

Vascular Plant Flora of the Ashdown Gorge Wilderness Area and Additions to the Flora of Cedar Breaks National Monument

Prepared for Cedar Breaks National Monument,
The Colorado Plateau Cooperative Ecosystem Studies Unit
And Southern Utah University

By Walter Fertig
Moenave Botanical Consulting, Kanab, UT

24 November 2009



CPCESU Cooperative Agreement # H1200-004-0002

Table of Contents

	Page
Introduction	3
Methods	3
Results and Discussion	
Search for <i>Zion draba</i>	6
Updates to Cedar Breaks National Monument Flora	7
Flora of Ashdown Gorge Wilderness Area	11
Comparison of the Floras of Cedar Breaks National Monument and Ashdown Gorge Wilderness Area	13
Literature Cited	17

Figures

1. Map of Cedar Breaks National Monument and Ashdown Gorge Wilderness Area (Dixie National Forest)	4
2. Collection Sites and Survey Routes in Ashdown Gorge Wilderness Area, 2006-2009	5
3. <i>Zion draba</i> (<i>Draba asprella</i> var. <i>zionensis</i>) from Zion National Park	6
4. Moonwort (<i>Botrychium lunaria</i>) from the north rim of Cedar Breaks Amphitheater off of the Rattlesnake Trail	10
5. King's yellow flax (<i>Linum kingii</i>) from Tri-Story Canyon	13

Tables

1. Revised Statistical Summary of the Flora of Cedar Breaks National Monument .	8
2. New Vascular Plant Taxa Confirmed for Cedar Breaks National Monument in 2009	9
3. Statistical Summary of the Flora of Ashdown Gorge Wilderness Area	12
4. Cumulative Statistical Summary of the Flora of Cedar Breaks National Monument and the Ashdown Gorge Wilderness Area	14
5. Species Richness, Number of Species in Common, and Jaccard's Coefficient of Similarity between Cedar Breaks National Monument and Other Protected Areas of Utah	16

Appendices

A. Annotated Checklist of the Flora of Ashdown Gorge Wilderness Area, Iron County, Utah	18
--	----

Front Cover: Rock columbine (*Aquilegia scopulorum* var. *scopulorum*) on Claron talus rubble on steep slopes of the Twisted Forest, Ashdown Gorge Wilderness Area, Iron County, UT. Photo by Douglas N. Reynolds, 15 July 2008.

Introduction

From 2005-2008, the National Park Service funded several research projects to document the vascular plant flora and distribution of selected rare plant species in Cedar Breaks National Monument (Fertig 2009a, Fertig et al. 2009, Fertig and Reynolds 2007, 2009). In 2009, some carry-over funds were available to continue this work. Studies in 2009 focused on three specific objectives:

1. Confirmation of the presence of Zion draba (*Draba asprella* var. *zionensis*) in Ashdown Canyon;
2. Additional surveys for new vascular plant species in the Ashdown Canyon region of Cedar Breaks National Monument;
3. Compilation of a vascular plant checklist for the Ashdown Gorge Wilderness Area of Dixie National Forest, located immediately north and west of Cedar Breaks National Monument (and recently proposed for potential annexation by the National Park Service if Cedar Breaks were to be changed legislatively from a national monument to a national park).

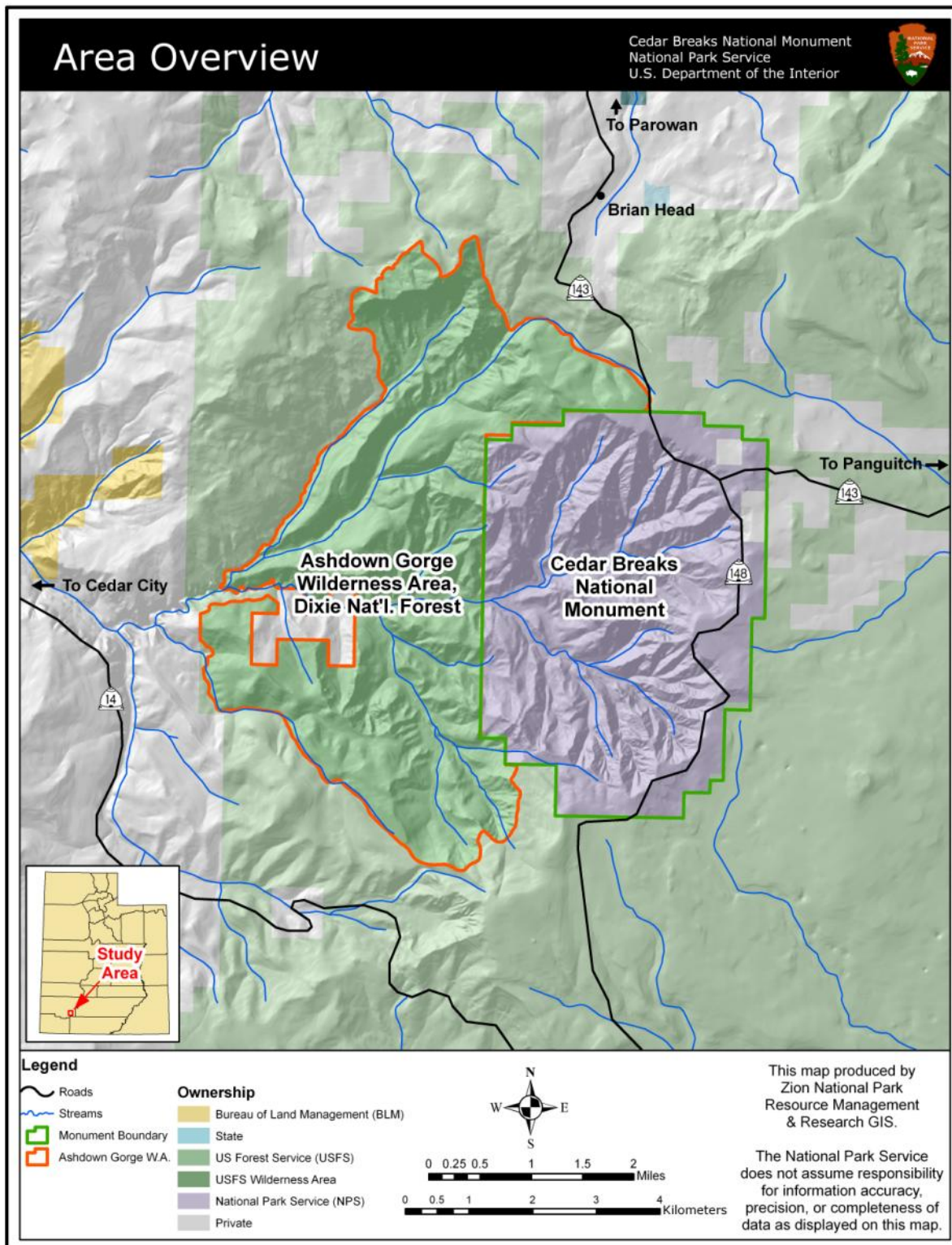
The following report summarizes findings from the 2009 field season. It contains updated information on the status of Zion draba, a revised statistical summary of the flora of Cedar Breaks National Monument, an annotated checklist of the flora of Ashdown Gorge Wilderness Area, and a comparison of the floristic composition of the wilderness and the monument.

Methods

During the summer of 2009, I made two trips into the bottom of the Ashdown Gorge portion of Cedar Breaks National Monument (25 June and 18 August) to survey potential habitat of Zion draba and search White fir forest and wetland sites for potential new species for the monument flora. I made four additional trips into the Ashdown Gorge Wilderness Area from 24 June to 18 August 2009 to document the local flora and build upon a preliminary checklist I started developing in 2006. Survey sites and routes (Figures 1, 2) were selected to encompass the full array of major vegetation types and geologic substrates exposed within the wilderness area.

Nearly all new species encountered in the monument or the wilderness area during 2009 were either photographed (if populations were too small for sampling) or collected for voucher specimens. Collections from the monument will be deposited in the Cedar Breaks National Monument herbarium (housed at Zion National Park), while those from the wilderness area will be deposited at Brigham Young University. Additional information was recorded on habitat, abundance, and location within the study area for each species.

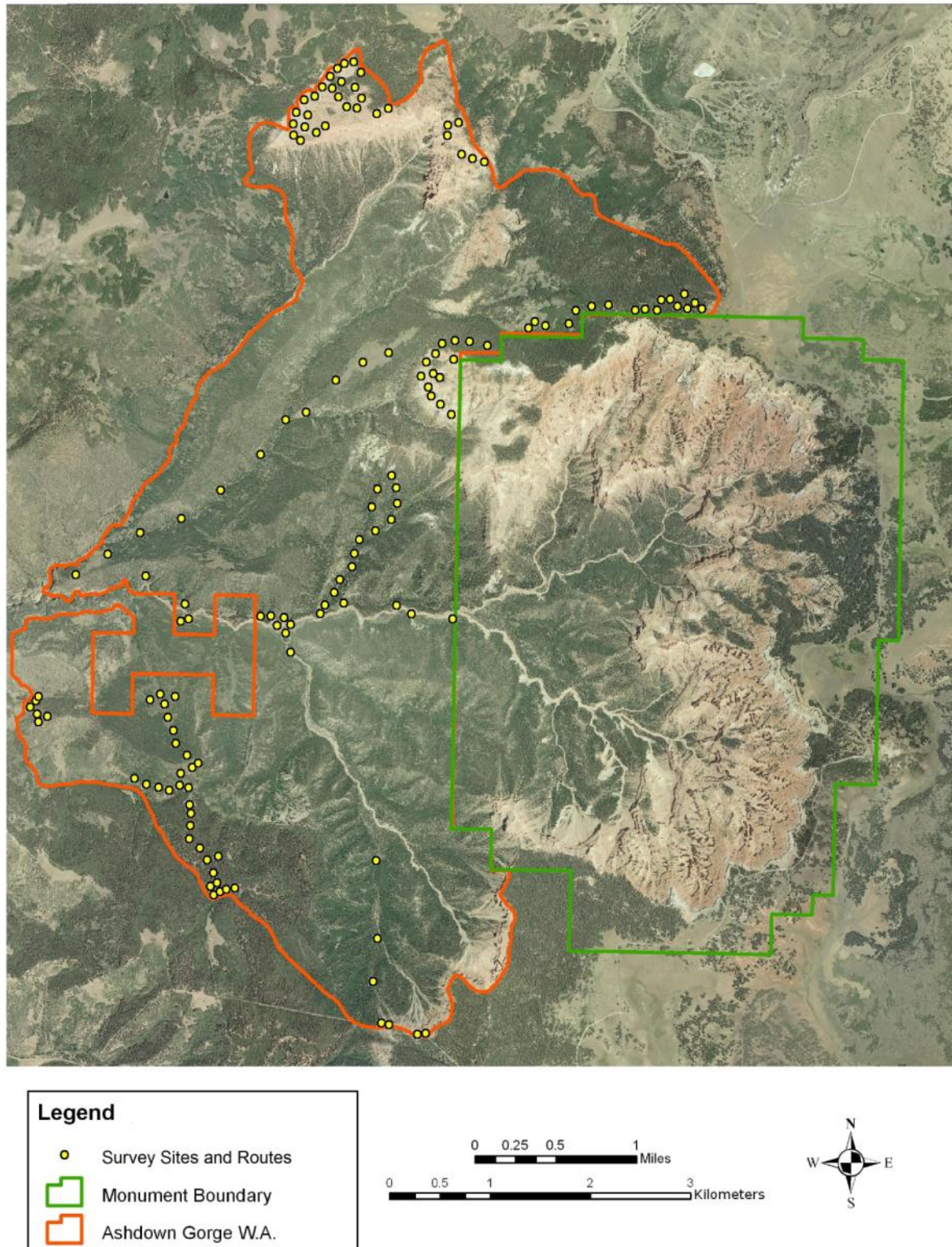
Figure 1. Map of Cedar Breaks National Monument and Ashdown Gorge Wilderness Area (Dixie National Forest).



File: Firefly D:\gis_projects\CEBR\1505_1589_rare_plant_gps\report_mxds\Area_Overview.mxd

Date: November 27, 2007

Figure 2. Collection Sites and Survey Routes in Ashdown Gorge Wilderness Area, 2006-2009. Map derived from digital orthophoto image provided by the Zion National Park GIS shop.



The final checklist for the Ashdown Gorge Wilderness Area (Appendix A) was annotated to include supplemental information on synonyms, life form, geographic range (within the context of Utah), native status, data source (collector and collection number or observation data), year of earliest documentation, and other comments of interest.

Results and Discussion

Search for *Zion draba*

Zion draba is a narrow endemic of the White Cliffs, Zion Canyon, Kolob Plateau, and Camp Creek areas of Washington, Kane, and Iron counties, Utah. The majority of all known populations of this species are found in Zion National Park, Grand Staircase-Escalante National Monument, and BLM lands. Most populations occur on Navajo Sandstone cliffs and canyons in Ponderosa pine and Two-needle pinyon/Utah juniper communities at elevations of 3450-8530 feet. *Zion draba* has also been reported from the Deep Creek Mountains of Juab County, Utah (Holmgren et al. 2005; Welsh et al. 2003), but these reports are now believed to be erroneous (Welsh et al. 2008).

Draba asprella var. *zionensis* is included in the documented flora of Cedar Breaks National Monument (Fertig 2009a) based on a 1977 collection in the CEBR herbarium (Dickman s.n.) that has been corroborated by two authorities. Unfortunately, the label of the Dickman collection does not include any specific locality information other than “Cedar Breaks National Monument”, nor does it contain any habitat data. The report for Cedar Breaks is unusual in that the typical Navajo Sandstone habitat of this species is not present in the monument.



Figure 3. *Zion draba* (*Draba asprella* var. *zionensis*) from Navajo Sandstone ledges along the East Rim Trail above Weeping Rock, Zion National Park. Photo by Walter Fertig, April 2009.

During 2007 and 2008, Doug Reynolds and I conducted a survey of the Cedar Breaks area for *Zion draba* and 17 other globally rare and locally endemic vascular plant species (Fertig and Reynolds 2007, 2009). These surveys were conducted primarily on outcrops of the reddish-orange and white Claron limestone, but also included exposures of the Straight Cliffs, Wahweap, and Brian Head formations. All of the target species were relocated during this survey except for *Zion draba*. Fertig and Reynolds (2009) reported that potential habitat might still be present for this species on white chalky sandstone cliffs of the Wahweap Formation near The Quarry along Rattle Creek and on other tributaries of Ashdown Creek. These areas were surveyed late in the summer of 2008, after *Draba asprella* var. *zionensis* is typically in flower, and thus populations could have been missed had they been present.

On 25 June, 2009, I revisited The Quarry area with monument superintendent Paul Roelandt and Dr. Fred Govedich of Southern Utah University. We climbed the white cliffs of The Quarry to explore a series of springs and hanging gardens, as well as bare cliff exposures. The sandstone in the area was observed to be very crumbly and of a higher clay content than is typical of Navajo Sandstone. No populations of *Zion draba* were observed in this habitat.

I returned to the area on 18 August, 2009, to explore the Spring Creek drainage on the north side of Ashdown Gorge. This area also has exposures of Wahweap Sandstone as well as the Straight Cliffs formation. A small population of Breaks draba (*Draba subalpina*) was found on siltstone outcrops and steep, S-facing slopes in the area, but no occurrences of *D. asprella* var. *zionensis*.

After three years of searching within Cedar Breaks National Monument and adjacent areas of the Ashdown Gorge Wilderness and Dixie National Forest, Dickman's population of *Zion draba* has still not been relocated. Extensive areas remain unsurveyed within the Cedar Breaks area, so this species might still await rediscovery. Another possibility is that the Dickman specimen was actually made in Zion National Park (where Dickman also made collections in the 1970s) but was inadvertently mis-labeled as coming from Cedar Breaks. For now, the species should probably remain on the Cedar Breaks National Monument species checklist, but with the note that it has not been relocated in recent years and might be erroneous.

Updates to Cedar Breaks National Monument Flora

Surveys in 2009 resulted in the discovery of 11 new vascular plant species for Cedar Breaks National Monument (Tables 1, 2), increasing the total number of species confirmed or reliably reported for the monument from 354 to 365 (an increase of 3%). The new discoveries include one new vascular plant family (Ophioglossaceae), increasing the number of documented families to 57 (Table 1). Six of the newly documented species had previously been identified as potential members of the flora (Fertig 2009a, Appendix B), but had not yet been documented within the monument. Eight of the new species were discovered during surveys of wetland sites in the bottom of Ashdown Gorge, two were discovered along the rim of the Cedar Breaks Amphitheater, and one

Table 1. Revised Statistical Summary of the Flora of Cedar Breaks National Monument. This table updates Table 3.1 from Fertig (2009a) and Table 5 from Fertig et al. (2009) and reflects new species discovered during the 2009 field season. The number of taxa and families is based on taxonomic concepts of Welsh et al. (2008). Life form and biogeographic diversity categories are defined more fully in Appendix A (pg 18).

Flora of Cedar Breaks National Monument	Present or Historical in Park	Reported for Park	Total
Taxonomic Diversity			
Total # of Taxa (including varieties and sub-species)	358	7	365
# of Full Species (excluding varieties and sub-species)	346	5	351
# of Families	57	0	57
Life Form Diversity			
# of Tree Taxa	15	1	16
# of Shrub Taxa	36	1	37
# of Perennial Forb Taxa	208	3	211
# of Annual Forb Taxa	13	1	14
# of Perennial Graminoid Taxa	72	1	73
# of Annual Graminoid Taxa	3	0	3
# of Fern Taxa	8	0	8
Biogeographic Diversity			
# of Introduced Taxa	19	1	20
# of Locally Endemic Taxa	18	0	18
# of Regionally Endemic Taxa	20	0	20
# of Disjunct Taxa	2	0	2
# of Peripheral Taxa	0	0	0
# of Sparse Taxa	7	0	7
# of Widespread Taxa	292	6	298
Total # Native Taxa	338	6	344

Table 2. New Vascular Plant Taxa Confirmed for Cedar Breaks National Monument in 2009

Family	Species	Synonyms	Common Name	Life form	Range	Status	Pop Size	Source	Year doc	Comments
Aceraceae	<i>Acer grandidentatum</i>		Bigtooth maple	Tree	Wide	Pres	Unc	Fertig 25115 (CEBR)	2009	Previously on potential list
Boraginaceae	<i>Lappula occidentalis</i> var. <i>occidentalis</i>	<i>L. redowskii</i> var. <i>redowskii</i>	Western stickseed	A-Forb	Wide	Pres	Rare	Fertig, Holmgren, & Holmgren 25071 (CEBR)	2009	First record for Iron County, UT
Caryophyllaceae	<i>Stellaria umbellata</i>		Umbrella starwort	P-Forb	Wide	Pres	Unc	Topp ST08060901 (CEBR)	2009	Previously on potential list
Compositae (Asteraceae)	<i>Cirsium vulgare</i>		Bull thistle	P-Forb	Intro	Pres	Rare	Fertig 25129 (CEBR)	2009	Prev. on potential list. Native to Europe.
Compositae (Asteraceae)	<i>Lactuca serriola</i>		Prickly lettuce	A-Forb	Intro	Pres	Unc	Fertig 25130 (CEBR)	2009	Native to Europe
Cyperaceae	<i>Carex capillaris</i>		Hair sedge	P-Grass	Wide	Pres	Rare	Fertig 25118 (CEBR)	2009	Previously on potential list
Liliaceae (Calochortaceae)	<i>Disporum trachycarpum</i>	<i>Prosartes trachycarpa</i>	Rough-fruit fairy-bells	P-Forb	Wide	Pres	Unc	Fertig 25116 (CEBR)	2009	Previously on potential list
Onagraceae	<i>Epilobium brachycarpum</i>	<i>E. paniculatum</i>	Autumn willow-herb	A-Forb	Wide	Pres	Unc	Fertig 25131 (CEBR)	2009	Previously on potential list
Ophioglossaceae	<i>Botrychium lunaria</i>		Moonwort	Fern	Sparse	Pres	Rare	Fertig photo (see page 10)	2009	
Orchidaceae	<i>Epipactis gigantea</i>		Giant helleborine	P-Forb	Wide	Pres	Rare	Fertig 24768 (CEBR)	2009	
Ranunculaceae	<i>Actaea rubra</i>	<i>A. rubra</i> ssp. <i>arguta</i>	Red baneberry	P-Forb	Wide	Pres	Unc	Fertig 25117 (CEBR)	2009	

Codes: See Fertig (2009a, pp 21-22) or Appendix A (page 18) for a full explanation of all categories and codes. Life form: A-Forb = Annual Forb (non-woody broad-leaved plants that complete their life cycle in one year), Ferns and fern-allies (non-flowering plants that reproduce by spores instead of seeds), P-Forb = Perennial Forb (non-woody broad-leaved plants that live for multiple years), P-Grass = Perennial Graminoid (grass-like plants that live for multiple years), Tree = Trees (woody perennials with a single stem or trunk over 3.5 m tall). Range: Intro = Introduced (non-native in Utah), Sparse = 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), Wide = Widespread (taxa have global ranges exceeding 250,000 square km and occur over at least 10% of the state). Park Status: Pres = Present. Pop. Size (Population Size): Unc = Uncommon (taxa with low to medium-sized populations, a narrow ecological amplitude, or small range across the monument), Rare = Rare (taxa with low population numbers and restricted to a single location).

was found while establishing upland monitoring plots for the Northern Colorado Plateau Network (Sarah Topp's discovery of *Stellaria umbellata*).

The most notable discovery in 2009 was documentation of Moonwort (*Botrychium lunaria*) along the amphitheater rim, just south of the Rattlesnake Trail. I found Moonwort on 13 August growing among orangish-red Claron limestone talus in a cushion plant community with several rare plant species, including Peterson's campion (*Silene petersonii*), Podunk groundsel (*Senecio malmstenii*), and Least spring-parsley (*Cymopterus minimus*). Previously, Doug Reynolds and I had surveyed this area on several occasions, but we had not detected the diminutive fern. Only one individual was observed at the site (Figure 4). Due to its small population size, I documented the occurrence with photos rather than collecting a voucher. *Botrychium lunaria* is categorized as "Infrequent" by the Utah Conservation Data Center and ranked S1 (extremely rare) within Utah, despite a relatively broad distribution in the mountainous portions of the state (Utah Division of Wildlife Resources 1998). Many related *Botrychium* taxa are considered species of concern as they are rarely observed because of their small size and ability to persist underground for two or more years. Significant areas of potential habitat exist for Moonwort along the Cedar Breaks Amphitheater rim, particularly in areas that may have small seeps near the surface (as at this site and others along the north and eastern rim).

The ten other new species documented in 2009 all occur widely across Utah and western North America. Bull thistle (*Cirsium vulgare*) and Prickly lettuce (*Lactuca serriola*) are introduced species, bringing the total number of exotic plant taxa in Cedar Breaks National Monument to 20 (Table 1). Neither species is classified as Noxious in the state of Utah.

In addition to new species discoveries in 2009, one historical species was relocated at Cedar Breaks. Bill Gray found a population of Twincrest onion (*Allium bisceptrum*) near the monument campground/picnic area in July 2009. This species had not been recorded in Cedar Breaks National Monument since 1947 (Fertig 2009a).



Figure 4. Moonwort (*Botrychium lunaria*) from the north rim of Cedar Breaks Amphitheater in Cedar Breaks National Monument (just south of the Rattlesnake Trail, T36S R9W S23 NE4 of NW4NW4, UTM zone 12, 336911E 4169953N NAD83). Photo by Walter Fertig, 13 August 2009.

Flora of Ashdown Gorge Wilderness Area

The Ashdown Gorge Wilderness Area is located due north and west of Cedar Breaks National Monument (Figure 1). The wilderness was officially designated by Congress in 1984 and is presently managed by Dixie National Forest. In 2006, the Iron County Commission proposed congressional action that would expand Cedar Breaks National Monument to include the Ashdown Gorge Wilderness and private inholdings, with the entire area being renamed Cedar Breaks National Park. As of 2009, no legislation has been passed by Congress to make the proposal a reality.

The north and south ends of the Ashdown Gorge Wilderness include extensions of the Cedar Breaks Amphitheater rim and colorful badland outcrops of the Claron Formation. An extensive area of Bristlecone pine (*Pinus longaeva*) woodland and cushion plant communities occur in the Twisted Forest along the north boundary of the Wilderness and contains habitat for 13 rare and locally endemic plant species (Fertig and Reynolds 2009). Most of the Wilderness Area is contained within the broad bowl of Ashdown Creek and its main tributaries that drain the Cedar Breaks Amphitheater. Forests along the upper slopes of the bowl are dominated by Engelmann spruce (*Picea engelmannii*) and Subalpine fir (*Abies lasiocarpa*). Lower slopes and the valley bottom are clothed primarily by White fir (*Abies concolor*), Douglas-fir (*Pseudotsuga menziesii*), Ponderosa pine (*Pinus ponderosa*), and scattered patches of Quaking aspen (*Populus tremuloides*). Ashdown Creek is a perennial, boulder-lined stream of Claron alluvium lined with patches of Narrowleaf cottonwood (*Populus angustifolia*) and open gravel bars. Small meadows occur sporadically, especially on exposures of volcanic clay soil on ridgetops and slopes. At 7043 acres, Ashdown Gorge Wilderness is about 12% larger than Cedar Breaks National Monument and is also about 600 feet lower in elevation (the full elevational range of the wilderness is 7500-10500 feet).

Aside from the Twisted Forest area, relatively little botanical exploration has been conducted within the Ashdown Gorge Wilderness Area (Mark Madsen, Dixie NF botanist, personal communication). Starting in 2006, I have made 18 trips into the Ashdown Gorge Wilderness to map the distribution of rare plants and to develop a baseline checklist of the area's flora (Figure 2). Though still preliminary, the results of these studies are shown in Appendix A and summarized in Table 3.

To date, 308 vascular plant species from 51 families have been documented in the Ashdown Gorge Wilderness Area (Table 3). Of these, 274 species are represented by voucher specimens and 34 are known from photographs or observations (cover and Figure 5). As many as 20 of the species recorded for the study area may be new distribution records for Iron County, Utah. The flora of Ashdown Gorge Wilderness accounts for 35% of the 891 species now known for Iron County and 8.6% of the 3594 native and naturalized vascular plants of Utah (Welsh et al. 2008).

Ecologically, trees and shrubs are the dominant components of the vegetation of Ashdown Gorge, but collectively these species represent just 16.9% of the flora of the area. Perennial forbs account for nearly 57% of all species in the flora, followed by perennial grasses with almost 16% of total species richness. Annual forbs and grasses contribute

Table 3. Statistical Summary of the Flora of Ashdown Gorge Wilderness Area. The number of taxa and families is based on taxonomic concepts of Welsh et al. (2008). Life form and biogeographic diversity categories are defined more fully in Appendix A (pg 18).

Flora of Ashdown Gorge Wilderness Area	Present	Observed	Total
Taxonomic Diversity			
Total # of Taxa (including varieties and sub-species)	274	34	308
# of Full Species (excluding varieties and sub-species)	269	33	302
# of Families	51	0	51
Life Form Diversity			
# of Tree Taxa	15	0	15
# of Shrub Taxa	32	5	37
# of Perennial Forb Taxa	153	22	175
# of Annual Forb Taxa	19	4	23
# of Perennial Graminoid Taxa	48	1	49
# of Annual Graminoid Taxa	1	2	3
# of Fern Taxa	6	0	6
Biogeographic Diversity			
# of Introduced Taxa	14	2	16
# of Locally Endemic Taxa	19	1	20
# of Regionally Endemic Taxa	11	3	14
# of Disjunct Taxa	2	0	2
# of Peripheral Taxa	0	0	0
# of Sparse Taxa	5	0	5
# of Widespread Taxa	223	28	21
Total # Native Taxa	260	32	292

Figure 5. King's yellow flax (*Linum kingii*) from Tri-Story Canyon in the Ashdown Gorge Wilderness. Photo by Walter Fertig, September 2008.



8.5% of the flora. Ferns and fern-allies are relatively poorly represented in the wilderness, with just 1.9% of all species (Table 3).

At least 34 of the plant species from the Ashdown Gorge Wilderness are local or regional endemics restricted primarily to the mountains of southern Utah. Of these, 15 are considered species of management concern by Cedar Breaks National Monument (Fertig and Reynolds 2009). Nearly 82% of the species in the wilderness are widespread over Utah and western North America. Only 16 species from the wilderness are not native to Utah and none are recognized as noxious weeds by the state of Utah. The percentage of introduced species in the Ashdown Gorge Wilderness Area (5.2%) is less than half the statewide average of 13.5% (Fertig 2007).

Comparison of the Floras of Cedar Breaks National Monument and Ashdown Gorge Wilderness Area

Based on present knowledge, Cedar Breaks National Monument has 57 more vascular plant species than its neighbor, the Ashdown Gorge Wilderness Area. Of the 365 plant taxa recorded for Cedar Breaks, 118 species (32.3%) are not yet known from the Ashdown Gorge Wilderness (Table 4). Likewise, 61 of the 308 plant taxa from the wilderness area (19.8%) have not been found in the monument. Overall, 247 species are known from both areas.

Jaccard's Coefficient of Similarity (JCS)* is a useful way to compare the similarity of two different floras based on their total species richness and number of taxa shared in

*The formula of Jaccard's Coefficient of Similarity is defined as $C/N_1 + N_2 - C$ where C = the number of species shared in common between two floras, N₁ = the number of species in flora # 1, and N₂ = the number of species in flora # 2. The higher the value of JCS, the more similar the two floras being compared.

Table 4. Cumulative Statistical Summary of the Flora of Cedar Breaks National Monument (CEBR) and the Ashdown Gorge Wilderness Area (AGWA). The number of taxa and families is based on taxonomic concepts of Welsh et al. (2008). Life form and biogeographic diversity categories are defined more fully in Appendix A (pg 18).

Flora of Cedar Breaks National Monument and the Ashdown Gorge Wilderness Area	Present	Observed	Total
Taxonomic Diversity			
Total # of Taxa (including varieties and sub-species)	412	14	426
# of Full Species (excluding varieties and sub-species)	397	11	408
# of Families	58	0	58
Life Form Diversity			
# of Tree Taxa	16	0	16
# of Shrub Taxa	45	0	45
# of Perennial Forb Taxa	234	10	244
# of Annual Forb Taxa	26	3	29
# of Perennial Graminoid Taxa	79	0	79
# of Annual Graminoid Taxa	3	1	4
# of Fern Taxa	9	0	9
Biogeographic Diversity			
# of Introduced Taxa	23	2	25
# of Locally Endemic Taxa	21	0	21
# of Regionally Endemic Taxa	17	2	19
# of Disjunct Taxa	2	0	2
# of Peripheral Taxa	0	0	0
# of Sparse Taxa	10	0	10
# of Widespread Taxa	339	10	349
Total # Native Taxa	389	12	401
Comparison Between Cedar Breaks NM and Ashdown Gorge WA			
# of Taxa only in CEBR	114	4	118
# of Taxa only in AGWA	51	10	61

common. Pairs of floras with high JCS values typically share a high number of species in common, are of comparable area, and often are relatively close geographically or have similar vegetation types and environments. The JCS value for Cedar Breaks National Monument and Ashdown Gorge Wilderness is 0.579 (Table 5). This value is the highest of any pair wise comparison between Cedar Breaks and other national parks, monuments, historical sites, and recreation areas in Utah managed by the National Park Service or Bureau of Land Management's National Landscape Conservation System (Fertig 2009b). The flora of Ashdown Gorge Wilderness Area is nearly twice as similar to Cedar Breaks as the next closest park, Bryce Canyon National Park. The similarity of Cedar Breaks National Monument to other protected areas drops precipitously, as the other units lack the extensive Claron habitats found in Ashdown Gorge and Bryce Canyon and are more geographically distant.

If Cedar Breaks National Monument were expanded to include Ashdown Gorge Wilderness Area, as proposed recently by the Iron County Commission, the total flora of "Cedar Breaks National Park" would reach 426 species. Cedar Breaks would still rank 10th in size among Utah parklands, but would be nearly equal in species richness to Natural Bridges National Monument (currently in ninth place with 428 taxa, Table 5). Among the notable additions to the Cedar Breaks flora would be one new plant family (Juncaginaceae), five more introduced species (*Capsella bursa-pastoris*, *Descurainia sophia*, *Thlaspi arvense*, *Trifolium repens*, and *Veronica biloba*), and four additional local or regional endemics (none of which are sufficiently rare to warrant special management attention). Adding the Ashdown Gorge Wilderness would also increase the number of shrub species in the park by 17% and the number of annual forbs by 52% (Tables 1 & 4).

Additional field surveys will undoubtedly continue to increase the known vascular plant flora of the Ashdown Gorge Wilderness Area and Cedar Breaks National Monument. Surveys are especially needed in springs, boggy wetlands, and White fir-Ponderosa pine forests in the bottom of Ashdown Canyon in the wilderness and monument. The early season flora of upland meadows (especially dry, south-facing slopes) is also under-sampled within the Ashdown Gorge Wilderness. Between 50-100 plant species probably remain to be documented within the combined study area. Full documentation of the floras of both Cedar Breaks National Monument and the Ashdown Gorge Wilderness Area is especially important as these two areas are among the best protected sites for native biological diversity in the high plateaus region of south-central Utah. Knowing the diversity of plant species in the Cedar Breaks area, especially rare taxa and invasive weeds, will enable land managers to better meet their management responsibilities.

Acknowledgments: I would like to thank the following individuals for their assistance in the field and for sharing information on the flora of the Cedar Breaks region: Dr. Douglas Reynolds (formerly of Iron County, now botanizing in the greater Boston area), Dr. Noel and Dr. Patricia Holmgren of the New York Botanical Garden, Dr. Bill Gray of the Utah Native Plant Society, Sarah Topp and Dana Witwicki of the Northern Colorado Plateau Network, and Paul Roelandt, superintendent of Cedar Breaks NM.

Table 5. Species Richness, Number of Species in Common, and Jaccard's Coefficient of Similarity between Cedar Breaks National Monument and Other Protected Areas of Utah. Values for all protected areas except Ashdown Gorge Wilderness Area and Cedar Breaks National Monument derived from Fertig (2009b) based on data current through the 2008 field season. Similarity values will differ slightly when applied to updated 2009 data.

Protected Area	Species Richness	# of Species in Common with Cedar Breaks NM	Jaccard's Coefficient of Similarity with Cedar Breaks NM
Arches National Park	523	73	0.091
Ashdown Gorge Wilderness Area	308	247	0.579
Bryce Canyon National Park	587	227	0.318
Canyonlands National Park	600	83	0.095
Capitol Reef National Park	888	168	0.156
Cedar Breaks National Monument	365	365	1.000
Dinosaur National Monument	757 (485 in UT)	92	0.123
Glen Canyon National Recreation Area	889 (863 in UT)	103	0.092
Golden Spike National Historic Site	149	29	0.061
Grand Staircase-Escalante National Monument	999	172	0.146
Hovenweep National Monument	340 (240 in UT)	37	0.066
Natural Bridges National Monument	428	89	0.128
Rainbow Bridge National Monument	224	32	0.059
Timpanogos Cave National Monument	235	75	0.146
Zion National Park	991	202	0.177

Literature Cited

- Fertig, W. 2007. Introduced and naturalized plants of Utah. *Sego Lily* 30(5):7-11.
- Fertig, W. 2009a. Annotated checklist of vascular flora: Cedar Breaks National Monument. Natural Resource Technical Report NPS/NCPN/NRTR-2009/173. National Park Service, Fort Collins, Colorado. 90 pp.
- Fertig, W. 2009b. Species richness and complementarity: Sizing up Utah's National Parks, Monuments, Recreation Areas, and Historic Sites. *Sego Lily* 32(5):6-7.
- Fertig, W. and D.N. Reynolds. 2007. Survey of rare plants of Cedar Breaks National Monument: Year one report. Prepared for Cedar Breaks National Monument, The Colorado Plateau Cooperative Ecosystems Studies Unit, and Southern Utah University. 52 pp.
- Fertig, W. and D.N. Reynolds. 2009. Survey of rare plants of Cedar Breaks National Monument: Final report. Prepared for Cedar Breaks National Monument, The Colorado Plateau Cooperative Ecosystems Studies Unit, and Southern Utah University. 93 pp.
- Fertig, W., S. Topp, M. Moran, and R. Weissinger. 2009. New vascular plant species discoveries in the Northern Colorado Plateau Network: 2008 update. Moenave Botanical Consulting, Kanab, UT. 24 pp.
- Holmgren, N.H., P.K. Holmgren, and A. Cronquist. 2005. Volume two, part B, subclass Dilleniidae. *Intermountain Flora, Vascular Plants of the Intermountain West, U.S.A.* New York Botanical Garden, Bronx, NY. 488 pp.
- Utah Division of Wildlife Resources. 1998. Inventory of sensitive species and ecosystems in Utah. Endemic and rare plants of Utah: An overview of their distribution and status. Report prepared for the Utah Reclamation Mitigation and Conservation Commission and US Department of the Interior. 566 pp + app.
- Welsh, S.L., N.D. Atwood, S. Goodrich, and L.C. Higgins. 2003. *A Utah Flora*, third edition, revised. Brigham Young University Print Services, Provo, UT. 912 pp.
- Welsh, S.L., N.D. Atwood, S. Goodrich, and L.C. Higgins. 2008. *A Utah Flora*, 2004-2008 summary monograph, fourth edition, revised. Brigham Young University Print Services, Provo, UT. 1019 pp.

Appendix A. Annotated Checklist of the Flora of Ashdown Gorge Wilderness Area, Iron County, Utah

Family: Family concepts and nomenclature follow *A Utah Flora* fourth edition (Welsh et al. (2008)). Widely used alternative family names are included in parentheses. Families are listed alphabetically rather than phylogenetically.

Species Name: Nomenclature for scientific names and taxonomic concepts are derived from Welsh et al. (2008). Scientific names are arranged in alphabetical rather than phylogenetic order.

Synonyms: Pertinent synonyms are included for species with alternative scientific names in other recent state or regional floras.

Common Name: Common Names are derived primarily from Welsh et al. (2008) and the Intermountain Flora (Holmgren et al. 2005 and preceding volumes).

Life Form: Life form describes 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 (P-Forb) are broad-leaved dicots or monocots with non-woody stems (at least above ground level) that live for multiple years. Annual Forbs (A-Forb) are broad-leaved dicots or monocots with non-woody stems that complete their life cycle in one year. Perennial Graminoids (P-Grss) are linear-leaved, grass-like monocots that live for multiple years. Annual Graminoids (A-Grss) are linear-leaved, grass-like monocots that complete their life cycle in one year. Ferns and fern-allies (Fern) are non-flowering vascular plants that reproduce by spores.

Range: 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 (Loc En) 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 x 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 (Reg En) 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 the state 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.

Status: Species documented within Ashdown Gorge Wilderness based on confirmed voucher specimens are considered Present (Pres). Taxa known only from unvouchered

observations or photographs are considered Observed (Obs).

Pop. Size (Population Size): Population size refers to the abundance and frequency of a species within the Ashdown Gorge Wilderness Area based on 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 wilderness area. Common (Com) taxa have large local populations but may be restricted to a single vegetation type or do not occur across the entire wilderness area. Uncommon (Unc) species 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 wilderness area. Rare taxa usually have low population numbers and are restricted to a single location in the area.

Source: Sources are the basis for inclusion of a species in the checklist. Most sources are voucher specimens, though a few are photographs or observation records. Specimen data include the collector(s), collection number, and repository.

Year Doc: Year documented indicates the first year in which a species was collected or observed within the Ashdown Gorge Wilderness Area during this study. This year does not necessarily correspond with the date of the voucher specimen cited under Source.

Comments: This column includes additional comments on the status of a particular species, the place of origin of introduced species, legal status, location of type collections from the vicinity, and other data.

Appendix A. Annotated Checklist of the Vascular Plant Flora of Ashdown Gorge Wilderness Area, Iron County, Utah

Family	Species	Synonyms	Common Name	Life form	Range	Status	Pop Size	Source	Year doc	Comments
Aceraceae	<i>Acer glabrum</i> var. <i>glabrum</i>		Rocky Mountain maple	Shrub	Wide	Pres	Unc	Fertig 24344 (BRY)	2008	Material approaches var. <i>diffusum</i>
Aceraceae	<i>Acer grandidentatum</i>		Bigtooth maple	Tree	Wide	Pres	Unc	Fertig 23377 (BRY)	2007	
Apocynaceae	<i>Apocynum androsaemifolium</i>		Spreading dogbane	P-Forb	Wide	Pres	Rare	Fertig 25110 (BRY)	2008	Specimen too immature to determine var.
Berberidaceae	<i>Mahonia repens</i>	<i>Berberis repens</i>	Oregon-grape	Shrub	Wide	Pres	Unc	Fertig 24883 (BRY)	2006	
Betulaceae	<i>Betula occidentalis</i>	<i>B. fontinalis</i>	Water birch	Tree	Wide	Pres	Unc	Fertig 23373 (BRY)	2007	
Boraginaceae	<i>Cryptantha setosissima</i>		Bristly cryptanth	P-Forb	Reg En	Obs	Rare	Obs by W. Fertig along Rattle Creek Trail, 6-09	2009	First report for Iron County?
Boraginaceae	<i>Lappula occidentalis</i> var. <i>occidentalis</i>	<i>L. redowskii</i> var. <i>redowskii</i>	Western stickseed	A-Forb	Wide	Pres	Rare	Fertig 25073 (BRY)	2009	
Boraginaceae	<i>Lithospermum multiflorum</i>		Southwestern stoneseed	P-Forb	Wide	Pres	Unc	Fertig 24351 (BRY)	2007	
Boraginaceae	<i>Mertensia arizonica</i>		Aspen bluebell	P-Forb	Wide	Pres	Com	Fertig 22756 (BRY)	2006	
Caprifoliaceae (Adoxaceae)	<i>Sambucus caerulea</i>	<i>S. nigra</i> ssp. <i>caerulea</i>	Blue elderberry	Shrub	Wide	Pres	Unc	Fertig 24876 (BRY)	2008	
Caprifoliaceae (Adoxaceae)	<i>Sambucus racemosa</i> var. <i>microbotrys</i>	<i>S. microbotrys</i>	Red elderberry	Shrub	Wide	Pres	Com	Fertig & Reynolds 24194 (BRY)	2006	
Caprifoliaceae	<i>Symphoricarpos oophilus</i> var. <i>utahensis</i>	<i>S. rotundifolius</i>	Mountain snowberry	Shrub	Wide	Pres	Unc	Fertig 24879 (BRY)	2006	
Caryophyllaceae	<i>Arenaria fendleri</i> var. <i>glabrescens</i>	<i>A. kingii</i> ssp. <i>uintahensis</i> , <i>Eremogone kingii</i> var. <i>glabrescens</i> , <i>E. kingii</i> ssp. <i>uintahensis</i>	Basin sandwort	P-Forb	Wide	Pres	Com	Fertig 23359 (BRY)	2007	Type locality of var. <i>plateauensis</i> is Cedar Breaks Rim (Maguire 19024 NY)
Caryophyllaceae	<i>Cerastium nutans</i>		Nodding chickweed	A-Forb	Sparse	Pres	Unc	Fertig 25056 (BRY)	2009	
Caryophyllaceae	<i>Lychnis drummondii</i>	<i>Silene drummondii</i> , <i>Gastrolychnis drummondii</i>	Drummond's catchfly	P-Forb	Wide	Pres	Unc	Fertig & Reynolds 24190 (BRY)	2008	

Appendix A. Annotated Checklist of the Vascular Plant Flora of Ashdown Gorge Wilderness Area, Iron County, Utah

Family	Species	Synonyms	Common Name	Life form	Range	Status	Pop Size	Source	Year doc	Comments
Caryophyllaceae	<i>Sagina saginoides</i>		Alpine pearlwort	P-Forb	Wide	Pres	Rare	Fertig 24925 (BRY)	2009	First record for Iron County
Caryophyllaceae	<i>Silene petersonii</i>	Includes vars. <i>minor</i> & <i>petersonii</i>	Peterson's campion	P-Forb	Reg En	Pres	Rare	Fertig, Holmgren, & Holmgren 25067 (BRY)	2007	
Caryophyllaceae	<i>Stellaria jamesiana</i>	<i>Pseudostellaria jamesiana</i>	James' chickweed	P-Forb	Wide	Pres	Unc	Fertig 24908 (BRY)	2009	
Celastraceae	<i>Pachystima myrsinites</i>	<i>Paxistima myrsinites</i>	Mountain-lover	Shrub	Wide	Pres	Unc	Fertig 24349 (BRY)	2007	
Chenopodiaceae	<i>Chenopodium capitatum</i> var. <i>parvicapitatum</i>	<i>C. overi</i> , <i>C. foliosum</i>	Smallhead goose-foot	A-Forb	Wide	Pres	Rare	Fertig 24943 (BRY)	2009	
Chenopodiaceae	<i>Chenopodium fremontii</i> var. <i>fremontii</i>	<i>C. fremontii</i>	Fremont's goose-foot	A-Forb	Wide	Pres	Com	Fertig 24936 (BRY)	2008	Specimens intermediate with <i>C. atrovirens</i>
Compositae (Asteraceae)	<i>Achillea millefolium</i> var. <i>lanulosa</i>	<i>A. lanulosa</i> , <i>A. m. var. occidentalis</i>	Common yarrow	P-Forb	Wide	Pres	Com	Fertig 24849 (BRY)	2006	
Compositae (Asteraceae)	<i>Agoseris glauca</i> var. <i>dasycephala</i>		Short agoseris	P-Forb	Wide	Pres	Unc	Fertig 24357 (BRY)	2008	
Compositae (Asteraceae)	<i>Anaphalis margaritacea</i>		Pearly everlasting	P-Forb	Wide	Pres	Unc	Fertig 25091 (BRY)	2009	
Compositae (Asteraceae)	<i>Antennaria microphylla</i>	Includes <i>A. rosea</i>	Small-leaf pussy-toes	P-Forb	Wide	Pres	Unc	Fertig 24953 (BRY)	2009	
Compositae (Asteraceae)	<i>Antennaria parvifolia</i>		Common pussy-toes	P-Forb	Wide	Pres	Unc	Fertig 24894 (BRY)	2009	
Compositae (Asteraceae)	<i>Arnica cordifolia</i> var. <i>cordifolia</i>		Heartleaf arnica	P-Forb	Wide	Pres	Com	Fertig 22752 (BRY)	2009	
Compositae (Asteraceae)	<i>Artemisia carruthii</i>		Carruth's wormwood	P-Forb	Wide	Pres	Unc	Fertig 25035 (BRY)	2007	
Compositae (Asteraceae)	<i>Artemisia dracunculoides</i> var. <i>glauca</i>	<i>Oligosporus dracunculus</i>	Tarragon	P-Forb	Wide	Pres	Unc	Fertig 25075 (BRY)	2009	

Appendix A. Annotated Checklist of the Vascular Plant Flora of Ashdown Gorge Wilderness Area, Iron County, Utah

Family	Species	Synonyms	Common Name	Life form	Range	Status	Pop Size	Source	Year doc	Comments
Compositae (Asteraceae)	<i>Artemisia ludoviciana</i> var. <i>ludoviciana</i>		Louisiana worm-wood	P-Forb	Wide	Pres	Unc	Fertig 23360 (BRY)	2007	
Compositae (Asteraceae)	<i>Artemisia tridentata</i> var. <i>vaseyana</i>	Includes var. <i>pauciflora</i> , <i>Seriphidium vaseyanum</i>	Mountain big sagebrush	Shrub	Wide	Pres	Unc	Fertig 23558 (BRY)	2007	
Compositae (Asteraceae)	<i>Aster ascendens</i>	<i>A. chilensis</i> ssp. <i>adscendens</i> , <i>Symphotrichum ascendens</i> , <i>Virgularia ascendens</i>	Pacific aster	P-Forb	Wide	Pres	Unc	Fertig 25021 (BRY)	2008	
Compositae (Asteraceae)	<i>Aster falcatus</i>	<i>Aster ericoides</i> var. <i>commutatus</i> , <i>Symphotrichum falcatum</i> , <i>Virgularia falcatus</i>	Falcate aster	P-Forb	Sparse	Pres	Rare	Fertig 25076	2009	First report for Iron County
Compositae (Asteraceae)	<i>Aster foliaceus</i> var. <i>canbyi</i>	<i>Symphotrichum foliaceum</i> var. <i>canbyi</i>	Canby's aster	P-Forb	Wide	Pres	Unc	Fertig 23379 (BRY)	2007	
Compositae (Asteraceae)	<i>Aster foliaceus</i> var. <i>parryi</i>	<i>Symphotrichum foliaceum</i> var. <i>parryi</i>	Parry's aster	P-Forb	Wide	Pres	Unc	Fertig & Reynolds 24203 (BRY)	2008	
Compositae (Asteraceae)	<i>Aster spathulatus</i>	<i>A. occidentalis</i> , <i>Symphotrichum spathulatum</i>	Western aster	P-Forb	Wide	Pres	Unc	Fertig 25033 (BRY)	2009	
Compositae (Asteraceae)	<i>Aster wasatchensis</i> var. <i>wasatchensis</i>	<i>Herrickia wasatchensis</i> , <i>Eurybia wasatchensis</i>	Markagunt aster	P-Forb	Loc En	Pres	Com	Fertig & Reynolds 24262 (BRY)	2007	
Compositae (Asteraceae)	<i>Aster welshii</i>	<i>Symphotrichum welshii</i>	Welsh's aster	P-Forb	Loc En	Pres	Unc	Fertig & Reynolds 24225 (BRY)	2008	
Compositae (Asteraceae)	<i>Bahia dissecta</i>		Cutleaf	P-Forb	Wide	Pres	Rare	Fertig 25109 (BRY)	2009	
Compositae (Asteraceae)	<i>Balsamorhiza sagittata</i>		Arrowleaf balsamroot	P-Forb	Wide	Obs	Unc	Observer by W. Fertig, Ashdown Gorge	2007	
Compositae (Asteraceae)	<i>Brickellia grandiflora</i>		Tassel-flower brickellbush	P-Forb	Wide	Pres	Rare	Fertig 24889 (BRY)	2009	

Appendix A. Annotated Checklist of the Vascular Plant Flora of Ashdown Gorge Wilderness Area, Iron County, Utah

Family	Species	Synonyms	Common Name	Life form	Range	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	P-Forb	Wide	Pres	Unc	Fertig 25106 (BRY)	2009	
Compositae (Asteraceae)	<i>Chrysothamnus depressus</i>		Dwarf rabbit-brush	Shrub	Wide	Pres	Unc	Fertig & Reynolds 24219 (BRY)	2008	
Compositae (Asteraceae)	<i>Chrysothamnus parryi</i> var. <i>nevadensis</i>	<i>Ericameria parryi</i> var. <i>nevadensis</i>	Nevada rabbit-brush	Shrub	Wide	Pres	Unc	Fertig 25048 (BRY)	2008	
Compositae (Asteraceae)	<i>Chrysothamnus viscidiflorus</i> var. <i>lanceolatus</i>		Lanceleaf rabbit-brush	Shrub	Wide	Pres	Unc	Fertig 25051 (BRY)	2009	
Compositae (Asteraceae)	<i>Cirsium arizonicum</i>	Includes vars. <i>arizonicum</i> & <i>nidulum</i>	Arizona thistle	P-Forb	Wide	Pres	Unc	Fertig 24345 (BRY)	2007	
Compositae (Asteraceae)	<i>Cirsium vulgare</i>		Bull thistle	P-Forb	Intro	Pres	Unc	Fertig 23390 (BRY)	2007	Native to Europe
Compositae (Asteraceae)	<i>Cirsium wheeleri</i> var. <i>wheeleri</i>		Wheeler's thistle	P-Forb	Wide	Pres	Com	Fertig 24958 (BRY)	2006	
Compositae (Asteraceae)	<i>Crepis intermedia</i>	<i>Psilochenia intermedia</i>	Gray hawksbeard	P-Forb	Wide	Pres	Unc	Fertig 22736 (BRY)	2006	
Compositae (Asteraceae)	<i>Crepis occidentalis</i> var. <i>pumila</i>		Low hawksbeard	P-Forb	Wide	Pres	Unc	Fertig 24767 (BRY)	2009	Identification tentative, may be var. <i>costata</i>
Compositae (Asteraceae)	<i>Erigeron divergens</i> var. <i>divergens</i>		Spreading daisy	P-Forb	Wide	Pres	Unc	Fertig 23370 (BRY)	2007	
Compositae (Asteraceae)	<i>Erigeron eatonii</i>		Eaton's daisy	P-Forb	Wide	Obs	Unc	Observed by W. Fertig on Rattlesnake Trail, 2009	2009	
Compositae (Asteraceae)	<i>Erigeron flagellaris</i>		Trailing daisy	P-Forb	Wide	Pres	Com	Fertig 24903 (BRY)	2007	
Compositae (Asteraceae)	<i>Erigeron formosissimus</i>		Beautiful daisy	P-Forb	Wide	Pres	Unc	Fertig 25058 (BRY)	2009	

Appendix A. Annotated Checklist of the Vascular Plant Flora of Ashdown Gorge Wilderness Area, Iron County, Utah

Family	Species	Synonyms	Common Name	Life form	Range	Status	Pop Size	Source	Year doc	Comments
Compositae (Asteraceae)	<i>Erigeron sionis</i>	<i>E. proselyticus</i> , includes vars. <i>sionis</i> & <i>trilobatus</i>	Zion daisy	P-Forb	Loc En	Pres	Unc	Fertig & Reynolds 24151 (BRY)	2007	Type locality of <i>E. proselyticus</i> from Cedar Breaks (Maguire 14947 NY)
Compositae (Asteraceae)	<i>Erigeron speciosus</i> var. <i>macranthus</i>		Aspen daisy	P-Forb	Wide	Pres	Unc	Fertig 25094 (BRY)	2009	
Compositae (Asteraceae)	<i>Erigeron speciosus</i> var. <i>mollis</i>	<i>E. subtrinervis</i> var. <i>subtrinervis</i>	Hairy pretty daisy	P-Forb	Wide	Pres	Com	Fertig 23375 (BRY)	2007	
Compositae (Asteraceae)	<i>Erigeron ursinus</i> var. <i>ursinus</i>		Bear daisy	P-Forb	Wide	Pres	Com	Fertig 24848 (BRY)	2006	
Compositae (Asteraceae)	<i>Erigeron vagus</i> var. <i>madsenii</i>		Madsen's daisy	P-Forb	Loc En	Pres	Rare	Fertig, Holmgren, & Holmgren 25068 (BRY)	2007	
Compositae (Asteraceae)	<i>Gutierrezia sarothrae</i>		Broom snakeweed	Shrub	Wide	Pres	Unc	Fertig 25037 (BRY)	2009	
Compositae (Asteraceae)	<i>Haplopappus clementis</i>	<i>Pyrocoma clementis</i> var. <i>clementis</i>	Clements's goldenweed	P-Forb	Wide	Pres	Unc	Fertig & Reynolds 24286 (BRY)	2006	
Compositae (Asteraceae)	<i>Haplopappus macronema</i>	Includes vars. <i>linearis</i> & <i>canescens</i> , <i>Ericameria discoides</i> var. <i>linearis</i> , <i>Macronema discoides</i>	Narrowleaf goldenweed	Shrub	Wide	Obs	Unc		2007	
Compositae (Asteraceae)	<i>Haplopappus zionis</i>	<i>Ericameria zionis</i>	Cedar Breaks goldenbush	Shrub	Loc En	Pres	Unc	Fertig & Reynolds 24280 (BRY)	2007	Type locality is Cedar Canyon (Anderson et al. 5094 BRY)

Appendix A. Annotated Checklist of the Vascular Plant Flora of Ashdown Gorge Wilderness Area, Iron County, Utah

Family	Species	Synonyms	Common Name	Life form	Range	Status	Pop Size	Source	Year doc	Comments
Compositae (Asteraceae)	<i>Helianthella uniflora</i>		Little sunflower	P-Forb	Wide	Pres	Unc	Fertig 25052 (BRY)	2006	
Compositae (Asteraceae)	<i>Hymenopappus filifolius</i> var. <i>nudipes</i>		Alpine hyaline-herb	P-Forb	Reg En	Pres	Unc	Fertig 24341 (BRY)	2008	Type locality is 15 miles N of Orderville (Maguire 18740 NY)
Compositae (Asteraceae)	<i>Hymenoxys hoopesii</i>	<i>Helenium hoopesii</i> , <i>Dugaldia hoopesii</i>	Orange sneeze-weed	P-Forb	Wide	Pres	Unc	Fertig & Reynolds 24207 (BRY)	2006	
Compositae (Asteraceae)	<i>Hymenoxys richardsonii</i> var. <i>richardsonii</i>	<i>Pteradenia richardsonii</i> var. <i>richardsonii</i>	Colorado rubber-plant	P-Forb	Wide	Pres	Unc	Fertig & Reynolds 23452 (BRY)	2007	First record for Iron County
Compositae (Asteraceae)	<i>Iva axillaris</i>		Poverty-weed	P-Forb	Wide	Pres	Rare	Fertig 25104 (BRY)	2009	
Compositae (Asteraceae)	<i>Lactuca serriola</i>		Prickly lettuce	A-Forb	Intro	Pres	Rare	Fertig 25072 (BRY)	2009	Native to Europe
Compositae (Asteraceae)	<i>Machaeranthera canescens</i> var. <i>canescens</i>	<i>Aster canescens</i> , <i>Dieteria canescens</i> var. <i>canescens</i>	Hoary aster	P-Forb	Wide	Pres	Unc	Fertig 25107 (BRY)	2009	
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	P-Forb	Loc En	Pres	Unc	Fertig & Reynolds 24206 (BRY)	2008	
Compositae (Asteraceae)	<i>Rudbeckia montana</i>	<i>R. occidentalis</i> var. <i>montana</i>	Montane cone-flower	P-Forb	Reg En	Pres	Rare	Fertig & Fertig 22990 (BRY)	2006	
Compositae (Asteraceae)	<i>Senecio atratus</i>		Black groundsel	P-Forb	Wide	Pres	Unc	Fertig & Reynolds 24292 (BRY)	2008	
Compositae (Asteraceae)	<i>Senecio canus</i>	<i>Packera cana</i>	Woolly groundsel	P-Forb	Wide	Obs	Unc		2008	
Compositae (Asteraceae)	<i>Senecio eremophilus</i> var. <i>kingii</i>		Cut-leaved groundsel	P-Forb	Wide	Pres	Unc	Fertig 25025 (BRY)	2009	

Appendix A. Annotated Checklist of the Vascular Plant Flora of Ashdown Gorge Wilderness Area, Iron County, Utah

Family	Species	Synonyms	Common Name	Life form	Range	Status	Pop Size	Source	Year doc	Comments
Compositae (Asteraceae)	<i>Senecio integerrimus</i> var. <i>exaltatus</i>		Western groundsel	P-Forb	Wide	Obs	Com	Observed by W. Fertig along Rattlesnake & Crystal Spring trails	2009	
Compositae (Asteraceae)	<i>Senecio malmstenii</i>	<i>Packera malmstenii</i>	Podunk groundsel	P-Forb	Loc En	Pres	Rare	Fertig & Reynolds 24278 (BRY)	2008	Type locality is Little Podunk Creek, Kane Co, UT (Malmsten 131 US)
Compositae (Asteraceae)	<i>Senecio multilobatus</i>	<i>Packera multilobata</i>	Basin groundsel	P-Forb	Wide	Pres	Com	Fertig & Reynolds 24189 (BRY)	2006	
Compositae (Asteraceae)	<i>Senecio streptanthifolius</i> var. <i>streptanthifolius</i>	<i>Packera streptanthifolia</i> var. <i>streptanthifolia</i> , includes vars. <i>borealis</i> & <i>oodes</i>	Rocky Mountain groundsel	P-Forb	Wide	Pres	Unc	Fertig 24937 (BRY)	2009	First report for Iron County?
Compositae (Asteraceae)	<i>Solidago multiradiata</i> var. <i>scopulorum</i>		Rocky Mountain goldenrod	P-Forb	Wide	Pres	Unc	Fertig 24957 (BRY)	2006	
Compositae (Asteraceae)	<i>Solidago parryi</i>	<i>Haplopappus parryi</i> , <i>Oreochrysum parryi</i>	Parry's goldenweed	P-Forb	Wide	Pres	Unc	Fertig & Reynolds 24185 (BRY)	2008	
Compositae (Asteraceae)	<i>Solidago velutina</i>	<i>S. sparsiflora</i> , <i>S. velutina</i> var. <i>sparsiflora</i>	Three-nerve goldenrod	P-Forb	Wide	Pres	Unc	Fertig 24350 (BRY)	2008	
Compositae (Asteraceae)	<i>Taraxacum officinale</i>		Common dandelion	P-Forb	Intro	Pres	Unc	Fertig 24855 (BRY)	2006	Native to Eurasia
Compositae (Asteraceae)	<i>Townsendia montana</i> var. <i>minima</i>	<i>T. minima</i> , <i>T. alpigena</i> var. <i>minima</i>	Bryce Canyon townsendia	P-Forb	Loc En	Pres	Rare	Fertig & Reynolds 24287 (BRY)	2007	Type locality is Bryce Canyon, Garfield Co, UT (Eastwood & Howell 727 CAS)
Compositae (Asteraceae)	<i>Tragopogon dubius</i>		Yellow salsify	P-Forb	Intro	Pres	Unc	Fertig 24887 (BRY)	2008	Native to Europe

Appendix A. Annotated Checklist of the Vascular Plant Flora of Ashdown Gorge Wilderness Area, Iron County, Utah

Family	Species	Synonyms	Common Name	Life form	Range	Status	Pop Size	Source	Year doc	Comments
Compositae (Asteraceae)	<i>Viguiera multiflora</i> var. <i>nevadensis</i>	<i>Heliomeris multiflora</i> var. <i>nevadensis</i>	Showy goldeneye	P-Forb	Wide	Pres	Com	Fertig 25036 (BRY)	2008	
Cornaceae	<i>Cornus sericea</i> var. <i>sericea</i>	<i>C. stolonifera</i> , <i>Swida sericea</i>	Red-osier dogwood	Shrub	Wide	Pres	Unc	Fertig 25089 (BRY)	2008	
Cruciferae (Brassicaceae)	<i>Arabis drummondii</i>	<i>Boechera drummondii</i> , <i>B. angustifolia</i> , <i>B. stricta</i>	Drummond's rockcress	P-Forb	Wide	Pres	Com	Fertig & Reynolds 24184 (BRY)	2006	
Cruciferae (Brassicaceae)	<i>Arabis holboellii</i> var. <i>brachycarpa</i>	<i>A. confinis</i> , <i>A. x divaricarpa</i> , <i>Boechera brachycarpa</i> , <i>B. divaricarpa</i>	Spreadingpod rockcress	P-Forb	Wide	Pres	Unc	Fertig 24878 (BRY)	2009	Hybrid swarm between <i>A. drummondii</i> & <i>A. holboellii</i> or other taxa
Cruciferae (Brassicaceae)	<i>Arabis holboellii</i> var. <i>fendleri</i>	<i>A. fendleri</i> , <i>Boechera fendleri</i> var. <i>spatifolia</i>	Fendler's rockcress	P-Forb	Wide	Obs	Unc		2008	
Cruciferae (Brassicaceae)	<i>Capsella bursa-pastoris</i>		Shepherd's-purse	A-Forb	Intro	Pres	Unc	Fertig 23391 (BRY)	2007	Native to Europe. First record for Iron County
Cruciferae (Brassicaceae)	<i>Cardamine cordifolia</i> var. <i>cordifolia</i>		Heartleaf bittercress	P-Forb	Wide	Pres	Unc	Fertig 23382 (BRY)	2007	Var. <i>incana</i> may also occur in vicinity
Cruciferae (Brassicaceae)	<i>Descurainia californica</i>		California tansymustard	A-Forb	Wide	Pres	Unc	Fertig 25099 (BRY)	2009	
Cruciferae (Brassicaceae)	<i>Descurainia sophia</i>		Flixweed	A-Forb	Intro	Pres	Unc	Fertig 23362 (BRY)	2007	Native to Europe
Cruciferae (Brassicaceae)	<i>Draba stenoloba</i> var. <i>nana</i>	<i>D. albertina</i>	Slender whitlowgrass	A-Forb	Wide	Pres	Rare	Fertig 24895 (BRY)	2009	

Appendix A. Annotated Checklist of the Vascular Plant Flora of Ashdown Gorge Wilderness Area, Iron County, Utah

Family	Species	Synonyms	Common Name	Life form	Range	Status	Pop Size	Source	Year doc	Comments
Cruciferae (Brassicaceae)	<i>Draba subalpina</i>		Breaks draba	P-Forb	Loc En	Pre	Unc	Fertig & Reynolds 24200 (BRY)	2007	Type locality is Cedar Breaks, 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> , <i>E. capitatum</i> var. <i>capitatum</i>	Sand dune wall-flower	P-Forb	Wide	Pres	Unc	Fertig 24891 (BRY)	2006	
Cruciferae (Brassicaceae)	<i>Lepidium densiflorum</i> var. <i>densiflorum</i>		Prairie pepperwort	A-Forb	Wide	Pres	Unc	Fertig 23365 (BRY)	2007	
Cruciferae (Brassicaceae)	<i>Physaria chambersii</i> var. <i>chambersii</i>		Chambers' twin-pod	P-Forb	Wide	Obs	Unc	Observed by W. Fertig along lower Rattlesnake Trail, June 2009	2009	
Cruciferae (Brassicaceae)	<i>Physaria kingii</i> var. <i>parvifolia</i>	<i>Lesquerella kingii</i> , includes <i>P. wardii</i> & <i>Lesquerella wardii</i>	King's bladderpod	P-Forb	Wide	Pres		Fertig & Reynolds 24201 (BRY)	2008	
Cruciferae (Brassicaceae)	<i>Physaria rubicundula</i> var. <i>rubicundula</i>	<i>Lesquerella rubicundula</i> , <i>L. hitchcockii</i> ,	Breaks bladderpod	P-Forb	Loc En	Pres	Unc	Fertig & Reynolds 24284 (BRY)	2007	Type locality is Red Canyon, Garfield Co, UT (Eggleston 8198 US)
Cruciferae (Brassicaceae)	<i>Rorippa sphaerocarpa</i>	<i>R. obtusa</i>	Round-pod yellowcress	A-Forb	Sparse	Pres	Rare	Fertig 24941 (BRY)	2009	First record for Iron County
Cruciferae (Brassicaceae)	<i>Thlaspi montanum</i> var. <i>montanum</i>	<i>Noccaea montana</i>	Alpine pennycress	P-Forb	Wide	Pres	Unc	Fertig 24900 (BRY)	2007	
Cupressaceae	<i>Juniperus communis</i> var. <i>depressa</i>	<i>J. communis</i> ssp. <i>alpina</i>	Common juniper	Shrub	Wide	Pres	Com	Fertig 24881 (BRY)	2006	
Cupressaceae	<i>Juniperus scopulorum</i>	<i>Sabina scopulorum</i>	Rocky Mountain juniper	Tree	Wide	Pres	Unc	Fertig 22739 (BRY)	2006	

Appendix A. Annotated Checklist of the Vascular Plant Flora of Ashdown Gorge Wilderness Area, Iron County, Utah

Family	Species	Synonyms	Common Name	Life form	Range	Status	Pop Size	Source	Year doc	Comments
Cyperaceae	<i>Carex athrostachya</i>		Slender-beaked sedge	P-Grss	Wide	Pres	Rare	Fertig 25034 (BRY)	2009	First record for Iron County
Cyperaceae	<i>Carex aurea</i>	<i>C. garberi</i>	Golden sedge	P-Grss	Wide	Pres	Unc	Fertig 24919 (BRY)	2007	
Cyperaceae	<i>Carex capillaris</i>		Hair sedge	P-Grss	Wide	Pres	Rare	Fertig & Reynolds 24227 (BRY)	2008	
Cyperaceae	<i>Carex dioica</i> var. <i>gynocrates</i>	<i>C. gynocrates</i>	Northern bog sedge	P-Grss	Wide	Pres	Rare	Fertig & Reynolds 24222 (BRY)	2008	
Cyperaceae	<i>Carex egglestonii</i>		Eggleston's sedge	P-Grss	Reg En	Pres	Com	Fertig & Reynolds 24186 (BRY)	2008	
Cyperaceae	<i>Carex interior</i>		Inland sedge	P-Grss	Wide	Pres	Unc	Fertig & Reynolds 24223 (BRY)	2008	
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	P-Grss	Wide	Pres	Unc	Fertig 24918 (BRY)	2009	
Cyperaceae	<i>Carex occidentalis</i>		Western sedge	P-Grss	Wide	Pres	Unc	Fertig 24890 (BRY)	2009	
Cyperaceae	<i>Carex pellita</i>	<i>C. lanuginosa</i>	Woolly sedge	P-Grss	Wide	Pres	Unc	Fertig 23381 (BRY)	2007	
Cyperaceae	<i>Carex petasata</i>		Liddon sedge	P-Grss	Wide	Pres	Unc	Fertig 23366 (BRY)	2007	
Cyperaceae	<i>Carex rossii</i>	<i>C. deflexa</i> var. <i>boottii</i> , <i>C. brevipes</i> , <i>C. pityophila</i>	Ross' sedge	P-Grss	Wide	Pres	Com	Fertig 24853 (BRY)	2007	
Cyperaceae	<i>Carex utriculata</i>	<i>C. rostrata</i> (sensu lato)	Beaked sedge	P-Grss	Wide	Pres	Unc	Fertig 25062 (BRY)	2009	
Cyperaceae	<i>Carex vesicaria</i>		Blister sedge	P-Grss	Wide	Pres	Rare	Fertig & Reynolds 24226 (BRY)	2008	

Appendix A. Annotated Checklist of the Vascular Plant Flora of Ashdown Gorge Wilderness Area, Iron County, Utah

Family	Species	Synonyms	Common Name	Life form	Range	Status	Pop Size	Source	Year doc	Comments
Elaeagnaceae	<i>Shepherdia canadensis</i>		Canada buffaloberry	Shrub	Wide	Pres	Com	Fertig 24348 (BRY)	2008	
Equisetaceae	<i>Equisetum arvense</i>		Field horsetail	Fern	Wide	Pres	Unc	Fertig 24916 (BRY)	2006	
Equisetaceae	<i>Equisetum hyemale</i> var. <i>affine</i>	<i>E. praealtum</i> , <i>Hippochaete hyemalis</i> ssp. <i>affinis</i>	Tall scouring-rush	Fern	Wide	Pres	Unc	Fertig 25114 (BRY)	2009	
Equisetaceae	<i>Equisetum laevigatum</i>	<i>E. kansanum</i> , <i>Hippochaete laevigata</i>	Smooth scouring-rush	Fern	Wide	Pres	Unc	Fertig 24917 (BRY)	2008	
Equisetaceae	<i>Equisetum x nelsonii</i>		Nelson's scouring-rush	Fern	Sparse	Pres	Rare	Fertig 25086 (BRY)	2009	First record for Iron County. Hybrid between <i>E. laevigatum</i> & <i>E. variegatum</i>
Equisetaceae	<i>Equisetum variegatum</i>	<i>Hippochaete variegata</i>	Northern scouring-rush	Fern	Disj	Pres	Rare	Fertig & Reynolds 24221 (BRY)	2008	
Ericaceae	<i>Arctostaphylos patula</i>		Greenleaf manzanita	Shrub	Wide	Pres	Unc	Fertig 24877 (BRY)	2008	
Euphorbiaceae	<i>Euphorbia brachy-cera</i>	<i>E. robusta</i> , <i>E. brachycera</i> var. <i>robusta</i> , <i>Tithymalus brachyceras</i>	Shorthorn spurge	P-Forb	Wide	Pres	Unc	Fertig 25078 (BRY)	2006	
Fagaceae	<i>Quercus gambelii</i> var. <i>gambelii</i>		Gambel's oak	Tree	Wide	Pres	Unc	Fertig 25046 (BRY)	2009	
Gentianaceae	<i>Gentiana parryi</i>	<i>Pneumonanthe parryi</i>	Parry's gentian	P-Forb	Wide	Pres	Unc	Fertig 24356 (BRY)	2008	
Gentianaceae	<i>Gentianella heterosepala</i>	<i>G. amarella</i> var. <i>heterosepala</i>	Engelmann's gentian	P-Forb	Wide	Pres	Unc	Fertig & Reynolds 24188 (BRY)	2008	

Appendix A. Annotated Checklist of the Vascular Plant Flora of Ashdown Gorge Wilderness Area, Iron County, Utah

Family	Species	Synonyms	Common Name	Life form	Range	Status	Pop Size	Source	Year doc	Comments
Gentianaceae	<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	A-Forb	Wide	Obs	Rare	Observed by W. Fertig in forest swamp on S side of Ashdown Creek, just W of CEBR boundary	2008	
Gentianaceae	<i>Swertia radiata</i>	<i>Frasera speciosa</i>	Elkweed	P-Forb	Wide	Pres	Unc	Fertig & Reynolds 24193 (BRY)	2008	
Geraniaceae	<i>Geranium caespitosum</i> var. <i>marginale</i>	<i>G. caespitosum</i> var. <i>atropurpureum</i>	Small-leaf geranium	P-Forb	Wide	Pres	Unc	Fertig 23368 (BRY)	2007	
Geraniaceae	<i>Geranium richardsonii</i>		Richardson's geranium	P-Forb	Wide	Pres	Unc	Fertig 24911 (BRY)	2009	
Gramineae (Poaceae)	<i>Agrostis scabra</i>	<i>A. hiemalis</i> , <i>A. geminata</i>	Ticklegrass	P-Grass	Wide	Pres	Unc	Fertig 25020 (BRY)	2009	
Gramineae (Poaceae)	<i>Bromus carinatus</i>	<i>B. marginatus</i> , <i>B. polyanthus</i> , <i>Ceratochloa carinata</i>	Mountain brome	P-Grass	Wide	Pres	Com	Fertig & Reynolds 24197 (BRY)	2006	
Gramineae (Poaceae)	<i>Bromus ciliatus</i>	<i>Bromopsis canadensis</i>	Fringed brome	P-Grass	Wide	Pres	Com	Fertig 24928 (BRY)	2008	
Gramineae (Poaceae)	<i>Bromus inermis</i> var. <i>inermis</i>	<i>Bromopsis inermis</i>	Smooth brome	P-Grass	Intro	Pres	Unc	Fertig 24902 (BRY)	2006	Native to Eurasia
Gramineae (Poaceae)	<i>Bromus tectorum</i>	<i>Anisantha tectorum</i>	Cheatgrass	A-Grass	Intro	Obs	Unc	Observed by W. Fertig	2009	Native to Eurasia
Gramineae (Poaceae)	<i>Calamagrostis scopulorum</i>		Jones' reedgrass	P-Grass	Wide	Pres	Unc	Fertig & Reynolds 24150 (BRY)	2008	Type locality is Springdale, Washington Co, UT (Jones 6075 POM)
Gramineae (Poaceae)	<i>Dactylis glomerata</i>		Orchard grass	P-Grass	Intro	Pres	Unc	Fertig 24948 (BRY)	2008	Native to Eurasia & Africa

Appendix A. Annotated Checklist of the Vascular Plant Flora of Ashdown Gorge Wilderness Area, Iron County, Utah

Family	Species	Synonyms	Common Name	Life form	Range	Status	Pop Size	Source	Year doc	Comments
Gramineae (Poaceae)	<i>Elymus elymoides</i>	<i>E. elymoides</i> var. <i>elymoides</i> , <i>Sitanion hystrix</i>	Squirreltail	P-Grass	Wide	Pres	Com	Fertig 24955 (BRY)	2008	
Gramineae (Poaceae)	<i>Elymus glaucus</i>		Blue wildrye	P-Grass	Wide	Pres	Unc	Fertig 24926 (BRY)	2006	
Gramineae (Poaceae)	<i>Elymus scribneri</i>	<i>Agropyron scribneri</i>	Scribner wheatgrass	P-Grass	Wide	Pres	Rare	Fertig, Holmgren, & Holmgren 25069 (BRY)	2008	
Gramineae (Poaceae)	<i>Elymus trachycaulus</i>	<i>Agropyron trachycaulum</i> , <i>A. caninum</i> , <i>A. subsecundum</i> , <i>A. latiglume</i>	Slender wheatgrass	P-Grass	Wide	Pres	Com	Fertig 24952 (BRY)	2008	Hybrids with <i>E. repens</i> or <i>E. lanceolatus</i> (Fertig 24935) present
Gramineae (Poaceae)	<i>Festuca ovina</i> var. <i>brevifolia</i>	<i>F. brachyphylla</i> var. <i>brachyphylla</i>	Alpine sheep fescue	P-Grass	Wide	Pres	Unc	Fertig 24854 (BRY)	2009	
Gramineae (Poaceae)	<i>Festuca ovina</i> var. <i>saximontana</i>	<i>F. ovina</i> var. <i>rydbergii</i> , <i>F. saximontana</i>	Rocky Mountain fescue	P-Grass	Wide	Pres	Unc	Fertig & Reynolds 24195 (BRY)	2006	
Gramineae (Poaceae)	<i>Festuca sororia</i>		Ravine fescue	P-Grass	Sparse	Pres	Rare	Fertig 25054 (BRY)	2009	
Gramineae (Poaceae)	<i>Glyceria striata</i>	Includes <i>G. striata</i>	Fowl mannagrass	P-Grass	Wide	Pres	Unc	Fertig 24945 (BRY)	2009	
Gramineae (Poaceae)	<i>Hordeum jubatum</i>	<i>Critestion jubatum</i>	Foxtail barley	P-Grass	Wide	Pres	Unc	Fertig 25102 (BRY)	2007	
Gramineae (Poaceae)	<i>Muhlenbergia andina</i>		Foxtail muhly	P-Grass	Wide	Pres	Unc	Fertig 25092 (BRY)	2008	
Gramineae (Poaceae)	<i>Muhlenbergia montana</i>		Mountain muhly	P-Grass	Wide	Pres	Unc	Fertig 25042 (BRY)	2009	
Gramineae (Poaceae)	<i>Phleum alpinum</i>	<i>P. commutatum</i>	Alpine timothy	P-Grass	Wide	Pres	Unc	Fertig 24927 (BRY)	2009	
Gramineae (Poaceae)	<i>Phleum pratense</i>		Timothy	P-Grass	Intro	Pres	Unc	Fertig 24950 (BRY)	2009	Native to Eurasia

Appendix A. Annotated Checklist of the Vascular Plant Flora of Ashdown Gorge Wilderness Area, Iron County, Utah

Family	Species	Synonyms	Common Name	Life form	Range	Status	Pop Size	Source	Year doc	Comments
Gramineae (Poaceae)	<i>Poa annua</i>		Annual bluegrass	A-Grass	Intro	Pres	Rare	Fertig 24946 (BRY)	2009	Native to Eurasia & W. North America (but not UT)
Gramineae (Poaceae)	<i>Poa arctica</i>	<i>P. arctica</i> var. <i>grayana</i>	Arctic bluegrass	P-Grass	Wide	Obs	Unc	Observed by W. Fertig along Rattlesnake Trail	2008	
Gramineae (Poaceae)	<i>Poa compressa</i>		Canada bluegrass	P-Grass	Intro	Pres	Unc	Fertig 25031 (BRY)	2009	Native to Eurasia
Gramineae (Poaceae)	<i>Poa fendleriana</i>	<i>P. longiligula</i> , Includes reports of <i>P. cusickii</i> & <i>P. epilis</i>	Muttongrass	P-Grass	Wide	Pres	Com	Fertig 22760 (BRY)	2006	
Gramineae (Poaceae)	<i>Poa glauca</i> var. <i>glauca</i>	<i>P. nemoralis</i> ssp. <i>interior</i> , <i>P. interior</i>	Interior bluegrass	P-Grass	Wide	Pres	Unc	Fertig & Reynolds 24195 (BRY)	2008	
Gramineae (Poaceae)	<i>Poa palustris</i>		Fowl bluegrass	P-Grass	Wide	Pres	Unc	Fertig 24924 (BRY)	2009	First record for Iron County
Gramineae (Poaceae)	<i>Poa pratensis</i>	<i>P. agassizensis</i>	Kentucky bluegrass	P-Grass	Intro	Pres	Unc	Fertig 24901 (BRY)	2006	Native to Europe
Gramineae (Poaceae)	<i>Poa secunda</i>	Includes <i>P. gracilima</i> , <i>P. juncifolia</i> , <i>P. sandbergii</i> , <i>P. canbyi</i> , <i>P. scabrella</i> , <i>P. nevadensis</i> , <i>P. ampla</i>	Sandberg's bluegrass	P-Grass	Wide	Pres	Unc	Fertig & Reynolds 24202 (BRY)	2008	
Gramineae (Poaceae)	<i>Stipa comata</i> var. <i>comata</i>	<i>Hesperostipa comata</i> var. <i>comata</i>	Needle-and-thread	P-Grass	Wide	Pres	Unc	Fertig 24893 (BRY)	2009	First record for Iron County?
Gramineae (Poaceae)	<i>Stipa hymenoides</i>	<i>Oryzopsis hymenoides</i> , <i>Achnatherum hymenoides</i>	Indian ricegrass	P-Grass	Wide	Pres	Unc	Fertig 24959 (BRY)	2009	
Gramineae (Poaceae)	<i>Stipa lettermanii</i>	<i>Achnatherum lettermanii</i>	Letterman's needlegrass	P-Grass	Wide	Pres	Com	Fertig & Reynolds 24191 (BRY)	2008	

Appendix A. Annotated Checklist of the Vascular Plant Flora of Ashdown Gorge Wilderness Area, Iron County, Utah

Family	Species	Synonyms	Common Name	Life form	Range	Status	Pop Size	Source	Year doc	Comments
Gramineae (Poaceae)	<i>Stipa nelsonii</i> var. <i>nelsonii</i>	<i>S. columbiana</i> var. <i>nelsonii</i> , <i>Achnatherum nelsonii</i> var. <i>nelsonii</i>	Nelson's needle-grass	P-Grass	Wide	Pres	Unc	Fertig & Reynolds 24196 (BRY)	2008	
Gramineae (Poaceae)	<i>Trisetum spicatum</i>	<i>T. montanum</i>	Spike trisetum	P-Grass	Wide	Pres	Unc	Fertig & Reynolds 24187 (BRY)	2008	
Hydrophyllaceae	<i>Phacelia heterophylla</i>	Includes vars. <i>heterophylla</i> & <i>virgata</i>	Wand phacelia	P-Forb	Wide	Pres	Unc	Fertig 24899 (BRY)	2009	
Iridaceae	<i>Sisyrinchium idahoense</i>	<i>S. idahoense</i> var. <i>occidentale</i>	Idaho blue-eyed grass	P-Forb	Wide	Pres	Rare	Fertig 24912 (BRY)	2009	
Juncaceae	<i>Juncus arcticus</i>	<i>J. arcticus</i> vars. <i>balticus</i> & <i>mexicanus</i> , ssp. <i>ater</i> , <i>J. balticus</i>	Baltic rush	P-Grass	Wide	Pres	Unc	Fertig 25093 (BRY)	2007	
Juncaceae	<i>Juncus bufonius</i>	Includes vars. <i>bufonius</i> , <i>occidentalis</i> , <i>halophilus</i> , & <i>ambiguus</i>	Toad rush	A-Grass	Wide	Obs	Rare	Observed by W. Fertig along Crystal Spring Trail	2009	
Juncaceae	<i>Juncus ensifolius</i> var. <i>brunnescens</i>	Included in <i>J. ensifolius</i> var. <i>montanus</i> by some authors	Tracy's rush	P-Grass	Wide	Pres	Unc	Fertig 25060 (BRY)	2009	
Juncaceae	<i>Juncus ensifolius</i> var. <i>montanus</i>	<i>J. saximontanus</i> , <i>J. tracyi</i> , <i>J. xiphoides</i>	Mountain rush	P-Grass	Wide	Pres	Unc	Fertig 25032 (BRY)	2009	
Juncaceae	<i>Juncus longistylis</i>		Longstyle rush	P-Grass	Wide	Pres	Unc	Fertig 25030 (BRY)	2008	
Juncaginaceae	<i>Triglochin maritima</i>	<i>T. maritima</i> var. <i>elata</i> , <i>T. concinnum</i>	Seaside arrow-grass	P-Grass	Wide	Pres	Rare	Fertig & Reynolds 24220 (BRY)	2008	
Labiatae (Lamiaceae)	<i>Agastache urticifolia</i>		Nettle-leaf horse-mint	P-Forb	Wide	Pres	Unc	Fertig 23388 (BRY)	2007	

Appendix A. Annotated Checklist of the Vascular Plant Flora of Ashdown Gorge Wilderness Area, Iron County, Utah

Family	Species	Synonyms	Common Name	Life form	Range	Status	Pop Size	Source	Year doc	Comments
Labiatae (Lamiaceae)	<i>Dracocephalum parviflorum</i>	<i>Moldavica parviflora</i>	Smallflower dragonhead	P-Forb	Wide	Pres	Rare	Fertig 23364 (BRY)	2007	
Labiatae (Lamiaceae)	<i>Monardella odoratissima</i>	<i>M. glauca</i>	Stinking horse-mint	P-Forb	Wide	Pres	Unc	Fertig & Reynolds 24291 (BRY)	2006	
Labiatae (Lamiaceae)	<i>Prunella vulgaris</i> var. <i>lanceolata</i>		Self-heal	P-Forb	Wide	Pres	Unc	Fertig 24906 (BRY)	2007	
Leguminosae (Fabaceae)	<i>Astragalus argophyllus</i> var. <i>pangnicensis</i>		Panguitch milk-vetch	P-Forb	Reg En	Pres	Unc	Fertig 22735 (BRY)	2006	Type locality is Panguitch Lake, Garfield Co, UT (Jones 6023f POM)
Leguminosae (Fabaceae)	<i>Astragalus kentrophyta</i> var. <i>elatus</i>		Tall kentrophyta	P-Forb	Wide	Pres	Unc	Fertig 25090 (BRY)	2008	
Leguminosae (Fabaceae)	<i>Astragalus limnocharis</i> var. <i>limnocharis</i>		Navajo Lake milk-vetch	P-Forb	Loc En	Pres	Unc	Fertig & Reynolds 24264 (BRY)	2007	Type locality is Navajo Lake, Kane Co., UT (Maguire 19474 NY)
Leguminosae (Fabaceae)	<i>Astragalus lonchocarpus</i>		Great rushy milk-vetch	P-Forb	Wide	Pres	Unc	Fertig 25108 (BRY)	2008	
Leguminosae (Fabaceae)	<i>Astragalus miser</i> var. <i>oblongifolius</i>		Rydberg's weedy milkvetch	P-Forb	Wide	Pres	Com	Fertig 22758 (BRY)	2006	
Leguminosae (Fabaceae)	<i>Astragalus tenellus</i>		Pulse milkvetch	P-Forb	Wide	Pres	Unc	Fertig 23369 (BRY)	2007	
Leguminosae (Fabaceae)	<i>Lathyrus lanszwertii</i> var. <i>laetivirens</i>	<i>L. laetivirens</i>	Largeflower sweet-pea	P-Forb	Reg En	Pres	Unc	Fertig 24897 (BRY)	2006	
Leguminosae (Fabaceae)	<i>Lotus utahensis</i>		Utah trefoil	P-Forb	Reg En	Pres	Unc	Fertig 23372 (BRY)	2007	Type locality is W of Carmel, Kane Co, UT (Ottley 5613 NY)

Appendix A. Annotated Checklist of the Vascular Plant Flora of Ashdown Gorge Wilderness Area, Iron County, Utah

Family	Species	Synonyms	Common Name	Life form	Range	Status	Pop Size	Source	Year doc	Comments
Leguminosae (Fabaceae)	<i>Lupinus argenteus</i>		Silvery lupine	P-Forb	Wide	Obs	Unc		2009	Var. was not determined
Leguminosae (Fabaceae)	<i>Lupinus sericeus</i> var. <i>barbiger</i>	<i>L. barbiger</i>	Sink lupine	P-Forb	Loc En	Pres	Unc	Fertig 24882 (BRY)	2009	
Leguminosae (Fabaceae)	<i>Oxytropis oreophila</i> var. <i>oreophila</i>		Mountain loco-weed	P-Forb	Wide	Pres	Unc	Fertig & Reynolds 24289 (BRY)	2008	
Leguminosae (Fabaceae)	<i>Thermopsis montana</i>	<i>T. rhombifolia</i> var. <i>montana</i> , <i>T. pinnatorum</i>	Montane golden pea	P-Forb	Wide	Pres	Unc	Fertig 24875 (BRY)	2009	
Leguminosae (Fabaceae)	<i>Trifolium gymnocarpon</i>	<i>T. gymnocarpon</i> var. <i>gymnocarpon</i>	Dwarf clover	P-Forb	Wide	Obs	Rare		2009	
Leguminosae (Fabaceae)	<i>Trifolium longipes</i> var. <i>rusbyi</i>		Rusby's clover	P-Forb	Wide	Pres	Unc	Fertig 22753 (BRY)	2006	
Leguminosae (Fabaceae)	<i>Trifolium repens</i>		White clover	P-Forb	Intro	Pres	Unc	Fertig 23384 (BRY)	2007	Native to Europe. First record for Iron County
Leguminosae (Fabaceae)	<i>Vicia americana</i> var. <i>americana</i>		American vetch	P-Forb	Wide	Pres	Com	Fertig 24898 (BRY)	2009	
Liliaceae (Alliaceae)	<i>Allium bisceptrum</i>		Twincrest onion	P-Forb	Wide	Pres	Unc	Fertig 24766 (BRY)	2009	
Liliaceae (Convallariaceae)	<i>Calochortus nuttallii</i>		Sego-lily	P-Forb	Wide	Pres	Unc	Fertig 24885 (BRY)	2008	State flower of Utah
Liliaceae	<i>Fritillaria atropurpurea</i>		Leopard-lily	P-Forb	Wide	Obs	Unc		2009	
Liliaceae (Convallariaceae, Ruscaceae)	<i>Smilacina stellata</i>	<i>Maianthemum stellatum</i>	Starry false Solomon's-seal	P-Forb	Wide	Pres	Unc	Fertig 24921 (BRY)	2008	

Appendix A. Annotated Checklist of the Vascular Plant Flora of Ashdown Gorge Wilderness Area, Iron County, Utah

Family	Species	Synonyms	Common Name	Life form	Range	Status	Pop Size	Source	Year doc	Comments
Liliaceae (Melanthiaceae)	<i>Zigadenus elegans</i>	<i>Anticlea elegans</i>	Mountain death camas	P-Forb	Wide	Obs	Unc	Observed by W. Fertig in Tri-Story Canyon	2007	
Linaceae	<i>Linum kingii</i>	<i>Mesnyiopsis kingii</i>	King's yellow flax	P-Forb	Wide	Obs	Unc	Photographed by W. Fertig in Tri-Story Canyon	2008	Photo on page 13
Linaceae	<i>Linum perenne</i> ssp. <i>lewisii</i>	<i>L. lewisii</i> var. <i>lewisii</i> , <i>Adenolinum lewisii</i>	Blue flax	P-Forb	Wide	Pres	Unc	Fertig 25044 (BRY)	2009	
Malvaceae	<i>Iliamna rivularis</i>		Wild hollyhock	P-Forb	Wide	Pres	Rare	Fertig 25022 (BRY)	2009	
Malvaceae	<i>Sidalcea candida</i>	Includes vars. <i>candida</i> & <i>glabrata</i>	White checker-mallow	P-Forb	Wide	Pres	Unc	Fertig 23387 (BRY)	2007	
Monotropaceae (Ericaceae)	<i>Pterospora andromedea</i>		Woodland pine-drops	P-Forb	Wide	Pres	Unc	Fertig 25027 (BRY)	2008	
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	P-Forb	Wide	Pres	Unc	Fertig 25097 (BRY)	2009	
Onagraceae	<i>Epilobium brachycarpum</i>	<i>E. paniculatum</i> var. <i>paniculatum</i>	Autumn willow-herb	A-Forb	Wide	Pres	Rare	Fertig 23385 (BRY)	2008	
Onagraceae	<i>Epilobium ciliatum</i>	<i>E. ciliatum</i> var. <i>ciliatum</i> , <i>E. watsonii</i> , <i>E. adenocaulon</i>	Northern willow-herb	P-Forb	Wide	Pres	Unc	Fertig 23389 (BRY)	2007	
Onagraceae	<i>Epilobium halleanum</i>		Hall's willow-herb	P-Forb	Wide	Pres	Rare	Fertig 24944 (BRY)	2009	
Onagraceae	<i>Gayophytum diffusum</i> var. <i>strictipes</i>	<i>G. diffusum</i> ssp. <i>parviflorum</i> , <i>G. lasiospermum</i>	Diffuse ground-smoke	A-Forb	Wide	Pres	Unc	Fertig 24910 (BRY)	2009	First record for Iron County

Appendix A. Annotated Checklist of the Vascular Plant Flora of Ashdown Gorge Wilderness Area, Iron County, Utah

Family	Species	Synonyms	Common Name	Life form	Range	Status	Pop Size	Source	Year doc	Comments
Onagraceae	<i>Oenothera caespitosa</i> var. <i>marginata</i>		Long-tube evening-primrose	P-Forb	Wide	Obs	Unc		2009	
Onagraceae	<i>Oenothera flava</i>		Yellow evening-primrose	P-Forb	Wide	Obs	Rare	Observed by Fertig on Rattlesnake Trail	2006	
Orchidaceae	<i>Corallorhiza maculata</i>	<i>C. maculata</i> var. <i>maculata</i>	Spotted coral-root	P-Forb	Wide	Pres	Rare	Fertig 25055 (BRY)	2009	
Orchidaceae	<i>Goodyera oblongifolia</i>		Giant rattlesnake-plantain	P-Forb	Wide	Pres	Unc	Fertig 24354 (BRY)	2008	
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	P-Forb	Wide	Pres	Unc	Fertig 25061 (BRY)	2009	
Orchidaceae	<i>Habenaria sparsiflora</i> var. <i>sparsiflora</i>	<i>Platanthera sparsiflora</i>	Slender bog-orchid	P-Forb	Wide	Pres	Unc	Fertig & Reynolds 24224 (BRY)	2008	
Pinaceae	<i>Abies concolor</i>		White fir	Tree	Wide	Pres	Com	Fertig 24872 (BRY)	2007	
Pinaceae	<i>Abies lasiocarpa</i>	<i>Abies bifolia</i>	Subalpine fir	Tree	Wide	Pres	Com	Fertig 24884 (BRY)	2006	
Pinaceae	<i>Picea engelmannii</i>		Engelmann spruce	Tree	Wide	Pres	Com	Fertig 24856 (BRY)	2006	
Pinaceae	<i>Picea pungens</i>		Blue spruce	Tree	Wide	Pres	Unc	Fertig 25105 (BRY)	2008	State tree of Utah
Pinaceae	<i>Pinus edulis</i>		Two-needle pin-yon	Tree	Wide	Pres	Rare	Fertig 25111 (BRY)	2009	
Pinaceae	<i>Pinus flexilis</i>		Limber pine	Tree	Wide	Pres	Unc	Fertig 22738 (BRY)	2006	
Pinaceae	<i>Pinus longaeva</i>	<i>P. aristata</i>	Western bristlecone pine	Tree	Wide	Pres	Com	Fertig & Reynolds 24199 (BRY)	2006	
Pinaceae	<i>Pinus ponderosa</i> var. <i>scopulorum</i>		Ponderosa pine	Tree	Wide	Pres	Com	Fertig 24874 (BRY)	2008	

Appendix A. Annotated Checklist of the Vascular Plant Flora of Ashdown Gorge Wilderness Area, Iron County, Utah

Family	Species	Synonyms	Common Name	Life form	Range	Status	Pop Size	Source	Year doc	Comments
Pinaceae	<i>Pseudotsuga menziesii</i> var. <i>glauca</i>		Douglas-fir	Tree	Wide	Pres	Com	Fertig 22737 (BRY)	2006	
Polemoniaceae	<i>Collomia linearis</i>		Small collomia	A-Forb	Wide	Pres	Unc	Fertig 25023 (BRY)	2009	
Polemoniaceae	<i>Ipomopsis aggregata</i> var. <i>aggregata</i>	<i>Gilia aggregata</i> var. <i>aggregata</i>	Scarlet gilia	P-Forb	Wide	Pres	Unc	Fertig 23386 (BRY)	2007	
Polemoniaceae	<i>Ipomopsis tridactyla</i>	<i>I. spicata</i> ssp. <i>tridactyla</i> , <i>Gilia tridactyla</i>	Cedar Breaks gilia	P-Forb	Loc En	Pres	Rare	Fertig & Reynolds 24288 (BRY)	2008	Type locality is Brigham Peak, Piute Co., UT (Jones 5949 NY)
Polemoniaceae	<i>Microsteris gracilis</i> var. <i>humilior</i>	<i>Phlox gracilis</i> var. <i>humilis</i>	Slender phlox	A-Forb	Wide	Obs	Unc		2009	
Polemoniaceae	<i>Phlox pulvinata</i>	<i>P. sibirica</i> ssp. <i>pulvinata</i>	Cushion phlox	P-Forb	Wide	Pres	Unc	Fertig & Reynolds 24290 (BRY)	2007	
Polemoniaceae	<i>Polemonium pulcherrimum</i> var. <i>delicatum</i>	<i>P. pulcherrimum</i> var. <i>pulcherrimum</i>	Pretty Jacob's-ladder	P-Forb	Wide	Pres	Unc	Fertig 22755 (BRY)	2006	
Polygonaceae	<i>Eriogonum pangui-cense</i> var. <i>alpestre</i>		Panguitch wild buckwheat	P-Forb	Loc En	Pres	Com	Fertig & Reynolds 24263 (BRY)	2007	Type locality is Cedar Breaks, Iron Co., UT (Goodman & Hitchcock 1601 CAS)
Polygonaceae	<i>Eriogonum umbellatum</i> var. <i>umbellatum</i>		Sulfur wild buck-wheat	P-Forb	Wide	Pres	Unc	Fertig 24870 (BRY)	2009	
Polygonaceae	<i>Polygonum douglasii</i> var. <i>douglasii</i>		Douglas' knot-weed	A-Forb	Wide	Obs	Unc		2009	First record for Iron County?
Polygonaceae	<i>Polygonum douglasii</i> var. <i>johnstonii</i>	<i>P. sawatchense</i> var. <i>sawatchense</i>	Sawatch knot-weed	A-Forb	Wide	Pres	Unc	Fertig 24905 (BRY)	2009	
Polygonaceae	<i>Rumex crispus</i>		Curly dock	P-Forb	Intro	Pres	Rare	Fertig 23371 (BRY)	2007	Native to Eurasia
Polygonaceae	<i>Rumex salicifolius</i>	<i>R. mexicanus</i> , <i>R. utahensis</i> , <i>R. tri-angulivalvis</i>	Willow dock	P-Forb	Wide	Pres	Unc	Fertig 24992 (BRY)	2009	

Appendix A. Annotated Checklist of the Vascular Plant Flora of Ashdown Gorge Wilderness Area, Iron County, Utah

Family	Species	Synonyms	Common Name	Life form	Range	Status	Pop Size	Source	Year doc	Comments
Polypodiaceae	<i>Cystopteris fragilis</i>	Includes <i>C. utahensis</i> , <i>C. tenuis</i> , <i>C. reevesiana</i>	Bristle bladder fern	Fern	Wide	Pres	Rare	Fertig 24933 (BRY)	2009	
Primulaceae	<i>Androsace septentrionalis</i>		Pygmy-flower rock-jasmine	A-Forb	Wide	Pres	Unc	Fertig 22751 (BRY)	2006	
Primulaceae	<i>Dodecatheon alpinum</i>		Alpine shooting-star	P-Forb	Wide	Pres	Rare	Fertig 23378 (BRY)	2007	
Pyrolaceae (Ericaceae)	<i>Pyrola asarifolia</i>	<i>P. rotundifolia</i> ssp. <i>asarifolia</i>	Pink wintergreen	P-Forb	Wide	Pres	Unc	Fertig & Reynolds 24260 (BRY)	2008	
Pyrolaceae (Ericaceae)	<i>Pyrola picta</i>	<i>P. picta</i> var. <i>picta</i>	White-veined wintergreen	P-Forb	Wide	Pres	Rare	Fertig 24353 (BRY)	2008	
Pyrolaceae (Ericaceae)	<i>Pyrola secunda</i>	<i>Orthilia secunda</i>	Sidebells pyrola	P-Forb	Wide	Pres	Unc	Fertig & Reynolds 24281 (BRY)	2008	
Ranunculaceae	<i>Aconitum columbianum</i> var. <i>columbianum</i>	Includes var. <i>ochroleucum</i>	Columbian monkshood	P-Forb	Wide	Pres	Unc	Fertig 25024 (BRY)	2009	
Ranunculaceae	<i>Actaea rubra</i>	<i>A. rubra</i> ssp. <i>arguta</i>	Red baneberry	P-Forb	Wide	Obs	Rare	Observed by W. Fertig in Shooting Star Creek	2006	
Ranunculaceae	<i>Anemone multifida</i> var. <i>tetonensis</i>	<i>A. tetonensis</i>	Cutleaf anemone	P-Forb	Wide	Obs	Unc		2008	
Ranunculaceae	<i>Aquilegia coerulea</i>	Includes vars. <i>ochroleuca</i> & <i>pinetorum</i>	Colorado columbine	P-Forb	Wide	Pres	Unc	Fertig 24869 (BRY)	2006	
Ranunculaceae	<i>Aquilegia scopulorum</i> var. <i>scopulorum</i>		Rock columbine	P-Forb	Reg En	Obs	Unc	Photo by Doug Reynolds from Twisted Forest (see pg 1)	2008	Also on Claron talus in Tri-Story Canyon
Ranunculaceae	<i>Clematis columbiana</i>	<i>C. pseudocalpina</i> , <i>Atragene columbiana</i>	Columbian virgin's-bower	P-Forb	Wide	Pres	Unc	Fertig 24965 (BRY)	2008	
Ranunculaceae	<i>Delphinium barbeyi</i>		Subalpine larkspur	P-Forb	Reg En	Pres	Com	Fertig & Reynolds 24192 (BRY)	2006	

Appendix A. Annotated Checklist of the Vascular Plant Flora of Ashdown Gorge Wilderness Area, Iron County, Utah

Family	Species	Synonyms	Common Name	Life form	Range	Status	Pop Size	Source	Year doc	Comments
Ranunculaceae	<i>Ranunculus inamoenus</i>		Drab buttercup	P-Forb	Wide	Pres	Unc	Fertig 22750 (BRY)	2006	
Ranunculaceae	<i>Thalictrum fendleri</i>		Fendler's meadow-rue	P-Forb	Wide	Pres	Com	Fertig 24851 (BRY)	2006	
Rhamnaceae	<i>Ceanothus fendleri</i>		Fendler's mountain-lilac	Shrub	Wide	Pres	Unc	Fertig 24871 (BRY)	2009	
Rhamnaceae	<i>Ceanothus martinii</i>		Utah mountain-lilac	Shrub	Wide	Pres	Unc	Fertig 25095 (BRY)	2008	
Rosaceae	<i>Amelanchier alnifolia</i>		Saskatoon serviceberry	Shrub	Wide	Pres	Unc	Fertig 23376 (BRY)	2007	AGWA material is var. <i>pumila</i>
Rosaceae	<i>Amelanchier utahensis</i>	Includes vars. <i>utahensis</i> & <i>covillei</i>	Utah serviceberry	Shrub	Wide	Obs	Unc		2008	
Rosaceae	<i>Cercocarpus ledifolius</i> var. <i>intermontanus</i>	<i>C. ledifolius</i> var. <i>intercedens</i>	Curl-leaf mountain mahogany	Shrub	Wide	Pres	Unc	Fertig 24342 (BRY)	2008	
Rosaceae	<i>Cercocarpus montanus</i>		Alder-leaf mountain mahogany	Shrub	Wide	Obs	Unc		2008	
Rosaceae	<i>Fragaria virginiana</i>		Virginia strawberry	P-Forb	Wide	Pres	Unc	Fertig 22759 (BRY)	2006	
Rosaceae	<i>Geum macrophyllum</i> var. <i>perincisum</i>		Large-leaved avens	P-Forb	Wide	Pres	Unc	Fertig 24913 (BRY)	2009	
Rosaceae	<i>Ivesia sabulosa</i>		Sevier ivesia	P-Forb	Reg En	Pres	Unc	Fertig & Reynolds 24265 (BRY)	2007	Type is Sevier River, Garfield Co., UT (Jones 6032 POM)
Rosaceae	<i>Potentilla erinita</i>		Hair-tuft cinquefoil	P-Forb	Wide	Pres	Unc	Fertig 25050 (BRY)	2009	
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	Pres	Unc	Fertig, Holmgren, & Holmgren 25066 (BRY)	2007	

Appendix A. Annotated Checklist of the Vascular Plant Flora of Ashdown Gorge Wilderness Area, Iron County, Utah

Family	Species	Synonyms	Common Name	Life form	Range	Status	Pop Size	Source	Year doc	Comments
Rosaceae	<i>Potentilla gracilis</i> var. <i>P. pulcherrima</i>		Beautiful cinquefoil	P-Forb	Wide	Pres	Unc	Fertig 24949 (BRY)	2009	
Rosaceae	<i>Potentilla hippiana</i>	<i>P. hippiana</i> var. <i>hippiana</i>	Woolly cinquefoil	P-Forb	Wide	Obs	Unc		2009	
Rosaceae	<i>Prunus virginiana</i> var. <i>melanocarpa</i>	<i>Padus virginiana</i> ssp. <i>melanocarpa</i>	Western choke-cherry	Shrub	Wide	Pres	Unc	Fertig 23374 (BRY)	2007	
Rosaceae	<i>Purshia tridentata</i>		Antelope bitter-brush	Shrub	Wide	Pres	Com	Fertig 25049 (BRY)	2007	
Rosaceae	<i>Rosa nutkana</i> var. <i>hispida</i>		Nootka rose	Shrub	Wide	Pres	Rare	Fertig 24934 (BRY)	2009	
Rosaceae	<i>Rosa woodsii</i>	<i>R. woodsii</i> var. <i>ultramontana</i>	Woods' rose	Shrub	Wide	Pres	Unc	Fertig 22734 (BRY)	2006	
Rosaceae	<i>Rubus idaeus</i> var. <i>strigosus</i>	<i>R. idaeus</i> var. <i>aculeatissimus</i> , <i>R. idaeus</i> var. <i>melanolasius</i>	Common red raspberry	Shrub	Wide	Pres	Unc	Fertig 24932 (BRY)	2009	
Rubiaceae	<i>Galium triflorum</i>		Sweet-scented bedstraw	P-Forb	Wide	Pres	Unc	Fertig 23380 (BRY)	2007	
Salicaceae	<i>Populus angustifolia</i>		Narrow-leaved cottonwood	Tree	Wide	Pres	Com	Fertig 25077 (BRY)	2008	
Salicaceae	<i>Populus tremuloides</i>		Quaking aspen	Tree	Wide	Pres	Com	Fertig 24909 (BRY)	2006	
Salicaceae	<i>Salix bebbiana</i>		Bebb's willow	Shrub	Wide	Pres	Unc	Fertig 24923 (BRY)	2009	First record for Iron County
Salicaceae	<i>Salix brachycarpa</i>		Short-fruit willow	Shrub	Wide	Obs	Unc	Observed by W. Fertig in swamp in Ashdown Canyon just W of CEBR boundary	2008	
Salicaceae	<i>Salix eriocephala</i> var. <i>watsonii</i>	<i>S. lutea</i> , <i>S. rigida</i> var. <i>watsonii</i>	Yellow willow	Shrub	Wide	Pres	Unc	Fertig 25081 (BRY)	2009	First record for Iron County
Salicaceae	<i>Salix exigua</i> var. <i>stenophylla</i>	<i>S. exigua</i> var. <i>exigua</i>	Coyote willow	Shrub	Wide	Pres	Unc	Fertig 25080 (BRY)	2008	

Appendix A. Annotated Checklist of the Vascular Plant Flora of Ashdown Gorge Wilderness Area, Iron County, Utah

Family	Species	Synonyms	Common Name	Life form	Range	Status	Pop Size	Source	Year doc	Comments
Saxifragaceae (Hydrangeaceae)	<i>Jamesia americana</i> var. <i>rosea</i>		Rosy cliff jamesia	Shrub	Disj	Pres	Rare	Fertig & Reynolds 24148 (BRY)	2008	
Saxifragaceae (Parnassiaceae)	<i>Parnassia palustris</i> var. <i>montanensis</i>		Marsh grass-of-Parnassus	P-Forb	Wide	Obs	Rare	Observed by W. Fertig in swamp in Ashdown Gorge	2008	
Saxifragaceae (Grossulariaceae)	<i>Ribes cereum</i> var. <i>inebrians</i>	<i>R. cereum</i> var. <i>pedicellare</i>	Wax currant	Shrub	Wide	Pres	Unc	Fertig 24880 (BRY)	2006	
Saxifragaceae (Grossulariaceae)	<i>Ribes montigenum</i>		Alpine prickly currant	Shrub	Wide	Pres	Com	Fertig & Reynolds 24198 (BRY)	2006	
Saxifragaceae (Grossulariaceae)	<i>Ribes viscosissimum</i> var. <i>viscosissimum</i>		Sticky currant	Shrub	Wide	Obs	Unc		2008	
Scrophulariaceae	<i>Castilleja miniata</i>		Scarlet paint-brush	P-Forb	Wide	Pres	Unc	Fertig 24892 (BRY)	2006	
Scrophulariaceae	<i>Castilleja parvula</i> var. <i>revelii</i>		Reveal's paint-brush	P-Forb	Loc En	Pres	Rare	Fertig & Reynolds 24283 (BRY)	2007	Type locality is Bryce Point, Garfield Co, UT (Holmgren & Reveal 2017 NY)
Scrophulariaceae	<i>Collinsia parviflora</i>		Blue-eyed Mary	A-Forb	Wide	Pres	Unc	Fertig 24904 (BRY)	2007	
Scrophulariaceae	<i>Cordylanthus kingii</i> var. <i>kingii</i>		King's bird's-beak	A-Forb	Reg En	Pres	Unc	Fertig, Holmgren, & Holmgren 25070 (BRY)	2009	
Scrophulariaceae	<i>Orthocarpus luteus</i>		Yellow owl-clover	A-Forb	Wide	Pres	Rare	Fertig 25038 (BRY)	2009	First record for Iron County
Scrophulariaceae	<i>Penstemon caespitosus</i> var. <i>suffruticosus</i>	<i>P. tusharensis</i>	Tushar penstemon	P-Forb	Loc En	Pres	Rare	Fertig & Reynolds 23357 (BRY)	2007	AGWA specimens transitional to var. <i>desertipicti</i>
Scrophulariaceae	<i>Penstemon eatonii</i> var. <i>eatonii</i>		Eaton's fire-cracker	P-Forb	Wide	Obs	Unc		2009	

Appendix A. Annotated Checklist of the Vascular Plant Flora of Ashdown Gorge Wilderness Area, Iron County, Utah

Family	Species	Synonyms	Common Name	Life form	Range	Status	Pop Size	Source	Year doc	Comments
Scrophulariaceae	<i>Penstemon leiophyllus</i> var. <i>leiophyllus</i>		Markagunt penstemon	P-Forb	Loc En	Pres	Com	Fertig 23363 (BRY)	2006	Type locality is Mammoth Creek, Garfield Co, UT (Jones 6026b US)
Scrophulariaceae	<i>Penstemon linarioides</i> var. <i>sileri</i>		Siler's penstemon	P-Forb	Reg En	Obs	Unc		2009	Type locality is Osmer, Kane Co, UT (Siler s.n. GH)
Scrophulariaceae	<i>Penstemon rostriflorus</i>	<i>P. bridgesii</i>	Beaked penstemon	P-Forb	Wide	Pres	Rare	Fertig 25113 (BRY)	2009	
Scrophulariaceae	<i>Penstemon rydbergii</i> var. <i>aggregatus</i>		Rydberg's penstemon	P-Forb	Reg En	Pres	Com	Fertig & Reynolds 24205 (BRY)	2006	
Scrophulariaceae	<i>Penstemon whippleanus</i>		Whipple's penstemon	P-Forb	Wide	Pres	Unc	Fertig & Reynolds 24204 (BRY)	2008	
Scrophulariaceae	<i>Synthyris laciniata</i>	<i>S. pinnatifida</i> var. <i>laciniata</i>	Cutleaf synthyris	P-Forb	Reg En	Obs	Rare	Observed by W. Fertig in Twisted Forest	2007	
Scrophulariaceae	<i>Veronica americana</i>		American brook-lime	P-Forb	Wide	Pres	Unc	Fertig 24940 (BRY)	2008	
Scrophulariaceae	<i>Veronica biloba</i>	<i>Pocilla biloba</i>	Two-lobed speedwell	A-Forb	Intro	Obs	Rare	Observed by W. Fertig in Long Hollow drainage	2007	Native to Asia
Umbelliferae (Apiaceae)	<i>Angelica pinnata</i>		Pinnate angelica	P-Forb	Wide	Pres	Unc	Fertig 25057 (BRY)	2008	
Umbelliferae (Apiaceae)	<i>Cymopterus lemmonii</i>	<i>Pseudocymopterus montanus</i>	Lemmon's spring-parsley	P-Forb	Wide	Pres	Com	Fertig 22754 (BRY)	2006	
Umbelliferae (Apiaceae)	<i>Cymopterus minimus</i>		Least spring-parsley	P-Forb	Loc En	Pres	Unc	Fertig & Reynolds 24279 (BRY)	2007	Type locality is Cedar Breaks, Iron Co, UT (Mathias 703 MO)
Umbelliferae (Apiaceae)	<i>Ligusticum porteri</i>		Southern ligusticum	P-Forb	Wide	Pres	Com	Fertig 24852 (BRY)	2006	

Appendix A. Annotated Checklist of the Vascular Plant Flora of Ashdown Gorge Wilderness Area, Iron County, Utah

Family	Species	Synonyms	Common Name	Life form	Range	Status	Pop Size	Source	Year doc	Comments
Umbelliferae (Apiaceae)	<i>Lomatium minimum</i>		Least lomatium	P-Forb	Loc En	Pres	Unc	Fertig & Reynolds 24149 (BRY)	2008	Type locality is Bryce Canyon, Garfield Co, UT (Mathias 670 MO)
Umbelliferae (Apiaceae)	<i>Osmorhiza depauperata</i>		Blunt sweet-cicely	P-Forb	Wide	Pres	Com	Fertig 22757 (BRY)	2006	
Valerianaceae	<i>Valeriana edulis</i>		Tobacco-root	P-Forb	Wide	Pres	Unc	Fertig 23367 (BRY)	2007	
Valerianaceae	<i>Valeriana occidentalis</i>		Western valerian	P-Forb	Wide	Pres	Unc	Fertig 25053 (BRY)	2009	
Violaceae	<i>Viola canadensis</i>	<i>V. canadensis</i> var. <i>rugulosa</i> , <i>V. scopulorum</i> , <i>V. rydbergii</i>	Canadian white violet	P-Forb	Wide	Pres	Com	Fertig 24964 (BRY)	2009	
Violaceae	<i>Viola nephrophylla</i>	<i>V. sororia</i> var. <i>affinis</i>	Northern bog violet	P-Forb	Wide	Pres	Unc	Fertig 24922 (BRY)	2009	
Viscaceae	<i>Arceuthobium cyano-carpum</i>	<i>A. campylopodium</i> var. <i>cyanocarpum</i>	Limber pine dwarf-mistletoe	P-Forb	Sparse	Pres	Unc	Fertig & Reynolds 24261 (BRY)	2007	Parasitic on <i>Pinus flexilis</i> & <i>P. longaeva</i> in AGWA
Viscaceae	<i>Arceuthobium douglasii</i>		Douglas-fir Dwarf-mistletoe	P-Forb	Wide	Pres	Unc	Fertig 24352 (BRY)	2008	Parasitic on <i>Pseudotsuga menziesii</i>