	
Gramineae (Poaceae)	<i>Elymus cinereus</i>	Great Basin wildrye	Native	Pres	Jun-Aug			X	X	
Gramineae (Poaceae)	<i>Elymus elymoides</i>	squirreltail	Native	Pres	May-Aug	X	X	X	X	
Gramineae (Poaceae)	<i>Elymus glaucus</i>	blue wildrye	Native	Pres	Jul-Aug			X		
Gramineae (Poaceae)	<i>Elymus hispidus</i>	intermediate wheatgrass	Intro	Pres	Jun-Aug			X		Disturbed
Gramineae (Poaceae)	<i>Elymus lanceolatus</i>	thickspike wheatgrass	Native	Pres	Jun-Aug			X		
Gramineae (Poaceae)	<i>Elymus scribneri</i>	Scribner wheatgrass	Native	Pres	Jul-Aug	X	X			
Gramineae (Poaceae)	<i>Elymus smithii</i>	western wheatgrass	Native	Pres	Jun-Aug			X		
Gramineae (Poaceae)	<i>Elymus spicatus</i>	bluebunch wheatgrass	Native	Pres	Jun-Aug			X		
Gramineae (Poaceae)	<i>Elymus trachycaulus</i>	slender wheatgrass	Native	Pres	Jun-Aug	X	X	X	X	
Gramineae (Poaceae)	<i>Festuca ovina</i> var. <i>brevifolia</i>	alpine sheep fescue	Native	Pres	Jul-Aug			X		
Gramineae (Poaceae)	<i>Festuca ovina</i> var. <i>saximontana</i>	Rocky Mountain fescue	Native	Pres	Jul-Aug			X		
Gramineae (Poaceae)	<i>Glyceria striata</i>	fowl mannagrass	Native	Pres	Jul-Aug				X	
Gramineae (Poaceae)	<i>Hordeum brachyantherum</i>	meadow barley	Native	Pres	Jun-Aug			X	X	
Gramineae (Poaceae)	<i>Koeleria macrantha</i>	junegrass	Native	Pres	Jun-Aug			X	X	
Gramineae (Poaceae)	<i>Melica bulbosa</i>	oniongrass	Native	Pres	May-Aug			X		
Gramineae (Poaceae)	<i>Muhlenbergia andina</i>	foxtail muhly	Native	Pres	Jul-Sep				X	
Gramineae (Poaceae)	<i>Muhlenbergia richardsonis</i>	mat muhly	Native	Pres	Jul-Sep	X		X		
Gramineae (Poaceae)	<i>Oryzopsis micrantha</i>	littleseed ricegrass	Native	Pres	Jun-Aug			X		

Appendix D. Confirmed, historical, and reported taxa of Cedar Breaks National Monument, organized by life form with ecological notes, cont.

Family	Species name	Common name	Nativity	Park status	Flower time	Sub Fir	White Fir	Sub Mdw	Wet	Comments
<i>Perennial Graminoids, cont.</i>										
Gramineae (Poaceae)	<i>Phleum alpinum</i>	alpine timothy	Native	Pres	Jun-Aug			X		X
Gramineae (Poaceae)	<i>Phleum pratense</i>	timothy	Intro	Pres	Jun-Sep			X		X
Gramineae (Poaceae)	<i>Poa arctica</i>	Arctic bluegrass	Native	Hist	Jul-Aug	X	X			
Gramineae (Poaceae)	<i>Poa compressa</i>	Canada bluegrass	Intro	Pres	Jun-Aug					X
Gramineae (Poaceae)	<i>Poa fendleriana</i>	muttongrass	Native	Pres	May-Aug	X	X	X		
Gramineae (Poaceae)	<i>Poa glauca</i> var. <i>glauca</i>	interior bluegrass	Native	Pres	Jun-Aug	X	X	X		
Gramineae (Poaceae)	<i>Poa nervosa</i> var. <i>wheeleri</i>	Wheeler bluegrass	Native	Pres	Apr-Aug	X	X			
Gramineae (Poaceae)	<i>Poa pratensis</i>	Kentucky bluegrass	Intro	Pres	May-Aug	X	X	X		X
Gramineae (Poaceae)	<i>Poa secunda</i>	Sandberg's bluegrass	Native	Pres	Apr-Sep	X		X		X
Gramineae (Poaceae)	<i>Stipa comata</i> var. <i>comata</i>	needle-and-thread	Native	Rep	May-Jul		X			
Gramineae (Poaceae)	<i>Stipa hymenoides</i>	Indian ricegrass	Native	Pres	May-Jul		X			
Gramineae (Poaceae)	<i>Stipa lettermanii</i>	Letterman's needlegrass	Native	Pres	Jul-Sep	X	X	X		
Gramineae (Poaceae)	<i>Stipa nelsonii</i> var. <i>nelsonii</i>	Nelson's needlegrass	Native	Pres	Jun-Sep			X		
Gramineae (Poaceae)	<i>Trisetum spicatum</i>	spike trisetum	Native	Pres	Jul-Sep	X	X	X		X
Juncaceae	<i>Juncus arcticus</i>	Baltic rush	Native	Pres	May-Jul					X
Juncaceae	<i>Juncus confusus</i>	perplexing rush	Native	Pres	Jun-Aug			X		X
Juncaceae	<i>Juncus ensifolius</i> var. <i>brunnescens</i>	Tracy's rush	Native	Pres	Jun-Aug					X
Juncaceae	<i>Juncus ensifolius</i> var. <i>montanus</i>	mountain rush	Native	Pres	Jun-Aug					X
Juncaceae	<i>Juncus longistylus</i>	longstyle rush	Native	Pres	Jun-Aug					X
Juncaceae	<i>Juncus mertensianus</i>	Mertens' rush	Native	Pres	Jul-Aug					X
Juncaceae	<i>Luzula parviflora</i>	small-flowered woodrush	Native	Pres	Jun-Aug	X				X
Annual Graminoids										
Gramineae (Poaceae)	<i>Bromus tectorum</i>	cheatgrass	Intro	Pres	May-Jul		X	X		Disturbed
Gramineae (Poaceae)	<i>Muhlenbergia filiformis</i>	pullup muhly	Native	Pres	Jun-Aug					X
Gramineae (Poaceae)	<i>Poa annua</i>	annual bluegrass	Intro	Pres	Apr-Sep					X
Ferns and Allies										
Equisetaceae	<i>Equisetum arvense</i>	field horsetail	Native	Pres	NA					X
Equisetaceae	<i>Equisetum laevigatum</i>	smooth scouring-rush	Native	Pres	NA					X
Equisetaceae	<i>Equisetum variegatum</i>	northern scouring-rush	Native	Pres	NA					X

Appendix D. Confirmed, historical, and reported taxa of Cedar Breaks National Monument, organized by life form with ecological notes, cont.

Family	Species name	Common name	Nativity	Park status	Flower time	Sub Fir	White Fir	Sub Mdw	Wet	Comments
<i>Ferns and Allies, cont.</i>										
Equisetaceae	<i>Equisetum x ferrisii</i>	Ferris' scouring-rush	Native	Pres	NA				X	
Polypodiaceae (Adiantaceae)	<i>Cryptogramma crispa</i> var. <i>acrostichoides</i>	parsley-fern	Native	Hist	NA	X				Talus
Polypodiaceae (Aspleniaceae)	<i>Cystopteris fragilis</i>	brittle bladder fern	Native	Pres	NA	X			X	

The Department of the Interior protects and manages the nation's natural resources and cultural heritage; provides scientific and other information about those resources; and honors its special responsibilities to American Indians, Alaska Natives, and affiliated Island Communities.

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