



Annotated Checklist of Vascular Flora

Fossil Butte National Monument

Natural Resource Technical Report NPS/NCPN/NRTR—2009/205



ON THE COVER

Fossil Butte, Fossil Butte National Monument, Wyoming. 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 Fossil Butte National Monument. This entailed a thorough review of existing literature, re-examination of specimens from the Fossil Butte National Monument herbarium and other state and national museum collections, and additional field work to corroborate unverified species reports or locate new species. Based on this study, 546 vascular plant taxa have been confirmed or reliably reported as occurring in the monument (509 are known from validated herbarium specimens and 37 from unvouchered literature reports). Another 68 species formerly considered part of the monument flora have now been shown to be falsely reported. The current flora of Fossil Butte National Monument represents about 19.5% of the known flora of Wyoming, and 36.7% of the flora of the Wyoming Basins ecoregion within Wyoming. At least eight of these taxa are considered species of concern by the state natural heritage program. Introduced plants make up 13.2% of the monument flora (72 species), of which 10 species are considered noxious weeds by the State of Wyoming. Further surveys in Fossil Butte National Monument are likely to find additional new species (114 are known from similar habitats outside the monument boundary), especially among late-season flowering, weedy, or wetland taxa.

Acknowledgements

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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 Fossil Butte National Monument, in southwestern Wyoming. Other NCPN park units are addressed in separate reports.

1.1 Background and justification

One of the primary missions of the 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 Fossil Butte National Monument based on a review of herbarium collections and past literature.
2. Develop an annotated checklist of the flora of Fossil Butte 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

Fifty million years ago, the area that is now Fossil Butte was located at the bottom of a large, freshwater lake enclosed by steep mountains (analogous to the Rift Valley lakes of central Africa today). During its two million-year existence, Fossil Lake gradually filled with fine sediments that entombed hundreds of different species of freshwater fish, invertebrates, primitive mammals, bats, giant turtles, crocodiles, birds, and a variety of subtropical plants. This Eocene time capsule remained unopened until the mid-1880s, when quarries were established at Fossil Butte and adjacent ridges at the north end of Fossil Basin (McGrew and Casilliano 1975). Since that time, several million fossil specimens have been

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

quarried from the Fossil Butte area for museums and private collectors (Grande 1998).

Fossil Butte National Monument (NM) was established in October 1972, to preserve this globally significant paleontological and geological resource “. . . for the benefit and enjoyment of present and future generations . . . and to provide for the display and interpretation of scientific specimens. . . .” (Evenden et al. 2002). The monument is located at the southern end of the Tulp Range in southern Lincoln County, Wyoming, approximately 12 miles west of Kemmerer on U.S. Highway 30 (Figure 1.3.1). The boundaries of the monument encompass Fossil Butte and Cundick Ridge, two sedimentary ridges that rise approximately 1,000 feet above the valley of Chicken Creek. The entire monument covers an area of 3,318 hectares (8,200 acres). Fossil Butte NM has a cool, dry, continental climate. Precipitation averages 9–12 inches (229–305 mm) and is distributed year-round with a small peak in May and June (Jones 1993). Summer daytime temperatures can exceed 90° F (with nighttime lows below 50° F), while winter lows can reach –30° F (Evenden et al. 2002).

1.3.2 Geology

Fossil Butte NM is located near the north end of the Fossil Basin, a long depression amid a series of north-south trending ridges of the Overthrust Belt (Lageson and Spearing 1988). During the Eocene, approximately 50 million years ago, the basin was hydrologically closed and inundated by a shallow, freshwater lake (Fossil Lake) that covered much of southwestern Wyoming. Over a two million-year period, the lake was gradually filled by river delta deposits that gave rise to the Wasatch Formation. Portions of the lake also were covered by fine-grained, dolomitic marlstone (also known as oil shale), which comprises much of the Green River Formation. The shoreline of the lake shifted often, resulting in frequent interfingering of the Wasatch and Green River formations. These lake deposits were uplifted several thousand feet during the Laramide Orogeny in the late Eocene and have been gradually eroding ever since. Today, remnants of the Green River Formation are exposed on the summit and upper slopes of Fossil Butte and Cundick Ridge, while the colorful badlands forming the lower slopes of these ridges consist of Wasatch deposits (McGrew and Casilliano 1975). Two members of the Green River Formation are present, with the Angelo Member located above the fossil-rich Fossil Butte Mem-

ber. Colluvial and alluvial Quaternary sediments consisting of gravel, sand, silt, and clay cover the valley bottom of the Chicken Creek drainage.

1.3.3 Vegetation

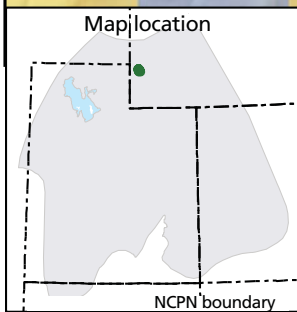
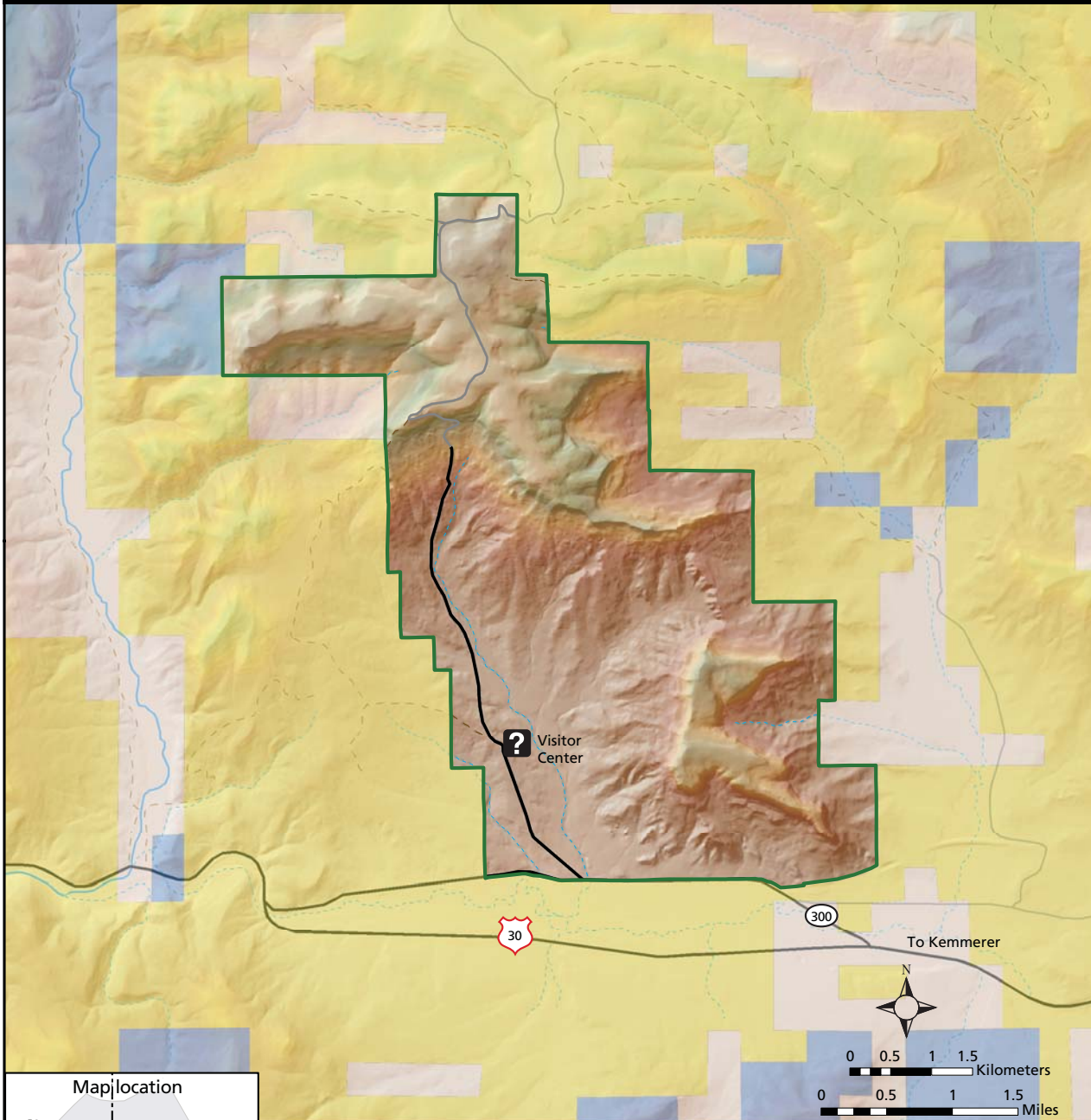
Dorn and others (1984) and Jones (1993) recognized 12–13 vegetation types in Fossil Butte NM; this classification is currently being revised by the NCPN (in ed.). Nearly three-quarters of the monument is dominated by three different taxa of sagebrush. Mountain big sagebrush (*Artemisia tridentata* var. *vaseyana*) predominates on deep, loamy soils on the summit of Cundick Ridge and, to a lesser extent, on the top of Fossil Butte. This taxon is gradually replaced by basin big sagebrush (*A. tridentata* var. *tridentata*) on lower slopes or gravelly stream deposits in the bottom of Fossil Basin, usually associated with outcrops of the Wasatch Formation or Quaternary alluvium. Alkali sagebrush (*A. arbuscula*) becomes dominant on clay-rich soils found over much of the valley floor or in scattered inclusions on ridge slopes. Some low ridges within the Chicken Creek Valley are locally dominated by western wheatgrass (*Elymus smithii*), Sandberg bluegrass (*Poa secunda*), and a variety of perennial forbs, rather than sagebrush (Jones 1993).

Several mountain shrub and forest communities occur on the upper slopes of Fossil Butte and Cundick Ridge. Small patches of mountain shrub vegetation (dominated by alder-leaf mountain mahogany, *Cercocarpus montanus*, and Utah serviceberry, *Amelanchier utahensis*) occur interspersed with mountain big sagebrush on the slopes of Cundick Ridge. Mountain shrub communities may be seral to mixed-timber forests of Douglas-fir (*Pseudotsuga menziesii*) and limber pine (*Pinus flexilis*), especially on north-facing slopes. Stands of quaking aspen (*Populus tremuloides*) are found on north-facing slopes and areas associated with drifting snow or seeps (Jones 1993). Barren, wind-swept rims and slopes on the west and south ends of Fossil Butte and Cundick Ridge support cushion plant communities that contain several of the monument's rarer species, including the narrowly endemic tufted twinpod (*Physaria condensata*) (Fertig 2000).

The banks of Chicken Creek support wet meadow vegetation consisting of beaked sedge (*Carex utriculata*), blackcreeper sedge (*C. praegracilis*), and Nebraska sedge (*C. nebrascensis*) in wet areas and tufted hairgrass (*Deschampsia cespitosa*) and Baltic rush (*Juncus balticus*) on slightly drier sites.

Fossil Butte National Monument

Wyoming



Established October 23, 1972
 2,018–2,464 m elevation
 (6,620–8,084 ft elevation)
 3,318 ha (8,198 ac)



Legend			
	Intermittent streams		Park boundary (NPS)
	Perennial streams		U.S. Bureau of Land Management
	Paved roads		Private
	Unpaved roads		State
	Unimproved/4WD roads		

MAP CREATED BY ANETH WIGHT, NCPN (DERIVED FROM EVENDEN ET AL. 2002)

Figure 1.3.1. Location of Fossil Butte National Monument, Lincoln County, Wyoming.

Small patches of saline vegetation, dominated by greasewood (*Sarcobatus vermiculatus*) and saltbush (*Atriplex*) also occur near the creek and support populations of the rare entire-leaf pepperwort (*Lepidium integrifolium*) (Fertig 2000). Perennial springs at the base of Fossil Butte and Cundick Ridge have small thickets of yellow willow (*Salix eriocephala* var. *watsonii*) and narrow-leaved cottonwood (*Populus angustifolia*) or silver sagebrush (*Artemisia cana*)/sedge communities (Jones 1993; Springer et al. 2006).

1.3.4 Previous botanical studies

George Letterman was probably the first botanist to explore the area around Fossil Butte, stopping briefly at the Fossil Station train stop (probably in the vicinity of Twin Creek) in 1885 (Table 1.3.4). The full extent of Letterman's collecting is not known, but he did collect entire-leaf pepperwort, a rare species also found in Fossil Butte NM (Fertig 2000; Heidel 2004; Hitchcock 1936).

The first systematic study of the vegetation of Fossil Butte NM occurred in 1973, less than a year after the monument was formally established. The National Park Service hired Dr. Alan Beetle and C. B. Marlow, of the University of Wyoming's Department of Range Management, to create a baseline vegetation map and assess range conditions. Beetle and Marlow (1974) recorded 13 main vegetation types for the monument and compiled a checklist of 78 vascular plant species (now recognized as 72 taxa with the elimination of synonyms, misidentifications, and specimens from outside the monument as documented by Fertig [2000]).

William Litzinger collected approximately 200 voucher specimens in 1977, in the course of conducting vegetation transect studies and developing the Fossil Butte NM herbarium (FOBU). Through his efforts, 132 new species were added to the monument flora, bringing the total number of reported species to just over 200 (Table 1.3.4, Figure 1.3.4) (Litzinger 1977; Fertig 2000).

In 1984, the National Park Service hired Robert and Jane Dorn and Robert Lichvar, of Mountain West Environmental Services, to study grazing impacts and revise Beetle and Marlow's 1974 veg-

etation map. Dorn and others (1984) produced a detailed vegetation map depicting 12 major vegetation types and compiled a checklist of 347 vascular plants for Fossil Butte NM. In all, Dorn and colleagues reported 181 new species for the monument, of which all but 28 have since been corroborated with voucher specimens.

George Jones, plant ecologist with the Wyoming Natural Diversity Database, conducted a follow-up vegetation mapping study for the National Park Service in 1992. Jones (1993) reported two new sedge species for the monument. Recently, Bonnie Heidel reported a third new sedge, meadow sedge (*Carex praticola*), from Jones's collections deposited at the University of Wyoming. *C. praticola* was not cited in Jones's 1993 species list, nor has it previously been collected in Lincoln County. This species is tentatively included in the flora of Fossil Butte NM (Appendix A), but actually may have been collected by Jones in the Absaroka Range, on another research project, and mislabeled.

Clay Kyte, long-time (and recently retired) seasonal ranger and naturalist for Fossil Butte NM, began filling in gaps in the FOBU herbarium in 1994. From 1994 to 2000, Kyte added 101 new taxa to the monument flora and collected specimens for more than 100 other species previously reported (but not vouchered) by Dorn and others (1984) or Beetle and Marlow (1974). With the addition of Kyte's collections, the documented flora of Fossil Butte NM reached 505 taxa in 2000 (Fertig 2000).

Since 2000, Kyte has added 47 new species vouchers and one additional unvouchered record for the monument. Rebecca Harms and Clay Kyte collected seven new wetland plants during an inventory of seeps and springs in 2005 (Springer et al. 2006). Vegetation mappers with the NCPN (in ed.) contributed two additional species reports during 2005 fieldwork. Katie Moon, a graduate student at Brigham Young University, made 15 collections from Fossil Butte NM in 2006, as part of her floristic survey of northeastern Utah and adjacent Wyoming, but added no new taxa to the monument checklist.

Table 1.3.4. Chronology of plant-collecting efforts in Fossil Butte National Monument.

Year	Collector(s)	# of new taxa	Comments
1885	G. Letterman	0	George Letterman collected entire-leaf pepperwort (<i>Lepidium integrifolium</i> var. <i>integrifolium</i>) near "Fossil Station" (Fertig 2000; Hitchcock 1936). The train siding was apparently located east of the current site of Fossil Butte NM (closer to the coal seams west of Kemmerer) in the 1880s, and so this collection probably came from the Twin Creek drainage, rather than Chicken Creek.
1973	A. A. Beetle and C. B. Marlow	67 (+ 5 reported)	Alan Beetle and C. B. Marlow, of the University of Wyoming, reported 78 vascular plant taxa (72 by modern count, based on synonyms, misidentifications, and specimens documented outside the monument) while conducting a baseline assessment of range conditions and developing a vegetation map (Beetle and Marlow 1974).
1977	W. J. Litzinger	132	William Litzinger documented at least 132 new species for the monument while conducting vegetation studies and developing the FOBU herbarium. Litzinger's 1977 checklist of the Fossil Butte NM flora cited nearly 200 plant species in 137 genera and 46 families (Evenden et al. 2002).
1984	R. Dorn, J. Dorn, R. Lichvar	153 (+ 28 reported)	Dorn and others (1984) produced a revised monument checklist with 347 plant species based on their vegetation mapping and classification project for the National Park Service. Of the 181 new taxa reported by Robert and Jane Dorn and Robert Lichvar, 153 have since been corroborated with vouchers by Clay Kyte, but 28 have still not been relocated.
1992	G. P. Jones	3	George Jones, of the Wyoming Natural Diversity Database, documented 3 new sedge species while conducting a vegetation study of Fossil Butte (Jones 1993). One of Jones's collections, meadow sedge (<i>Carex praticola</i>), may have actually come from the Absaroka Range in northwestern Wyoming.
1994–1999	C. Kyte	100 (+ 1 reported)	Beginning in 1994, Fossil Butte NM seasonal naturalist Clay Kyte systematically catalogued and vouchered the flora of the monument, adding 100 new species to the local flora and confirming species previously reported by Dorn and others (1984) and Beetle and Marlow (1974).
2000–2003	C. Kyte	37 (+ 1 reported)	Kyte's collecting efforts continued into the new millennium, with 38 additional species confirmed or reported, including 27 since 2001 that were not included in the monument species list of Fertig (2000).
2004–2006	C. Kyte & W. Fertig, R. Harms, and NCPN vegetation mapping team, K. Moon (BYU)	17 (+ 2 reported)	Since 2004, Clay Kyte, Walter Fertig, and Rebecca Harms have collected 17 new species for the Fossil Butte NM flora, focusing primarily on wetland and weedy species (Springer et al. 2006). Vegetation mappers from the NCPN (in ed.) added two new species reports during their field work in 2005. Katie Moon, graduate student at Brigham Young University, collected 15 species in Fossil Butte in 2006, but none was new to the monument.

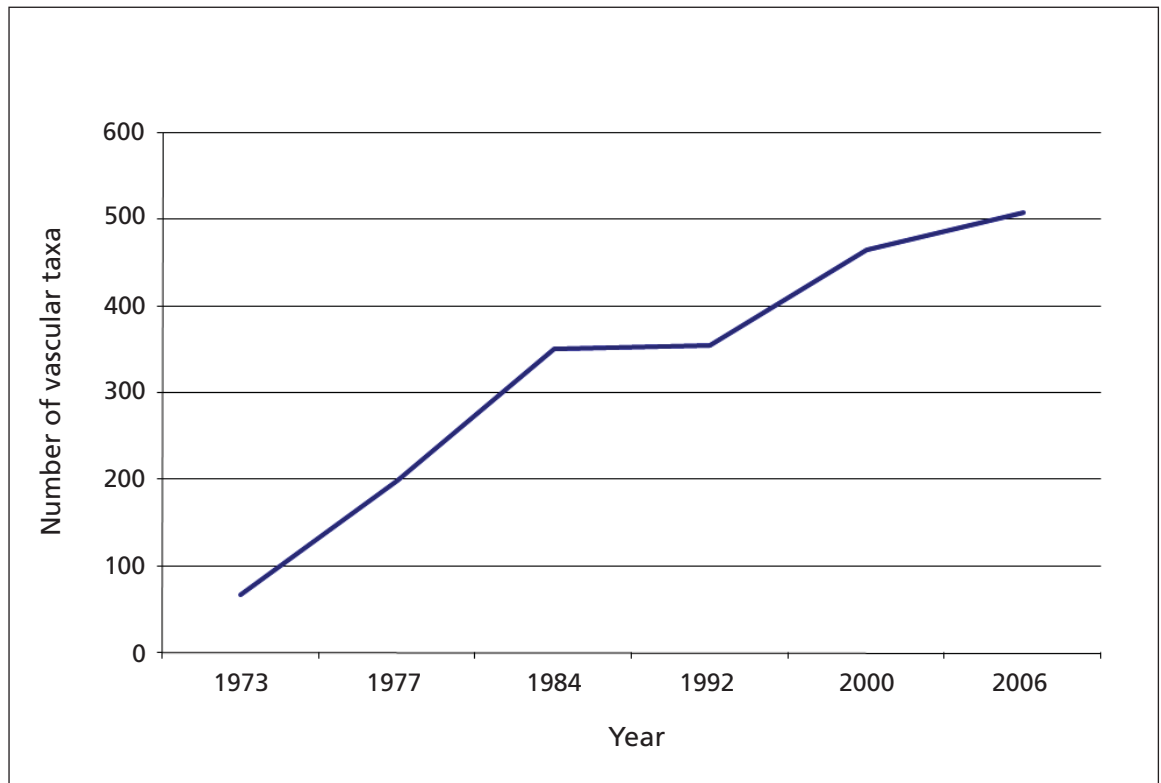


Figure 1.3.4. Increase in the number of plant taxa confirmed as present in Fossil Butte National Monument, 1973–2006.

2 Methods

In July 2004, we reviewed all mounted specimens in the Fossil Butte National Monument herbarium to determine whether each was correctly identified to species, subspecies, or variety following the nomenclature of Dorn (2001). As necessary, we 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 (Beetle and Marlow 1974; Dorn et al. 1984; Fertig 2000; Jones 1993; NCPN in ed.; Springer et al. 2006), we 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 Fossil Butte National Monument based on Fertig (2000) (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 information on life form, geographic range (within the context of Wyoming), population size in the monument (derived from NCPN in ed.; Springer et al. 2006; 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; Flora of North America Editorial Committee 1993, 1997, 2000, 2002a, 2002b, 2003, 2005, 2006a, 2006b, 2006c; Holmgren et al. 2005; Weber and Wittmann 2001; and Welsh et al. 2003). The annotations to these lists and label data from the FOBU herbarium review were then incorporated into the NPSpecies database for the monument.

3 Results

3.1 Summary of the flora of Fossil Butte National Monument

Of the 1,146 vascular plant vouchers in the FOBU herbarium that we examined in 2004, 124 were misidentified (10.8%), 84 were revised to a more current name (7.3%), 126 had variety or subspecies names added (11.0%), and 812 were found to be correctly determined (70.9%). In 2000, the confirmed (vouchered) flora of Fossil Butte NM stood at 436, with another 69 known from literature reports (Fertig 2000). Since 2000, Clay Kyte, Walter Fertig, and Rebecca Harms have corroborated the presence of 19 species on the reported list and added 54 new taxa to the monu-

ment's confirmed species list, bringing the total of vouchered species to 509 (Table 3.1, Appendices A, D).

Currently, 37 additional taxa have been reported for Fossil Butte NM but have yet to be corroborated with a voucher specimen (Table 3.1, Appendix A). Of these, 33 were reported by Dorn and others (1984) or Beetle and Marlow (1973) and four others came from observations by recent vegetation mapping crews (NCPN in ed.) or Fossil Butte NM naturalist Clay Kyte. Taken together, the number of confirmed and reported vascular plant taxa in Fossil Butte National Monument stands at 546 taxa (Table 3.1, Appendix A).

Fertig (2000) identified 146 additional plant species that might potentially occur in Fossil Butte NM, based on the existence of suitable habitat

Table 3.1. Statistical summary of the flora of Fossil Butte National Monument.

Category	Number confirmed in park	Number additionally reported for park	Total
Taxonomic diversity			
Total taxa (including varieties and subspecies)	509	37	546
Full species (excluding varieties and subspecies)	486	35	521
Families	77	0	77
Life form diversity			
Tree taxa	5	0	5
Shrub taxa	52	3	55
Perennial forb taxa	284	25	309
Annual forb taxa	78	2	80
Perennial graminoid taxa	82	7	89
Annual graminoid taxa	6	0	6
Fern taxa	2	0	2
Biogeographic diversity			
Introduced taxa	69	3	72
Native taxa			
Locally endemic taxa	1	0	1
Regionally endemic taxa	20	0	20
Disjunct taxa	0	0	0
Peripheral taxa	8	0	8
Sparse taxa	1	0	1
Widespread taxa	410	34	444
<i>Total native taxa</i>	<i>440</i>	<i>34</i>	<i>474</i>

The number of taxa and families is based on taxonomic concepts of Dorn (2001). See Appendices for an explanation of the various categories.

or the proximity of the monument to known populations (Hartman et al. 1996; Refsdal 1996; Rocky Mountain Herbarium's digital atlas of the Flora of Wyoming <<http://www.rmh.uwyo.edu>>). At least 29 of these species (19.9%) have been discovered in the monument since 2000, and 3 others have been dropped to the falsely reported list or are no longer recognized as valid taxa. The current number of potential species that we are recognizing for Fossil Butte National Monument is 114 (Appendix B).

Following the 2000 FOBU herbarium review (Fertig 2000), 56 plant species previously reported for Fossil Butte NM in the literature or from herbarium specimens were found to be misidentified or documented outside of the monument. Currently, the number of falsely reported taxa for the monument stands at 68 (Appendix C). Of these, 17 were based on unvouchered literature reports (Beetle and Marlow 1974; Dorn et al. 1984; Fertig 2000; Springer et al. 2006) that are now considered questionable because Fossil Butte NM either lacks likely habitat or is well outside of a species's expected range. The remaining 51 false reports are based on misidentified specimens.

The confirmed and reported flora of Fossil Butte NM represent 19.5% of the 2,800 native and naturalized taxa documented for the state of Wyoming by Dorn (2001) and 54.2% of the state's 142 plant families (Table 3.1). Within Lincoln County, the monument flora captures 44.7% of the 1,222 taxa reported by Dorn (2001). At the ecoregional scale, Fossil Butte NM contains 36.7% of the 1,487 species reported for the Wyoming Basins ecoregion (Fertig et al. 2002).

3.2 Life form and biogeographic diversity

Although ecologically dominant, tree and shrub species make up only 11.0% of the confirmed and reported plant taxa of Fossil Butte NM (see Table 3.1). Perennial forbs are the most species-rich life form in the monument's flora, with 309 known and reported taxa (56.6% of the total flora). Less than 16% of the flora is comprised of annual forbs and grass-like plants. Like trees and shrubs, perennial graminoids are ecologically important but relatively species-poor, representing 16.3% of the total flora. The diversity of ferns and fern-allies in Fossil Butte NM is especially low (0.4%) (see Table 3.1).

Of the monument's 474 native taxa, 444 (93.7%)

are widespread across Wyoming and western North America. Only 21 species (4.4% of the monument's native flora) are restricted to the state of Wyoming or the Utah–Wyoming Rocky Mountains and Wyoming Basins ecoregions (regional and local endemics). Nine other species (1.9%) are at the edge of their global range (peripheral) or occur sparsely across the state (see Table 3.1).

3.3 Plants of special concern

Fossil Butte National Monument contains no plants presently listed as threatened or endangered under the U.S. Endangered Species Act. Tufted twinpod was formerly a Category 2 candidate for potential listing under the act (Table 3.3), but was dropped as a candidate when the Category 2 designation was eliminated in 1995. The Wyoming Natural Diversity Database (WYNDD) currently lists eight species from Fossil Butte NM as species of special concern or potential concern (Heidel 2007). A ninth species, Payson's beard-tongue (*Penstemon paysoniorum*), is a Wyoming endemic that was formerly considered a potential species of concern (Fertig 2000), but was recently dropped from the WYNDD list. Several rare species projects have recently been completed for Fossil Butte NM, including surveys of tufted twinpod (Fertig 2002; Kyte 2000b), and entire-leaved peppergrass (Heidel 2004), and a summary of rare species (Fertig 2000).

3.4 Non-native species and noxious weeds

Introduced plant species (not historically native to Wyoming or North America) make up 13.2% of the confirmed and reported flora of Fossil Butte NM (see Table 3.1). This figure is slightly higher than the statewide average of 12.6% non-native species (Fertig 1999). Of the 72 introduced plant species confirmed or reported for Fossil Butte NM, 10 are listed as noxious by the State of Wyoming (Table 3.4) (Wyoming Department of Agriculture 2003). Since the early 1990s, the monument has had an active control program for Canada thistle (*Cirsium arvense*), musk thistle (*Carduus nutans*), spotted knapweed (*Centaurea maculosa*), diffuse knapweed (*Centaurea diffusa*), common hound's-tongue (*Cynoglossum officinale*), five-stamen tamarisk (*Tamarix chinensis*), and several other weed species not on the state noxious list (Kyte 2000a). These efforts have resulted in the eradication of diffuse knapweed and five-stamen tamarisk (Evenden et al. 2002).

Table 3.3. Plant species of conservation concern from Fossil Butte National Monument.

Family	Species	Common name	TNC global rank	Legal status	WYNDD status
Apiaceae	<i>Lomatium bicolor</i> var. <i>bicolor</i>	Wasatch biscuitroot	G4T3T4		PotConc, S2
Apiaceae	<i>Lomatium triternatum</i> var. <i>anomalum</i>	ternate desert-parsley	G5T4T5		SpecConc, S1
Brassicaceae	<i>Lepidium integrifolium</i> var. <i>integrifolium</i>	entire-leaved pepperwort	G1G2T1?		SpecConc, S1
Brassicaceae	<i>Physaria condensata</i>	tufted twinpod	G2	WY BLM: Sensitive, USFWS: former C2 candidate	SpecConc, S2
Chenopodiaceae	<i>Atriplex falcata</i>	falcate saltbush	G4Q		SpecCon, S1
Cuscutaceae	<i>Cuscuta occidentalis</i>	western dodder	G4G5		SpecCon, S1
Fabaceae	<i>Astragalus lentiginosus</i> var. <i>salinus</i>	Sodaville milkvetch	G5T5		SpecCon, S1
Rhamnaceae	<i>Ceanothus martinii</i>	Martin's ceanothus	G4		SpecCon, S1
Scrophulariaceae	<i>Penstemon paysoniorum</i>	Payson beardtongue	G3		S3

This list is derived from Heidel (2007) and Fertig (2000).

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, and NR = not ranked. A comparable scoring system is used to measure state abundance (S) in Wyoming under the column WYNDD status. Under **legal status**, USFWS = U.S. Fish and Wildlife Service. WY BLM = U.S. Bureau of Land Management, Wyoming Office. C2 = Category 2 candidate (a former category used for taxa that might warrant being proposed for threatened or endangered status following additional research). **WYNDD status** includes species of concern (SpecConc) that are actively tracked by the state natural heritage program and species of potential concern (PotConc) that are mostly intrinsically rare regional endemics that are currently stable, but could become species of concern if present management conditions or trends change significantly (Heidel 2007).

Table 3.4. Noxious weed species of Fossil Butte National Monument.

Family	Species	Common name	Park status
Asteraceae	<i>Arctium minus</i>	burdock	Present
Asteraceae	<i>Carduus nutans</i>	musk thistle	Present
Asteraceae	<i>Centaurea diffusa</i>	diffuse knapweed	Eradicated
Asteraceae	<i>Centaurea maculosa</i>	spotted knapweed	Present
Asteraceae	<i>Centaurea repens</i>	Russian knapweed	Present
Asteraceae	<i>Cirsium arvense</i>	Canada thistle	Present
Boraginaceae	<i>Cynoglossum officinale</i>	common hound's-tongue	Present
Convolvulaceae	<i>Convolvulus arvensis</i>	field bindweed	Present
Poaceae	<i>Elymus repens</i>	quackgrass	Present
Tamaricaceae	<i>Tamarix chinensis</i>	five-stamen tamarisk	Eradicated

This list is derived from the Wyoming Department of Agriculture (2003).

4 Discussion

In the nearly 35 years since Beetle and Marlow's original survey, the flora of Fossil Butte National Monument has grown from 73 to 546 taxa, an increase of 86% (Tables 1.3.4 and 3.1, Figure 1.3.4, Appendix A). Based on available habitats and proximity, at least 114 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 in-

crease by nearly 17%. 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).

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Appendices

The following appendices contain annotated checklists of the vascular flora of Fossil Butte 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 (Beetle and Marlow 1974; Dorn et al. 1984; Jones 1993; Fertig 2000; NCPN in ed.; Springer et al. 2006). Vouchers were examined from the FOBU herbarium, and collections from Brigham Young University (BRY) and the University of Wyoming (RM). Species entries in Appendix A are organized alphabetically by family and genus.

Appendix B includes species that may potentially occur within Fossil Butte 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 Fossil Butte 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 *Vascular Plants of Wyoming, third edition* (Dorn 2001). Alternative family names and treatments from other regional floras (Flora of North America Editorial Committee 1993, 2002b; Holmgren et al. 2005; Weber and Wittman 2001; Welsh et al. 2003) are listed in parentheses.

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

Nomenclature for scientific names and taxonomic concepts are derived from Dorn (2001). 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; Flora of North America Editorial Committee 1993, 1997, 2000, 2002a, 2002b, 2003, 2005, 2006a, 2006b, 2006c; Holmgren et al. 2005; Weber and Wittmann 2001; Welsh et al. 2003).

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 and others (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 Wyoming and the state's contribution to the plants overall global range. **Disjunct (Disj)** taxa have their Wyoming 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 Wyoming 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 Wyoming, 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 Wyoming or North America, but their range within Wyoming 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 Fossil Butte NM.

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 (Beetle and Marlow 1974; Dorn et al. 1984; Jones 1993; Fertig 2000; NCPN in ed.; Springer et al. 2006), but have not been corroborated with a voucher specimen. Species that may potentially occur in FOBU 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 Fossil Butte NM. Abundance data are derived from Jones (1993), NCPN (in ed.), and personal observations. Abundant (**Abun**) taxa have large populations, have 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, typically have a narrow ecological amplitude (or at least contribute relatively little to total vegetative cover), or have 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 are the evidence 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 Fossil Butte NM herbarium (**FOBU**), Brigham Young University (**BRY**), 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 Fossil Butte NM. 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 Wyoming or Introduced (Intro) based on Fertig (1999).

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 Fossil Butte NM is indicated by an “x” in the columns Sage/Grass through Wet and is derived from the Fossil Butte NM vegetation classification (NCPN in ed.), Dorn and others (1984), Jones (1993), and Beetle and Marlow (1974). **Sage/Grass** = big sagebrush or alkali sagebrush grassland and montane shrub communities. **Mix Con** = Douglas-fir or limber pine woodlands. **Asp** = quaking aspen forests. **Wet** = wetland areas (including pond margins, wet meadows, and willow thickets). Additional comments are included for species that are restricted to a particular soil/geologic type or are found mostly in barren or disturbed sites.

Appendix A. Confirmed, historical, and reported vascular plant taxa of Fossil Butte 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>	Includes vars. <i>neomexicanum</i> , <i>douglasii</i> , <i>tripartitum</i> , & <i>glabrum</i>	Rocky Mountain maple	Shrub	Wide	Pres	Unc	Kyte 96-208 (FOBU)	1984	
Adoxaceae (Caprifoliaceae)	<i>Sambucus racemosa</i> var. <i>melanocarpa</i>		black elderberry	Shrub	Wide	Pres	Unc	Kyte 97-98 (FOBU)	1984	
Alliaceae (Liliaceae)	<i>Allium acuminatum</i>		taper-tip onion	PerF	Wide	Pres	Unc	Harms & Kyte s.n. (FOBU)	2005	
Alliaceae (Liliaceae)	<i>Allium brevistylum</i>		short-style onion	PerF	Wide	Pres	Unc	Litzinger 1110 (FOBU)	1977	
Alliaceae (Liliaceae)	<i>Allium geyeri</i> var. <i>tenerum</i>	<i>A. rubrum</i>	Geyer's onion	PerF	Wide	Pres	Unc	Kyte 96-61 (FOBU)	1977	
Alliaceae (Liliaceae)	<i>Allium textile</i>		textile onion	PerF	Wide	Pres	Unc	Kyte 97-62 (FOBU)	1977	
Amaranthaceae	<i>Amaranthus blitoides</i>	<i>A. graecizans</i>	prostrate pigweed	AnnF	Wide	Pres	Unc	Litzinger 1254 (FOBU)	1977	
Apiaceae (Umbelliferae)	<i>Angelica arguta</i>		Lyall's angelica	PerF	Wide	Pres	Unc	Harms & Kyte s.n. (FOBU)	1984	
Apiaceae (Umbelliferae)	<i>Angelica pinnata</i>		pinnate angelica	PerF	Wide	Pres	Unc	Kyte 97-119 (FOBU)	1997	
Apiaceae (Umbelliferae)	<i>Cymopterus acaulis</i>	<i>C. acaulis</i> var. <i>acaulis</i> , <i>C. glomeratus</i>	plains spring-parsley	PerF	Wide	Rep	?	Dorn et al. (1984)	1984	
Apiaceae (Umbelliferae)	<i>Cymopterus constancei</i>		Constance's spring-parsley	PerF	Wide	Pres	Unc	Kyte 97-98 (FOBU)	1973	
Apiaceae (Umbelliferae)	<i>Cymopterus longipes</i>	<i>C. longipes</i> var. <i>longipes</i>	long-stalk spring-parsley	PerF	Reg En	Pres	Unc	Kyte 97-36 (FOBU)	1984	
Apiaceae (Umbelliferae)	<i>Cymopterus nivalis</i>	<i>C. bipinnatus</i>	snowline spring-parsley	PerF	Wide	Pres	Unc	Kyte 98-3 (FOBU)	1984	
Apiaceae (Umbelliferae)	<i>Cymopterus terebinthinus</i> var. <i>albiflorus</i>	<i>C. terebinthinus</i> var. <i>calcareus</i> , <i>Pteryxia terebinthina</i> var. <i>albiflora</i>	aromatic spring-parsley	PerF	Wide	Pres	Unc	Kyte 97-29 (FOBU)	1977	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Fossil Butte 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
Apiaceae (Umbelliferae)	<i>Ligusticum filicinum</i>		fernleaf ligusticum	PerF	Reg En	Pres	Unc	Kyte 96-52 (FOBU)	1984	
Apiaceae (Umbelliferae)	<i>Lomatium bicolor</i>	<i>L. bicolor</i> var. <i>bicolor</i>	Wasatch biscuitroot	PerF	Reg En	Pres	Unc	Kyte 96-51 (FOBU)	1984	
Apiaceae (Umbelliferae)	<i>Lomatium dissectum</i> var. <i>multifidum</i>	<i>L. dissectum</i> var. <i>eatonii</i>	fern-leaved desert- parsley	PerF	Wide	Rep	?	Dorn et al. (1984)	1984	
Apiaceae (Umbelliferae)	<i>Lomatium macrocarpum</i>		big-seed desert- parsley	PerF	Wide	Pres	Unc	Litzinger 1163 (FOBU)	1977	
Apiaceae (Umbelliferae)	<i>Lomatium triternatum</i> var. <i>anomalum</i>	<i>L. triternatum</i> ssp. <i>triternatum</i>	ternate desert- parsley	PerF	Reg En	Pres	Rare	Kyte s.n. (FOBU)	1996	
Apiaceae (Umbelliferae)	<i>Lomatium triternatum</i> var. <i>platycarpum</i>	<i>L. simplex</i>	ternate desert- parsley	PerF	Wide	Pres	Unc	Kyte 96-54 (FOBU)	1984	
Apiaceae (Umbelliferae)	<i>Orogenia linearifolia</i>		Indian-potato	PerF	Wide	Pres	Unc	Kyte 99-1 (FOBU)	1999	
Apiaceae (Umbelliferae)	<i>Osmorhiza berteroi</i>	<i>O. chilensis</i>	Chilean sweet-cicely	PerF	Wide	Pres	Unc	Kyte 96-53 (FOBU)	1984	
Apiaceae (Umbelliferae)	<i>Osmorhiza occidentalis</i>		western sweet-cicely	PerF	Wide	Pres	Unc	Harms & Kyte s.n. (FOBU)	2005	
Apiaceae (Umbelliferae)	<i>Perideridia montana</i>	<i>P. gairdneri</i> ssp. <i>borealis</i> , <i>P.</i> <i>montana</i> var. <i>borealis</i>	common yampah	PerF	Wide	Pres	Unc	Kyte 2000-31 (FOBU)	1984	
Apiaceae (Umbelliferae)	<i>Sium suave</i>		water parsnip	PerF	Wide	Pres	Unc	Kyte 96-120 (FOBU)	1996	
Apocynaceae	<i>Apocynum androsaemifolium</i>	<i>A. androsaemifolium</i> var. <i>androsaemifolium</i>	spreading dogbane	PerF	Wide	Pres	Unc	Kyte 96-121 (FOBU)	1996	
Asclepiadaceae	<i>Asclepias speciosa</i>		showy milkweed	PerF	Wide	Pres	Unc	Kyte 98-31 (FOBU)	1998	
Asteraceae (Compositae)	<i>Achillea millefolium</i> var. <i>lanulosa</i>	Includes vars. <i>alpica</i> & <i>occidentalis</i> & ssp. <i>lanulosa</i> , <i>A.</i> <i>lanulosa</i>	common yarrow	PerF	Wide	Pres	Com	Litzinger 1116 (FOBU)	1973	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Fossil Butte 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
Asteraceae (Compositae)	<i>Agoseris glauca</i> var. <i>dasycephala</i>	Includes var. <i>agrestis</i>	short agoseris	PerF	Wide	Pres	Unc	Kyte 2002-07 (FOBU)	2002	
Asteraceae (Compositae)	<i>Agoseris glauca</i> var. <i>glauca</i>		pale agoseris	PerF	Wide	Pres	Unc	Kyte s.n. (FOBU)	1984	
Asteraceae (Compositae)	<i>Agoseris glauca</i> var. <i>laciniata</i>	<i>A. parviflora</i>	cutleaf agoseris	PerF	Wide	Pres	Unc	Kyte 97-11 (FOBU)	1997	
Asteraceae (Compositae)	<i>Antennaria dimorpha</i>		low pussytoes	PerF	Wide	Pres	Unc	Kyte 96-37 (FOBU)	1977	
Asteraceae (Compositae)	<i>Antennaria microphylla</i>	Some authors include <i>A. rosea</i> .	small-leaf pussytoes	PerF	Wide	Pres	Com	Kyte s.n. (FOBU)	1977	
Asteraceae (Compositae)	<i>Antennaria rosea</i>	Included in <i>A. microphylla</i> by many authors. Includes ssp. <i>arida</i> , <i>confinis</i> , <i>pulvinata</i> , & <i>rosea</i> .	rosy pussytoes	PerF	Wide	Pres	Com	Litzinger 1134 (FOBU)	1977	
Asteraceae (Compositae)	<i>Arctium minus</i>		burdock	PerF	Intro	Pres	Unc	Kyte 98-40 (FOBU)	1998	Native to Eurasia. WY state noxious weed
Asteraceae (Compositae)	<i>Arnica cordifolia</i>	<i>A. cordifolia</i> var. <i>cordifolia</i>	heartleaf arnica	PerF	Wide	Pres	Unc	Kyte 96-50 (FOBU)	1977	
Asteraceae (Compositae)	<i>Arnica sororia</i>		meadow arnica	PerF	Wide	Pres	Unc	Kyte 96-101 (FOBU)	1984	
Asteraceae (Compositae)	<i>Artemisia arbuscula</i> var. <i>longiloba</i>	<i>A. longiloba</i> , <i>Seriphidium arbusculum</i> var. <i>longilobum</i> , not distinguished from var. <i>arbuscula</i> by Cronquist (1995)	dwarf sagebrush	Shrub	Wide	Pres	Com	Kyte s.n. (FOBU)	1973	
Asteraceae (Compositae)	<i>Artemisia biennis</i> var. <i>biennis</i>	<i>A. biennis</i>	biennial wormwood	PerF	Wide	Pres	Unc	Litzinger 1640 (FOBU)	1977	
Asteraceae (Compositae)	<i>Artemisia cana</i> var. <i>viscidula</i>	<i>Seriphidium canum</i> ssp. <i>viscidulum</i>	silver sagebrush	Shrub	Wide	Pres	Unc	Litzinger 1561 (FOBU)	1973	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Fossil Butte 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
Asteraceae (Compositae)	<i>Artemisia dracunculus</i>	<i>Oligosporus dracunculus</i> , includes ssp. <i>glaucus</i>	tarragon	PerF	Wide	Pres	Unc	Kyte 96-182 (FOBU)	1984	
Asteraceae (Compositae)	<i>Artemisia frigida</i>		fringed sagebrush	Shrub	Wide	Pres	Unc	Kyte 96-47 (FOBU)	1973	
Asteraceae (Compositae)	<i>Artemisia ludoviciana</i> var. <i>ludoviciana</i>		Louisiana wormwood	PerF	Wide	Pres	Unc	Litzinger 1331 (FOBU)	1977	
Asteraceae (Compositae)	<i>Artemisia nova</i>	<i>A. arbuscula</i> var. <i>nova</i> , <i>A. nova</i> var. <i>nova</i> , <i>Seriphidium novum</i>	black sagebrush	Shrub	Wide	Pres	Rare	Kyte s.n. (FOBU)	2005	
Asteraceae (Compositae)	<i>Artemisia spinescens</i>	<i>Picrothamnus desertorum</i>	budsage	Shrub	Wide	Pres	Unc	Kyte 97-7 (FOBU)	1984	
Asteraceae (Compositae)	<i>Artemisia tridentata</i> var. <i>tridentata</i>	<i>Seriphidium tridentatum</i> ssp. <i>tridentatum</i>	basin big sagebrush	Shrub	Wide	Pres	Abun	Litzinger 1563 (FOBU)	1973	
Asteraceae (Compositae)	<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	Pres	Abun	Kyte & Fertig 2004-02 (FOBU)	1973	
Asteraceae (Compositae)	<i>Artemisia tridentata</i> var. <i>wyomingensis</i>	<i>Seriphidium tridentatum</i> ssp. <i>wyomingense</i>	Wyoming big sagebrush	Shrub	Wide	Pres	Com	Litzinger 1553 (FOBU)	1973	
Asteraceae (Compositae)	<i>Balsamorhiza macrophylla</i>		cutleaf balsamroot	PerF	Reg En	Pres	Unc	Kyte 96-49 (FOBU)	1996	
Asteraceae (Compositae)	<i>Balsamorhiza sagittata</i>		arrowleaf balsamroot	PerF	Wide	Pres	Unc	Kyte 96-41 (FOBU)	1973	
Asteraceae (Compositae)	<i>Carduus nutans</i>	Includes ssp. <i>leioophyllus</i> & <i>macrolepis</i>	musk thistle	PerF	Intro	Pres	Unc	Kyte s.n. (FOBU)	1984	Native to Eurasia. WY state noxious weed
Asteraceae (Compositae)	<i>Centaurea diffusa</i>	<i>Acosta diffusa</i>	diffuse knapweed	PerF	Intro	Ext	NA	Kyte 98-39 (FOBU)	1998	Native to Mediterranean. WY state noxious weed

Appendix A. Confirmed, historical, and reported vascular plant taxa of Fossil Butte 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
Asteraceae (Compositae)	<i>Centaurea maculosa</i>	<i>C. stoebe</i> ssp. <i>micranthos</i> , <i>C. biebersteinii</i> , <i>Acosta maculosa</i>	spotted knapweed	PerF	Intro	Pres	Unc	Kyte s.n. (FOBU)	1996	Native to Europe. WY state noxious weed
Asteraceae (Compositae)	<i>Centaurea repens</i>	<i>Acroptilon repens</i>	Russian knapweed	PerF	Intro	Pres	Unc	Litzinger 1363 (FOBU)	1977	Native to Eurasia. WY state noxious weed
Asteraceae (Compositae)	<i>Chaenactis douglasii</i> var. <i>montana</i>	<i>C. douglasii</i> var. <i>douglasii</i>	hoary dusty-maiden	PerF	Wide	Pres	Unc	Litzinger 1204 (FOBU)	1977	
Asteraceae (Compositae)	<i>Chrysothamnus viscidiflorus</i> var. <i>lanceolatus</i>		lanceleaf rabbitbrush	Shrub	Wide	Pres	Com	Litzinger 1515 (FOBU)	1977	
Asteraceae (Compositae)	<i>Chrysothamnus viscidiflorus</i> var. <i>viscidiflorus</i>	Includes var. <i>stenophyllus</i> according to some authors	green rabbitbrush	Shrub	Wide	Pres	Com	Litzinger 1310 (FOBU)	1973	
Asteraceae (Compositae)	<i>Cirsium arvense</i>	Includes vars. <i>horridum</i> & <i>integrifolium</i> , <i>Breea arvensis</i>	Canada thistle	PerF	Intro	Pres	Unc	Kyte s.n. (FOBU)	1973	Native to Eurasia. WY state noxious weed
Asteraceae (Compositae)	<i>Cirsium pulcherrimum</i>	<i>C. pulcherrimum</i> var. <i>pulcherrimum</i>	Wyoming thistle	PerF	Reg En	Pres	Unc	Litzinger 1197 (FOBU)	1977	
Asteraceae (Compositae)	<i>Cirsium scariosum</i>	<i>C. scariosum</i> var. <i>scariosum</i>	elk thistle	PerF	Wide	Pres	Unc	Kyte 96-181 (FOBU)	1984	
Asteraceae (Compositae)	<i>Cirsium subniveum</i>	<i>C. inamoenum</i> var. <i>inamoenum</i>	snowy thistle	PerF	Wide	Pres	Unc	Kyte 96-124 (FOBU)	1977	
Asteraceae (Compositae)	<i>Cirsium undulatum</i> var. <i>undulatum</i>		wavy-leaved thistle	PerF	Wide	Rep	?	Dorn et al. (1984)	1984	Cited by NCPN (in ed.) without a voucher. Reports from FOBU herbarium are based on misidentified specimens of <i>C. pulcherrimum</i> & <i>C. subniveum</i> .

Appendix A. Confirmed, historical, and reported vascular plant taxa of Fossil Butte 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
Asteraceae (Compositae)	<i>Cirsium vulgare</i>		bull thistle	PerF	Intro	Pres	Unc	Kyte s.n. (FOBU)	1977	Native to Europe
Asteraceae (Compositae)	<i>Crepis acuminata</i>	<i>Psilochenia acuminata</i>	mountain hawksbeard	PerF	Wide	Pres	Unc	Kyte 97-90 (FOBU)	1984	
Asteraceae (Compositae)	<i>Crepis intermedia</i>	<i>Psilochenia intermedia</i>	gray hawksbeard	PerF	Wide	Rep	?	Dorn et al. (1984)	1984	
Asteraceae (Compositae)	<i>Crepis modocensis</i>	<i>Psilochenia modocensis</i>	Modoc hawksbeard	PerF	Wide	Pres	Unc	Kyte 96-100 (FOBU)	1996	
Asteraceae (Compositae)	<i>Ericameria nauseosa</i> var. <i>nauseosa</i>	<i>Chrysothamnus nauseosus</i> var. <i>nauseosus</i>	rubber rabbitbrush	Shrub	Wide	Pres	Unc	Litzinger 1311 (FOBU)	1977	
Asteraceae (Compositae)	<i>Ericameria nauseosa</i> var. <i>oreophila</i>	<i>Chrysothamnus nauseosus</i> var. <i>oreophilus</i> , <i>C. nauseosus</i> var. <i>consimilis</i> , <i>E. nauseosa</i> var. <i>consimilis</i>	greenish rabbitbrush	Shrub	Wide	Pres	Unc	Kyte 96-164 (FOBU)	1996	
Asteraceae (Compositae)	<i>Erigeron compositus</i> var. <i>discoideus</i>	Includes var. <i>glabratus</i>	cut-leaved daisy	PerF	Wide	Pres	Unc	Kyte 98-12 (FOBU)	1998	
Asteraceae (Compositae)	<i>Erigeron corymbosus</i>		mountain daisy	PerF	Wide	Pres	Unc	Kyte s.n. (FOBU)	1984	
Asteraceae (Compositae)	<i>Erigeron eatonii</i>	<i>E. eatonii</i> var. <i>eatonii</i>	Eaton's fleabane	PerF	Wide	Pres	Unc	Litzinger 1162 (FOBU)	1977	
Asteraceae (Compositae)	<i>Erigeron engelmannii</i>		Engelmann's daisy	PerF	Wide	Pres	Unc	Kyte s.n. (FOBU)	1984	
Asteraceae (Compositae)	<i>Erigeron glabellus</i> var. <i>glabellus</i>	<i>E. glabellus</i>	smooth daisy	PerF	Wide	Pres	Unc	Kyte 96-123 (FOBU)	1996	
Asteraceae (Compositae)	<i>Erigeron lonchophyllus</i>	<i>Trimorpha lonchophylla</i>	longleaf daisy	PerF	Wide	Pres	Unc	Kyte s.n. (FOBU)	1995	
Asteraceae (Compositae)	<i>Erigeron nanus</i>		dwarf fleabane	PerF	Reg En	Pres	Unc	Kyte 97-60 (FOBU)	1984	
Asteraceae (Compositae)	<i>Erigeron ochroleucus</i> var. <i>ochroleucus</i>		buff fleabane	PerF	Wide	Rep	?	Dorn et al. (1984)	1984	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Fossil Butte 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
Asteraceae (Compositae)	<i>Erigeron pumilus</i> var. <i>concinus</i>	<i>E. concinnus</i> var. <i>concinus</i> , includes var. <i>subglaber</i>	Navajo fleabane	PerF	Wide	Rep	Rare	Northern Colorado Plateau Network (in ed.)	2005	
Asteraceae (Compositae)	<i>Erigeron pumilus</i> var. <i>pumilus</i>		shaggy fleabane	PerF	Wide	Rep	?	Dorn et al. (1984)	1984	
Asteraceae (Compositae)	<i>Erigeron speciosus</i>	<i>E. speciosus</i> var. <i>macranthus</i>	aspen daisy	PerF	Wide	Pres	Unc	Kyte 96-122 (FOBU)	1984	
Asteraceae (Compositae)	<i>Eucephalus elegans</i>	<i>Aster perelegans</i>	elegant aster	PerF	Wide	Pres	Unc	Kyte 96-161 (FOBU)	1984	
Asteraceae (Compositae)	<i>Eucephalus engelmannii</i>	<i>Aster engelmannii</i>	Engelmann's aster	PerF	Wide	Pres	Unc	Litzinger 1596 (FOBU)	1977	
Asteraceae (Compositae)	<i>Eucephalus glaucus</i>	<i>Aster glaucodes</i> , <i>Eurybia glauca</i> , <i>Herrickia glauca</i> var. <i>glauca</i>	blueleaf aster	PerF	Wide	Pres	Unc	Kyte 96-159 (FOBU)	1984	
Asteraceae (Compositae)	<i>Gaillardia aristata</i>		common blanketflower	PerF	Wide	Pres	Rare	Kyte 2004-10 (FOBU)	2004	
Asteraceae (Compositae)	<i>Gnaphalium palustre</i>		lowland cudweed	AnnF	Wide	Pres	Unc	Kyte s.n. (FOBU)	1995	
Asteraceae (Compositae)	<i>Grindelia squarrosa</i> var. <i>squarrosa</i>	Includes var. <i>serrulata</i> . Vars. not recognized in <i>Flora of North America</i> (2006)	curly-cup gumweed	PerF	Wide	Pres	Unc	Kyte s.n. (FOBU)	1973	
Asteraceae (Compositae)	<i>Gutierrezia sarothrae</i>		broom snakeweed	Shrub	Wide	Pres	Unc	Kyte 98-36 (FOBU)	1973	
Asteraceae (Compositae)	<i>Helianthella uniflora</i>		little sunflower	PerF	Wide	Pres	Unc	Kyte 96-105 (FOBU)	1973	
Asteraceae (Compositae)	<i>Helianthus annuus</i>	<i>H. annuus</i> ssp. <i>lenticularis</i> . Ssp. not recognized in <i>Flora of North America</i> (2006)	common sunflower	AnnF	Wide	Pres	Unc	Kyte 97-105 (FOBU)	1997	
Asteraceae (Compositae)	<i>Hieracium cynoglossoides</i>	<i>Hieracium scouleri</i> var. <i>griseum</i>	houndtongue hawkweed	PerF	Wide	Pres	Unc	Kyte 2002-08a (FOBU)	2002	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Fossil Butte 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
Asteraceae (Compositae)	<i>Hymenoxys hoopesii</i>	<i>Helenium hoopesii</i> , <i>Dugaldia hoopesii</i>	orange sneezeweed	PerF	Wide	Pres	Unc	Litzinger 1208 (FOBU)	1977	
Asteraceae (Compositae)	<i>Iva axillaris</i> var. <i>axillaris</i>	Vars. not recognized in <i>Flora</i> of North America (2006)	poverty-weed	PerF	Wide	Pres	Unc	Kyte s.n. (FOBU)	1995	
Asteraceae (Compositae)	<i>Iva axillaris</i> var. <i>robustior</i>	Vars. not recognized in <i>Flora</i> of North America (2006)	poverty-weed	PerF	Wide	Pres	Unc	Litzinger 1341 (FOBU)	1977	
Asteraceae (Compositae)	<i>Lactuca oblongifolia</i>	<i>L. pulchella</i> , <i>L. tatarica</i> var. <i>pulchella</i> , <i>Mulgedium</i> <i>pulchellum</i>	blue lettuce	PerF	Wide	Pres	Unc	Kyte 97-117 (FOBU)	1997	
Asteraceae (Compositae)	<i>Lactuca serriola</i>		prickly lettuce	AnnF	Intro	Pres	Unc	Kyte s.n. (FOBU)	1984	Native to Europe
Asteraceae (Compositae)	<i>Machaeranthera</i> <i>canescens</i> var. <i>canescens</i>	<i>Aster canescens</i> , <i>Dieteria canescens</i> var. <i>canescens</i>	hoary tansy-aster	PerF	Wide	Pres	Unc	Kyte s.n. (FOBU)	1977	
Asteraceae (Compositae)	<i>Machaeranthera</i> <i>grindeloides</i>	<i>Haplopappus</i> <i>nuttallii</i> , <i>Xanthisma</i> <i>grindeloides</i> var. <i>grindeloides</i>	gumweed aster	PerF	Wide	Pres	Unc	Kyte 96-163 (FOBU)	1984	
Asteraceae (Compositae)	<i>Madia glomerata</i>		mountain tarweed	AnnF	Wide	Pres	Unc	Kyte s.n. (FOBU)	1977	
Asteraceae (Compositae)	<i>Microseris nutans</i>		nodding microseris	PerF	Wide	Pres	Unc	Kyte 97-76 (FOBU)	1997	
Asteraceae (Compositae)	<i>Packera cana</i>	<i>Senecio canus</i>	woolly groundsel	PerF	Wide	Pres	Unc	Kyte 96-43 (FOBU)	1977	
Asteraceae (Compositae)	<i>Packera multilobata</i>	<i>Senecio</i> <i>multilobatus</i>	basin groundsel	PerF	Wide	Pres	Com	Kyte 96-44 (FOBU)	1984	
Asteraceae (Compositae)	<i>Packera pauperula</i>	<i>Senecio</i> <i>pauperulus</i>	balsam groundsel	PerF	Wide	Rep	?	Dorn et al. (1984)	1984	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Fossil Butte 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
Asteraceae (Compositae)	<i>Packera streptanthifolia</i> var. <i>streptanthifolia</i>	<i>Senecio streptanthifolius</i> var. <i>streptanthifolius</i> , included in <i>S. cymbalarioides</i> by some authors, includes vars. <i>borealis</i> & <i>oodes</i>	Rocky Mountain groundsel	PerF	Wide	Pres	Com	Kyte 2001-32 (FOBU)	1977	
Asteraceae (Compositae)	<i>Pyrrocomma lanceolata</i>	<i>Haplopappus lanceolatus</i>	meadow goldenweed	PerF	Wide	Pres	Unc	Litzinger 1337 (FOBU)	1977	
Asteraceae (Compositae)	<i>Pyrrocomma uniflora</i>	<i>Haplopappus uniflorus</i>	plantain goldenweed	PerF	Wide	Pres	Unc	Kyte s.n. (FOBU)	1984	
Asteraceae (Compositae)	<i>Rudbeckia occidentalis</i>	<i>R. occidentalis</i> var. <i>occidentalis</i>	western coneflower	PerF	Wide	Pres	Unc	Kyte 96-126 (FOBU)	1984	
Asteraceae (Compositae)	<i>Senecio hydrophilus</i>		water groundsel	PerF	Wide	Pres	Unc	Kyte s.n. (FOBU)	1995	
Asteraceae (Compositae)	<i>Senecio integerrimus</i> var. <i>exaltatus</i>		western groundsel	PerF	Wide	Pres	Unc	Kyte 96-39 (FOBU)	1977	
Asteraceae (Compositae)	<i>Senecio serra</i> var. <i>serra</i>		saw-toothed groundsel	PerF	Wide	Pres	Unc	Litzinger 1449 (FOBU)	1977	
Asteraceae (Compositae)	<i>Solidago canadensis</i> var. <i>salebrosa</i>	<i>S. lepida</i> var. <i>salebrosa</i>	Canadian goldenrod	PerF	Wide	Pres	Unc	Kyte 96-183 (FOBU)	1996	
Asteraceae (Compositae)	<i>Solidago velutina</i>	<i>S. sparsiflora</i> , <i>S. velutina</i> var. <i>sparsiflora</i>	three-nerve goldenrod	PerF	Wide	Pres	Unc	Kyte s.n. (FOBU)	1996	Previously considered a false report in Fertig (2000)
Asteraceae (Compositae)	<i>Sonchus asper</i>		spiny-leaf sow-thistle	AnnF	Intro	Pres	Unc	Kyte 2001-48 (FOBU)	2001	Native to Europe. First record for Lincoln County, WY
Asteraceae (Compositae)	<i>Sonchus uliginosus</i>	<i>S. arvensis</i> ssp. <i>uliginosus</i> , <i>S. arvensis</i> var. <i>glabrescens</i>	marsh sow-thistle	PerF	Intro	Pres	Unc	Kyte 96-160 (FOBU)	1984	Native to Europe
Asteraceae (Compositae)	<i>Stenotus acaulis</i>	<i>Haplopappus acaulis</i> var. <i>acaulis</i>	stemless goldenweed	PerF	Wide	Pres	Unc	Litzinger 1137 (FOBU)	1977	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Fossil Butte 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
Asteraceae (Compositae)	<i>Stephanomeria runcinata</i>		desert wirelettuce	PerF	Wide	Pres	Unc	Kyte 96-165 (FOBU)	1984	
Asteraceae (Compositae)	<i>Symphotrichum ascendens</i>	<i>Aster chilensis</i> <i>spp. ascendens</i> , <i>A. ascendens</i> , <i>Virgulastr</i> <i>ascendens</i>	Pacific aster	PerF	Wide	Pres	Unc	Kyte 2000-32b (FOBU)	1984	
Asteraceae (Compositae)	<i>Symphotrichum boreale</i>	<i>Aster junceiformis</i> , <i>A. borealis</i>	boreal aster	PerF	Spars	Pres	Rare	Kyte s.n. (FOBU)	1995	
Asteraceae (Compositae)	<i>Symphotrichum foliaceum</i> var. <i>parryi</i>	<i>Aster foliaceus</i> var. <i>parryi</i>	alpine leafy-head American-aster	PerF	Wide	Rep	?	Dorn et al. (1984)	1984	
Asteraceae (Compositae)	<i>Symphotrichum frondosum</i>	<i>Aster frondosus</i> , <i>Brachyactis frondosa</i>	leafy aster	AnnF	Wide	Pres	Unc	Kyte s.n. (FOBU)	1995	
Asteraceae (Compositae)	<i>Symphotrichum spathulatum</i>	<i>Aster spathulatus</i> , <i>A. occidentalis</i>	western aster	PerF	Wide	Pres	Unc	Kyte 2000-16 (FOBU)	1984	
Asteraceae (Compositae)	<i>Taraxacum laevigatum</i>	<i>T. erythrospermum</i>	red-seed dandelion	PerF	Intro	Pres	Unc	Kyte 97-39 (FOBU)	1984	Native to Eurasia
Asteraceae (Compositae)	<i>Taraxacum officinale</i>		common dandelion	PerF	Intro	Pres	Unc	Kyte s.n. (FOBU)	1973	Native to Eurasia
Asteraceae (Compositae)	<i>Tetradymia canescens</i>		spineless horsebrush	Shrub	Wide	Pres	Unc	Kyte s.n. (FOBU)	1973	
Asteraceae (Compositae)	<i>Tetradymia spinosa</i>	<i>T. spinosa</i> var. <i>spinosa</i>	shortspine horsebrush	Shrub	Wide	Pres	Unc	Kyte 97-12 (FOBU)	1984	
Asteraceae (Compositae)	<i>Tetranneuris acaulis</i> var. <i>acaulis</i>	<i>Hymenoxys acaulis</i> var. <i>acaulis</i>	stemless hymenoxys	PerF	Wide	Rep	?	Dorn et al. (1984)	1973	One record from FOBU herbarium based on a misidentified specimen of <i>Tetranneuris torreyana</i> (Fertig 2000)
Asteraceae (Compositae)	<i>Tetranneuris torreyana</i>	<i>Hymenoxys torreyana</i>	Torrey's hymenoxys	PerF	Wide	Pres	Unc	Kyte 98-19 (FOBU)	1998	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Fossil Butte 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
Asteraceae (Compositae)	<i>Townsendia nuttallii</i>	Included in <i>T. hookeri</i> by some authors.	Nuttall's easter-daisy	PerF	Reg En	Pres	Unc	Kyte 96-48 (FOBU)	1984	Type locality is Limestone Mtn, Fremont Co., WY (Dorn 2963 RM)
Asteraceae (Compositae)	<i>Tragopogon dubius</i>	<i>T. dubius</i> var. <i>major</i>	yellow salsify	PerF	Intro	Pres	Unc	Kyte 97-71 (FOBU)	1984	Native to Europe
Asteraceae (Compositae)	<i>Viguiera multiflora</i>	<i>Helioomeris multiflora</i> var. <i>multiflora</i>	showy goldeneye	PerF	Wide	Pres	Unc	Kyte 97-106 (FOBU)	1973	Cited by Beetle and Marlow (1974) under the erroneous name <i>Helianthella multiflora</i>
Asteraceae (Compositae)	<i>Wyethia amplexicaulis</i>		mule's-ears	PerF	Wide	Pres	Unc	Litzinger 1115 (FOBU)	1973	
Berberidaceae	<i>Mahonia repens</i>	<i>Berberis repens</i>	Oregon-grape	Shrub	Wide	Pres	Unc	Kyte 96-13 (FOBU)	1973	
Boraginaceae	<i>Cryptantha caespitosa</i>	<i>Oreocarya caespitosa</i>	tufted cryptanth	PerF	Reg En	Pres	Unc	Kyte 97-8 (FOBU)	1984	Type locality is Point of Rocks, Sweetwater Co., WY (Nelson 4749 RM)
Boraginaceae	<i>Cryptantha celosiooides</i>	<i>C. bradburiana</i>	cockscob cryptanth	PerF	Wide	Pres	Com	Litzinger 1374 (FOBU)	1977	
Boraginaceae	<i>Cryptantha fendleri</i>		sand dune cryptanth	AnnF	Wide	Pres	Unc	Litzinger 1255 (FOBU)	1977	
Boraginaceae	<i>Cryptantha sericea</i>	<i>Oreocarya sericea</i>	silky cryptanth	PerF	Reg En	Pres	Unc	Litzinger 1124 (FOBU)	1977	Type locality is Bridger's Pass, Uinta Co., WY (Engelmann s.n. GH)
Boraginaceae	<i>Cryptantha watsonii</i>		Watson's cryptanth	AnnF	Wide	Pres	Unc	Kyte 98-13 (FOBU)	1998	
Boraginaceae	<i>Cynoglossum officinale</i>		common hound's-tongue	PerF	Intro	Pres	Unc	Kyte 96-128 (FOBU)	1984	Native to Eurasia. WY state noxious weed
Boraginaceae	<i>Hackelia floribunda</i>		showy stickseed	PerF	Wide	Pres	Unc	Litzinger 1547 (FOBU)	1977	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Fossil Butte 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
Boraginaceae	<i>Hackelia patens</i>	<i>H. patens</i> var. <i>patens</i>	spotted stickseed	PerF	Wide	Pres	Unc	Harms & Kyte s.n. (FOBU)	1984	
Boraginaceae	<i>Lappula redowskii</i> var. <i>redowskii</i>	<i>L. occidentalis</i> var. <i>occidentalis</i>	western stickseed	AnnF	Wide	Pres	Unc	Kyte 96-55 (FOBU)	1977	
Boraginaceae	<i>Lappula squarrosa</i> var. <i>squarrosa</i>	<i>L. echinata</i>	European stickseed	AnnF	Intro	Pres	Unc	Kyte 2002-04 (FOBU)	2002	Native to Eurasia
Boraginaceae	<i>Lithospermum ruderale</i>		western stoneseed	PerF	Wide	Pres	Unc	Kyte 96-15 (FOBU)	1977	
Boraginaceae	<i>Mertensia oblongifolia</i>		western bluebell	PerF	Wide	Pres	Unc	Kyte 96-14 (FOBU)	1977	
Boraginaceae	<i>Mertensia viridis</i>	<i>M. lanceolata</i> var. <i>nivalis</i> . Included in <i>M. oblongifolia</i> by some authors.	mountain bluebell	PerF	Wide	Pres	Rare	Kyte 2001-26 (FOBU)	2001	
Boraginaceae	<i>Plagiobothrys scouleri</i> var. <i>hispidulus</i>	<i>P. scouleri</i> var. <i>penicillatus</i>	meadow popcorn-flower	AnnF	Wide	Pres	Unc	Kyte s.n. (FOBU)	1984	
Brassicaceae (Cruciferae)	<i>Alyssum desertorum</i>		desert madwort	AnnF	Intro	Pres	Unc	Kyte 96-106 (FOBU)	1984	Native to Europe
Brassicaceae (Cruciferae)	<i>Arabis glabra</i>	<i>Turritis glabra</i> , <i>A. glabra</i> var. <i>glabra</i>	tower-mustard	PerF	Wide	Pres	Unc	Kyte 2001-39 (FOBU)	2001	
Brassicaceae (Cruciferae)	<i>Arabis hirsuta</i> var. <i>pyncocarpa</i>		hairy rockcress	PerF	Wide	Pres	Unc	Kyte 97-53 (FOBU)	1997	
Brassicaceae (Cruciferae)	<i>Barbarea orthoceras</i>		northern wintercress	PerF	Wide	Pres	Unc	Kyte 96-131 (FOBU)	1996	
Brassicaceae (Cruciferae)	<i>Boechera angustifolia</i>	<i>Arabis drummondii</i> , <i>B. drummondii</i> , <i>B. stricta</i>	Drummond's rockcress	PerF	Wide	Pres	Unc	Kyte 2001-10 (FOBU)	2001	
Brassicaceae (Cruciferae)	<i>Boechera brachycarpa</i>	<i>Arabis confinis</i> , <i>A. x divaricarpa</i> , <i>A. holboellii</i> var. <i>brachycarpa</i> , <i>B. divaricarpa</i>	spreadingpod rockcress	PerF	Wide	Pres	Unc	Kyte 2001-36 (FOBU)	2001	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Fossil Butte 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
Brassicaceae (Cruciferae)	<i>Boechea exilis</i>	<i>Arabis holboellii</i> var. <i>pendulocarpa</i> , <i>A. pendulocarpa</i> var. <i>pendulocarpa</i> , <i>A. exilis</i>	deflexed rockcress	PerF	Wide	Pres	Unc	Kyte 2001-13 (FOBU)	2001	
Brassicaceae (Cruciferae)	<i>Boechea holboellii</i> var. <i>secunda</i>	<i>Arabis holboellii</i> var. <i>secunda</i> , <i>A.</i> <i>holboellii</i> var. <i>retrofracta</i> , <i>B.</i> <i>retrofracta</i>	Holboell's rockcress	PerF	Wide	Rep	?	Dorn et al. (1984)	1984	
Brassicaceae (Cruciferae)	<i>Boechea nuttallii</i>	<i>Arabis nuttallii</i>	Nuttall's rockcress	PerF	Wide	Pres	Unc	Moon & Moon 1664 (FOBU, BRY)	1996	
Brassicaceae (Cruciferae)	<i>Boechea williamsii</i> var. <i>saximontana</i>	<i>Arabis microphylla</i> var. <i>saximontana</i> , <i>A. pendulocarpa</i> var. <i>saximontana</i> , <i>A. williamsii</i> var. <i>saximontana</i>	Wind River rockcress	PerF	Reg En	Pres	Rare	Kyte 2001-16 (FOBU)	2001	
Brassicaceae (Cruciferae)	<i>Camelina microcarpa</i>		little-pod false flax	AnnF	Intro	Pres	Unc	Kyte 98-26 (FOBU)	1998	Native to Asia
Brassicaceae (Cruciferae)	<i>Capsella bursa-pastoris</i>		shepherd's-purse	AnnF	Intro	Rep	?	Dorn et al. (1984)	1984	Native to Europe
Brassicaceae (Cruciferae)	<i>Cardaria chalepensis</i>	<i>C. draba</i> ssp. <i>chalepensis</i> , <i>C.</i> <i>draba</i> var. <i>repens</i>	orbicular whitetop	PerF	Intro	Pres	Unc	Kyte s.n. (FOBU)	1996	Native to Europe
Brassicaceae (Cruciferae)	<i>Chorispora tenella</i>		blue mustard	AnnF	Intro	Pres	Unc	Kyte 97-37 (FOBU)	1984	Native to Asia
Brassicaceae (Cruciferae)	<i>Descurainia incana</i> var. <i>incana</i>	<i>D. richardsonii</i> var. <i>sonnei</i> , <i>D. incisa</i> var. <i>incisa</i> , <i>D.</i> <i>incana</i> ssp. <i>incisa</i> , <i>D. incana</i> var. <i>sonnei</i>	mountain tansy- mustard	AnnF	Wide	Pres	Unc	Kyte 96-108 (FOBU)	1977	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Fossil Butte 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
Brassicaceae (Cruciferae)	<i>Descurainia incana</i> var. <i>macrosperma</i>	<i>D. richardsonii</i> var. <i>macrosperma</i> , <i>D. incana</i> ssp. <i>procera</i> , <i>D. incana</i> var. <i>brevipes</i>	gray tansy-mustard	PerF	Wide	Pres	Unc	Kyte & Fertig 2004-16 (FOBU)	2004	
Brassicaceae (Cruciferae)	<i>Descurainia incana</i> var. <i>viscosa</i>	<i>D. incisa</i> var. <i>viscosa</i> , <i>D. richardsonii</i> var. <i>viscosa</i> , <i>D. incisa</i> var. <i>leptophylla</i>	slender-leaved tansy-mustard	AnnF	Wide	Pres	Unc	Harms & Kyte s.n. (FOBU)	2005	
Brassicaceae (Cruciferae)	<i>Descurainia pinnata</i> var. <i>brachycarpa</i>		western tansy-mustard	AnnF	Wide	Pres	Unc	Kyte 2001-38 (FOBU)	2001	
Brassicaceae (Cruciferae)	<i>Descurainia sophia</i>		flixweed	AnnF	Intro	Pres	Unc	Litzinger 1368 (FOBU)	1977	Native to Europe
Brassicaceae (Cruciferae)	<i>Draba albertina</i>	<i>D. stenoloba</i> var. <i>nana</i>	slender whitlow-grass	PerF	Wide	Pres	Unc	Kyte 96-57 (FOBU)	1996	
Brassicaceae (Cruciferae)	<i>Draba nemorosa</i>		woodland whitlow-grass	AnnF	Intro	Pres	Unc	Kyte 97-54 (FOBU)	1984	Native to Eurasia
Brassicaceae (Cruciferae)	<i>Draba oligosperma</i>	<i>D. oligosperma</i> var. <i>oligosperma</i>	few-seed whitlow-grass	PerF	Wide	Rep	?	Dorn et al. (1984)	1984	
Brassicaceae (Cruciferae)	<i>Erysimum asperum</i> var. <i>arkansanum</i>	<i>E. capitatum</i> var. <i>capitatum</i> , <i>E. asperum</i> var. <i>elatum</i>	western wallflower	PerF	Wide	Pres	Unc	Litzinger 1175 (FOBU)	1977	
Brassicaceae (Cruciferae)	<i>Erysimum cheiranthoides</i>	<i>E. cheiranthoides</i> ssp. <i>altum</i>	worm-seed wallflower	PerF	Wide	Pres	Unc	Kyte 2000-30 (FOBU)	2000	
Brassicaceae (Cruciferae)	<i>Erysimum inconspicuum</i>		shy wallflower	PerF	Wide	Pres	Unc	Kyte 96-98 (FOBU)	1984	
Brassicaceae (Cruciferae)	<i>Erysimum repandum</i>		spreading wallflower	AnnF	Intro	Pres	Unc	Kyte 2002-02 (FOBU)	2002	Native to Europe
Brassicaceae (Cruciferae)	<i>Lepidium campestre</i>	<i>Neolepia campestre</i>	field pepperwort	AnnF	Intro	Pres	Rare	Kyte s.n. (FOBU)	2006	Native to Asia
Brassicaceae (Cruciferae)	<i>Lepidium densiflorum</i> var. <i>densiflorum</i>	Some authors include var. <i>macrocarpum</i>	prairie pepperwort	AnnF	Wide	Pres	Unc	Litzinger 1412 (FOBU)	1977	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Fossil Butte 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
Brassicaceae (Cruciferae)	<i>Lepidium integrifolium</i>	<i>L. integrifolium</i> var. <i>integrifolium</i> , <i>L. montanum</i> var. <i>integrifolium</i>	entire-leaf pepperwort	PerF	Reg En	Pres	Unc	Kyte 96-167 (FOBU)	1996	WY BLM Sensitive
Brassicaceae (Cruciferae)	<i>Lepidium perfoliatum</i>		clasping pepperwort	AnnF	Intro	Pres	Unc	Kyte 96-130 (FOBU)	1984	Native to Europe
Brassicaceae (Cruciferae)	<i>Lepidium ramosissimum</i> var. <i>ramosissimum</i>		branched pepperwort	AnnF	Wide	Pres	Unc	Kyte 2000-29 (FOBU)	2000	
Brassicaceae (Cruciferae)	<i>Lepidium virginicum</i> var. <i>pubescens</i>		poorman's pepperwort	AnnF	Periph	Pres	Unc	Kyte 2002-03 (FOBU)	1984	
Brassicaceae (Cruciferae)	<i>Lesquerella alpina</i>	Includes var. <i>spatulata</i> , <i>Physaria</i> <i>reediana</i> var. <i>reediana</i>	alpine bladderpod	PerF	Wide	Pres	Unc	Kyte 97-24 (FOBU)	1984	
Brassicaceae (Cruciferae)	<i>Malcolmia africana</i>		African mustard	AnnF	Intro	Pres	Unc	Kyte 96-168 (FOBU)	1996	Native to Africa
Brassicaceae (Cruciferae)	<i>Physaria acutifolia</i>	<i>P. acutifolia</i> var. <i>acutifolia</i> , <i>P.</i> <i>australis</i>	sharp-leaf twinpod	PerF	Wide	Pres	Unc	Kyte 96-97 (FOBU)	1984	
Brassicaceae (Cruciferae)	<i>Physaria condensata</i>		tufted twinpod	PerF	LocEn	Pres	Unc	Kyte 98-16 (FOBU)	1973	WY BLM Sensitive, USFWS former C2 candidate. Type locality is foothills of Bridger Butte, Unita Co., WY (Rollins 2385 G)
Brassicaceae (Cruciferae)	<i>Rorippa curvipes</i> var. <i>curvipes</i>		blunt-leaf yellowcress	PerF	Wide	Pres	Unc	Kyte 96-194 (FOBU)	1984	
Brassicaceae (Cruciferae)	<i>Schoenocrambe linifolia</i>	<i>Sisymbrium</i> <i>linifolium</i>	flax-leaved plainsmustard	PerF	Wide	Pres	Unc	Kyte 97-59 (FOBU)	1984	
Brassicaceae (Cruciferae)	<i>Sisymbrium altissimum</i>		tumble mustard	AnnF	Intro	Pres	Unc	Kyte 2001-67 (FOBU)	2001	Native to Europe
Brassicaceae (Cruciferae)	<i>Stanleya viridiflora</i>		green prince's-plume	PerF	Wide	Pres	Unc	Kyte 96-170 (FOBU)	1977	
Brassicaceae (Cruciferae)	<i>Streptanthus cordatus</i>	<i>S. cordatus</i> var. <i>cordatus</i>	heart-leaf jewelflower	PerF	Periph	Pres	Unc	Kyte 96-107 (FOBU)	1984	

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

Family	Species name	Synonymic/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Brassicaceae (Cruciferae)	<i>Thelypodium integrifolium</i>	<i>T. integrifolium</i> var. <i>integrifolium</i>	entire-leaf thelypody	PerF	Wide	Pres	Unc	Litzinger 1377 (FOBU)	1977	
Brassicaceae (Cruciferae)	<i>Thelypodium paniculatum</i>	<i>T. sagittatum</i> var. <i>crassiscarpum</i>	northwestern thelypody	PerF	Wide	Pres	Unc	Kyte 96-4 (FOBU)	1984	
Brassicaceae (Cruciferae)	<i>Thlaspi arvense</i>		field pennycress	AnnF	Intro	Pres	Com	Kyte 96-109 (FOBU)	1977	Native to Europe
Cactaceae	<i>Opuntia polyacantha</i> var. <i>polyacantha</i>	<i>Flora of North America</i> (2003) includes vars. <i>rufispina</i> and <i>trichophora</i> in var. <i>polyacantha</i>	plains prickly-pear	PerF	Wide	Pres	Unc	Kyte 97-110 (FOBU)	1984	
Calochortaceae (Liliaceae)	<i>Calochortus nuttallii</i>		sego-lily	PerF	Wide	Pres	Unc	Kyte 96-144 (FOBU)	1984	
Capparaceae (Cleomaceae)	<i>Cleome serrulata</i>		Rocky Mountain beelant	AnnF	Wide	Pres	Unc	Litzinger 1413 (FOBU)	1977	
Caprifoliaceae	<i>Lonicera involucrata</i>	<i>Distegia involucrata</i>	black twinberry	Shrub	Wide	Pres	Unc	Litzinger 1111 (FOBU)	1977	
Caprifoliaceae	<i>Symphoricarpos oreophilus</i> var. <i>utahensis</i>	Includes vars. <i>parishii</i> & <i>oreophilus</i> , <i>S. rotundifolius</i>	mountain snowberry	Shrub	Wide	Pres	Com	Kyte 96-93 (FOBU)	1973	
Caryophyllaceae (Aisinaceae)	<i>Cerastium fontanum</i>	<i>C. vulgatum</i> , <i>C. fontanum</i> ssp. <i>vulgare</i>	mouse-ear chickweed	PerF	Intro	Pres	Unc	Litzinger 1215 (FOBU)	1977	Native to Eurasia
Caryophyllaceae (Aisinaceae)	<i>Eremogone congesta</i> var. <i>congesta</i>	<i>Arenaria congesta</i> var. <i>congesta</i>	ball-head sandwort	PerF	Wide	Pres	Unc	Kyte 96-94 (FOBU)	1977	
Caryophyllaceae (Aisinaceae)	<i>Eremogone kingii</i> var. <i>glabrescens</i>	<i>Arenaria kingii</i> var. <i>glabrescens</i> , <i>A. kingii</i> ssp. <i>compacta</i> & ssp. <i>uintahensis</i> , <i>A. fendleri</i> var. <i>glabrescens</i> , <i>E. kingii</i> ssp. <i>uintahensis</i>	basin sandwort	PerF	Wide	Pres	Unc	Kyte 96-58 (FOBU)	1977	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Fossil Butte 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 (Alsinoaceae)	<i>Minuartia nuttallii</i>	<i>Arenaria nuttallii</i> , <i>Minuopsis nuttallii</i>	Nuttall's sandwort	PerF	Wide	Pres	Unc	Kyte 98-14 (FOBU)	1998	
Caryophyllaceae (Alsinoaceae)	<i>Moehringia lateriflora</i>	<i>Arenaria lateriflora</i>	blunt-leaf sandwort	PerF	Wide	Pres	Unc	Kyte 96-133 (FOBU)	1996	
Caryophyllaceae (Alsinoaceae)	<i>Pseudostellaria jamesiana</i>	<i>Stellaria jamesiana</i>	James' chickweed	PerF	Wide	Rep	?	Dorn et al. (1984)	1984	Also cited by Springer et al. (2006) without a voucher.
Caryophyllaceae	<i>Silene drummondii</i>	<i>Lychnis drummondii</i> , includes vars. <i>striata</i> , <i>kruckebergii</i> , & <i>drummondii</i> , <i>Gastrolychnis drummondii</i>	Drummond's catchfly	PerF	Wide	Pres	Unc	Kyte & Fertig 2004-01 (FOBU)	2004	
Caryophyllaceae	<i>Silene menziesii</i> var. <i>menziesii</i>	<i>Anotites menziesii</i> var. <i>menziesii</i>	Menzies' campion	PerF	Wide	Pres	Unc	Kyte 96-132 (FOBU)	1984	
Caryophyllaceae (Alsinoaceae)	<i>Stellaria longipes</i>	<i>S. longipes</i> ssp. <i>stricta</i>	long-stalk starwort	PerF	Wide	Pres	Unc	Kyte 96-95 (FOBU)	1984	
Celastraceae	<i>Paxistima myrsinites</i>	<i>Pachistima myrsinites</i> , <i>Pachystima myrsinites</i>	mountain-lover	Shrub	Wide	Pres	Unc	Kyte 96-209 (FOBU)	1984	
Chenopodiaceae	<i>Atriplex canescens</i> var. <i>canescens</i>	Includes var. <i>occidentalis</i>	four-wing saltbush	Shrub	Wide	Pres	Unc	Kyte 97-132 (FOBU)	1997	
Chenopodiaceae	<i>Atriplex confertifolia</i>		shadscale	Shrub	Wide	Pres	Unc	Kyte 97-133 (FOBU)	1973	
Chenopodiaceae	<i>Atriplex falcata</i>	<i>A. gardneri</i> var. <i>falcata</i>	sickle saltbush	Shrub	Periph	Pres	Unc	Litzinger 11262 (FOBU)	1977	
Chenopodiaceae	<i>Atriplex gardneri</i> var. <i>gardneri</i>	<i>A. nuttallii</i>	Gardner's saltbush	Shrub	Wide	Pres	Unc	Kyte s.n. (FOBU)	1973	
Chenopodiaceae	<i>Atriplex rosea</i>		tumbling orache	AnnF	Intro	Pres	Unc	Kyte 96a (FOBU)	1977	Native to Eurasia
Chenopodiaceae	<i>Atriplex subspicata</i>	<i>A. patula</i> var. <i>subspicata</i> , <i>A. dioica</i>	thickleaf orache	AnnF	Wide	Pres	Unc	Kyte s.n. (FOBU)	1977	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Fossil Butte 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
Chenopodiaceae	<i>Atriplex truncata</i>		wedge-leaf orache	AnnF	Wide	Pres	Unc	Kyte 2000-17 (FOBU)	1984	
Chenopodiaceae	<i>Bassia sieversiana</i>	<i>Kochia scoparia</i> , <i>B. scoparia</i>	summer-cypress	AnnF	Intro	Pres	Unc	Kyte s.n. (FOBU)	1984	Native to Eurasia
Chenopodiaceae	<i>Chenopodium atrovirens</i>	<i>C. fremontii</i> var. <i>atrovirens</i>	mountain goosefoot	AnnF	Wide	Pres	Unc	Kyte 2000-11 (FOBU)	1977	
Chenopodiaceae	<i>Chenopodium berlandieri</i> var. <i>berlandieri</i> <i>zschackei</i>	<i>C. album</i> var. <i>berlandieri</i> , <i>C. berlandieri</i>	pitseed goosefoot	AnnF	Wide	Pres	Unc	Kyte 2001-73 (FOBU)	2001	
Chenopodiaceae	<i>Chenopodium capitatum</i> var. <i>parvicapitatum</i>	<i>C. overi</i> , <i>C. foliosum</i>	smallhead goosefoot	AnnF	Wide	Pres	Unc	Kyte 2000-28 (FOBU)	2000	
Chenopodiaceae	<i>Chenopodium fremontii</i>	<i>C. fremontii</i> var. <i>fremontii</i>	Fremont's goosefoot	AnnF	Wide	Pres	Rare	Kyte & Fertig 2004-11 (FOBU)	2004	
Chenopodiaceae	<i>Chenopodium glaucum</i> var. <i>salinum</i>	<i>C. salinum</i>	oakleaf goosefoot	AnnF	Wide	Pres	Unc	Litzinger 1321 (FOBU)	1977	
Chenopodiaceae	<i>Chenopodium leptophyllum</i>		narrow-leaf goosefoot	AnnF	Wide	Pres	Unc	Kyte 2002-05 (FOBU)	2002	
Chenopodiaceae	<i>Chenopodium rubrum</i> var. <i>glomeratum</i>	<i>C. chenopodioides</i>	low goosefoot	AnnF	Wide	Pres	Unc	Kyte 2000-37 (FOBU)	2000	
Chenopodiaceae	<i>Halogeton glomeratus</i>		halogeton	AnnF	Intro	Pres	Unc	Kyte 96-173 (FOBU)	1977	Native to Eurasia
Chenopodiaceae	<i>Krascheninnikovia lanata</i>	<i>Ceratooides lanata</i> , <i>Eurotia lanata</i> , includes vars. <i>subspinosa</i> & <i>ruinina</i>	winterfat	Shrub	Wide	Pres	Com	Kyte 96-22 (FOBU)	1973	
Chenopodiaceae	<i>Monolepis nuttalliana</i>		Nuttall's poverty-weed	AnnF	Wide	Pres	Unc	Kyte s.n. (FOBU)	1977	
Chenopodiaceae	<i>Salsola tragus</i>	<i>S. kali</i> , <i>S. iberica</i> , <i>S. pestifer</i> , <i>S. australis</i>	Russian-thistle	AnnF	Intro	Pres	Unc	Kyte 96-122 (FOBU)	1977	Native to Asia
Chenopodiaceae	<i>Suaeda calceoliformis</i>	<i>S. depressa</i>	broom seepweed	AnnF	Wide	Pres	Unc	Kyte s.n. (FOBU)	1984	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Fossil Butte 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
Convallariaceae (Liliaceae)	<i>Maianthemum racemosum</i> var. <i>amplexicaule</i>	<i>Smilacina racemosa</i> , <i>M. amplexicaule</i>	false Solomon's-seal	PerF	Wide	Pres	Unc	Kyte 2001-46 (FOBU)	2001	
Convallariaceae (Liliaceae)	<i>Maianthemum stellatum</i>	<i>Smilacina stellata</i>	starry false Solomon's-seal	PerF	Wide	Pres	Com	Litzinger 1231 (FOBU)	1977	
Convolvulaceae	<i>Convolvulus arvensis</i>		field bindweed	PerF	Intro	Pres	Unc	Kyte 97-91 (FOBU)	1997	Native to Eurasia. WY state noxious weed
Convolvulaceae (Cuscutaceae)	<i>Cuscuta occidentalis</i>	<i>C. californica</i> var. <i>breviflora</i> , <i>Grammica occidentalis</i>	chaparral dodder	PerF	Periph	Pres	Rare	Kyte 97-115 (FOBU)	1997	
Cornaceae	<i>Cornus sericea</i>	<i>C. stolonifera</i> var. <i>stolonifera</i> , <i>Swida sericea</i>	red-osier dogwood	Shrub	Wide	Pres	Unc	Kyte 96-134 (FOBU)	1977	
Crassulaceae	<i>Sedum lanceolatum</i>	Includes spp. <i>lanceolatum</i> & <i>subalpinum</i> , <i>Amerosedum lanceolatum</i>	lance-leaved stonecrop	PerF	Wide	Pres	Unc	Kyte 96-59 (FOBU)	1984	
Cupressaceae	<i>Juniperus communis</i> var. <i>depressa</i>	<i>J. communis</i> ssp. <i>alpina</i>	common juniper	Shrub	Wide	Pres	Unc	Kyte 2000-10 (FOBU)	2000	
Cupressaceae	<i>Juniperus scopulorum</i>	<i>Sabina scopulorum</i>	Rocky Mountain juniper	Tree	Wide	Pres	Unc	Kyte 96-203 (FOBU)	1977	
Cyperaceae	<i>Carex aquatilis</i>	<i>C. aquatilis</i> var. <i>aquatilis</i>	water sedge	PerG	Wide	Pres	Unc	Harms & Kyte s.n. (FOBU)	2005	
Cyperaceae	<i>Carex athrostachya</i>		slender-beaked sedge	PerG	Wide	Pres	Unc	Kyte 2000-20 (FOBU)	1995	
Cyperaceae	<i>Carex aurea</i>	<i>C. garberi</i>	golden sedge	PerG	Wide	Pres	Unc	Litzinger 1397 (FOBU)	1977	
Cyperaceae	<i>Carex douglasii</i>		Douglas' sedge	PerG	Wide	Pres	Unc	Kyte s.n. (FOBU)	1984	
Cyperaceae	<i>Carex filifolia</i>		threadleaf sedge	PerG	Wide	Rep	?	Dorn et al. (1984)	1984	
Cyperaceae	<i>Carex geyeri</i>		elk sedge	PerG	Wide	Rep	?	Dorn et al. (1984)	1984	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Fossil Butte 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 hoodii</i>		Hood's sedge	PerG	Wide	Pres	Unc	Kyte & Fertig 2004-04 (FOBU)	2004	
Cyperaceae	<i>Carex microptera</i> var. <i>microptera</i>	<i>C. festivella</i> , <i>C.</i> <i>macloviana</i> var. <i>microptera</i>	small-wing sedge	PerG	Wide	Pres	Unc	Litzinger 1190 (FOBU)	1977	
Cyperaceae	<i>Carex nebrascensis</i>		Nebraska sedge	PerG	Wide	Pres	Unc	Kyte s.n. (FOBU)	1995	
Cyperaceae	<i>Carex pellita</i>	<i>C. lanuginosa</i>	woolly sedge	PerG	Wide	Pres	Unc	Kyte 2000-26 (FOBU)	1984	
Cyperaceae	<i>Carex petasata</i>		liddon sedge	PerG	Wide	Pres	Unc	Kyte 2001-35 (FOBU)	1977	
Cyperaceae	<i>Carex praeegracilis</i>		blackcreeper sedge	PerG	Wide	Pres	Unc	Kyte 96-92 (FOBU)	1977	
Cyperaceae	<i>Carex praticola</i>		meadow sedge	PerG	Wide	Pres	Rare	Jones 502 (RM)	1992	Jones collection is out of range and was not cited in Jones (1993). Specimen may be from the Absaroka Range (Aug 1992).
Cyperaceae	<i>Carex rossii</i>	<i>C. deflexa</i> var. <i>boottii</i> , <i>C. brevipes</i> , <i>C. pityophila</i>	Ross' sedge	PerG	Wide	Pres	Com	Jones s.n. (FOBU)	1992	
Cyperaceae	<i>Carex simulata</i>		analogue sedge	PerG	Wide	Pres	Unc	Kyte s.n. (FOBU)	1995	
Cyperaceae	<i>Carex stenophylla</i>	<i>C. duriuscula</i> , <i>C.</i> <i>eleocharis</i> , <i>C.</i> <i>stenophylla</i> ssp. <i>eleocharis</i>	narrowleaf sedge	PerG	Wide	Pres	Com	Kyte 2001-02 (FOBU)	1973	
Cyperaceae	<i>Carex utriculata</i>	<i>C. rostrata</i> (<i>sensu</i> <i>lato</i>)	beaked sedge	PerG	Wide	Pres	Unc	Kyte 97-120 (FOBU)	1977	
Cyperaceae	<i>Carex vallicola</i>		valley sedge	PerG	Wide	Pres	Unc	Kyte 2001-18 (FOBU)	1992	
Cyperaceae	<i>Eleocharis acicularis</i>		slender spikerush	PerG	Wide	Pres	Unc	Kyte 2001-61 (FOBU)	2001	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Fossil Butte 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. uniglumis</i>	common spikerush	PerG	Wide	Pres	Unc	Kyte s.n. (FOBU)	1984	
Cyperaceae	<i>Schoenoplectus acutus</i> var. <i>occidentalis</i>	<i>Scirpus acutus</i> , <i>Schoenoplectus lacustris</i> ssp. <i>acutus</i>	hardstem bulrush	PerG	Wide	Pres	Unc	Kyte 96-200 (FOBU)	1996	
Elaeagnaceae	<i>Shepherdia canadensis</i>		Canada buffaloberry	Shrub	Wide	Pres	Unc	Kyte 96-210 (FOBU)	1973	
Equisetaceae	<i>Equisetum arvense</i>		field horsetail	Fern	Wide	Pres	Unc	Kyte 2000-38 (FOBU)	2000	
Equisetaceae	<i>Equisetum laevigatum</i>	<i>Hippochaete laevigata</i> , <i>E. kansasum</i>	smooth scouring-rush	Fern	Wide	Pres	Unc	Kyte s.n. (FOBU)	1977	
Ericaceae	<i>Arctostaphylos uva-ursi</i> var. <i>uva-ursi</i>	<i>A. uva-ursi</i> ssp. <i>coactilis</i> . Vars. not recognized by Holmgren et al. (1997)	bearberry	Shrub	Wide	Pres	Unc	Kyte 97-101 (FOBU)	1973	
Ericaceae (Pyrolaceae)	<i>Pyrola asarifolia</i>	<i>P. rotundifolia</i> sp. <i>asarifolia</i>	pink wintergreen	PerF	Wide	Pres	Unc	Kyte 96-136 (FOBU)	1996	
Euphorbiaceae	<i>Chamaesyce glyptosperma</i>	<i>Euphorbia glyptosperma</i>	ridge-seeded spurge	AnnF	Wide	Pres	Unc	Litzinger 1503 (FOBU)	1977	
Euphorbiaceae	<i>Chamaesyce serpyllifolia</i>	<i>Euphorbia serpyllifolia</i>	thyme-leaved spurge	AnnF	Wide	Pres	Unc	Kyte 96-137 (FOBU)	1996	
Fabaceae (Leguminosae)	<i>Astragalus agrestis</i>	<i>A. dasygloTTis</i>	field milkvetch	PerF	Wide	Pres	Unc	Kyte s.n. (FOBU)	1973	
Fabaceae (Leguminosae)	<i>Astragalus argophyllus</i> var. <i>argophyllus</i>		silver-leaved milkvetch	PerF	Wide	Pres	Unc	Kyte s.n. (FOBU)	1984	
Fabaceae (Leguminosae)	<i>Astragalus bisulcatus</i> var. <i>bisulcatus</i>		two-grooved milkvetch	PerF	Wide	Pres	Rare	Kyte 2001-44 (FOBU)	2001	
Fabaceae (Leguminosae)	<i>Astragalus bisulcatus</i> var. <i>major</i>	Included in var. <i>bisulcatus</i> by Barneby (1989)	two-grooved milkvetch	PerF	Wide	Pres	Unc	Kyte s.n. (FOBU)	1984	
Fabaceae (Leguminosae)	<i>Astragalus canadensis</i> var. <i>brevidens</i>		pasture milkvetch	PerF	Wide	Pres	Unc	Litzinger 1338 (FOBU)	1977	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Fossil Butte 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
Fabaceae (Leguminosae)	<i>Astragalus cicer</i>		chickpea milkvetch	PerF	Intro	Pres	Unc	Kyte s.n. (Fertig 2000)	2000	Native to Europe. Specimen hasn't been relocated; may be at RM.
Fabaceae (Leguminosae)	<i>Astragalus convallarius</i>	<i>A. diversifolius</i> var. <i>campestris</i> , <i>A. convallarius</i> var. <i>convallarius</i>	lesser rushy milkvetch	PerF	Wide	Pres	Unc	Kyte 97-92 (FOBU)	1973	
Fabaceae (Leguminosae)	<i>Astragalus jejunus</i> var. <i>jejunus</i>		starveling milkvetch	PerF	Reg En	Pres	Unc	Kyte 96-23 (FOBU)	1984	Type locality is Bear River Valley near Evanston, Unita Co., WY (Watson 279 US)
Fabaceae (Leguminosae)	<i>Astragalus kentrophyta</i> var. <i>tegetarius</i>	<i>A. kentrophyta</i> var. <i>implexus</i>	mountain kentrophyta	PerF	Wide	Rep	?	Dorn et al. (1984)	1984	
Fabaceae (Leguminosae)	<i>Astragalus lentiginosus</i> var. <i>chartaceus</i>	<i>A. lentiginosus</i> var. <i>platyphyllidus</i>	broad-leaved milkvetch	PerF	Wide	Pres	Unc	Kyte 97-81 (FOBU)	1984	
Fabaceae (Leguminosae)	<i>Astragalus lentiginosus</i> var. <i>salinus</i>		salt milkvetch	PerF	Periph	Pres	Rare	Kyte 97-82 (FOBU)	1995	
Fabaceae (Leguminosae)	<i>Astragalus miser</i> var. <i>tenuifolius</i>		timber milkvetch	PerF	Wide	Pres	Unc	Kyte s.n. (FOBU)	1973	
Fabaceae (Leguminosae)	<i>Astragalus purshii</i>	<i>A. purshii</i> var. <i>purshii</i>	Pursh's milkvetch	PerF	Wide	Pres	Unc	Kyte 96-16 (FOBU)	1984	
Fabaceae (Leguminosae)	<i>Astragalus spatulatus</i>		spoonleaf milkvetch	PerF	Wide	Pres	Unc	Kyte 97-26 (FOBU)	1984	
Fabaceae (Leguminosae)	<i>Astragalus tenellus</i>		pulse milkvetch	PerF	Wide	Pres	Unc	Kyte s.n. (FOBU)	1995	
Fabaceae (Leguminosae)	<i>Glycyrrhiza lepidota</i> var. <i>lepidota</i>	<i>G. lepidota</i>	licorice-root	PerF	Wide	Pres	Unc	Kyte 97-134 (FOBU)	1977	
Fabaceae (Leguminosae)	<i>Hedysarum boreale</i> var. <i>pabulare</i>	Var. not recognized by some authors	Utah sweet-vetch	PerF	Reg En	Pres	Unc	Kyte 97-80 (FOBU)	1997	
Fabaceae (Leguminosae)	<i>Lupinus argenteus</i> var. <i>rubicaulis</i>		subalpine lupine	PerF	Wide	Pres	Com	Kyte 97-88 (FOBU)	1984	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Fossil Butte 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
Fabaceae (Leguminosae)	<i>Lupinus leucophyllus</i>		white-leaved lupine	PerF	Wide	Rep	?	Dorn et al. (1984)	1984	
Fabaceae (Leguminosae)	<i>Lupinus sericeus</i>	<i>L. sericeus</i> var. <i>sericeus</i>	silky lupine	PerF	Wide	Pres	Com	Kyte & Fertig 2004-12 (FOBU)	1973	
Fabaceae (Leguminosae)	<i>Medicago lupulina</i>		black medick	AnnF	Intro	Pres	Unc	Kyte 98-4 (FOBU)	1998	Native to Europe
Fabaceae (Leguminosae)	<i>Medicago sativa</i> var. <i>sativa</i>		alfalfa	PerF	Intro	Pres	Unc	Kyte 97-126 (FOBU)	1984	Native to Europe
Fabaceae (Leguminosae)	<i>Melilotus albus</i>	<i>M. alba</i> , included in <i>M. officinalis</i> by some authors	white sweet-clover	AnnF	Intro	Pres	Unc	Kyte 96-139 (FOBU)	1996	Native to Europe
Fabaceae (Leguminosae)	<i>Melilotus officinalis</i>		yellow sweet-clover	PerF	Intro	Pres	Unc	Litzinger 1454 (FOBU)	1977	Native to Europe
Fabaceae (Leguminosae)	<i>Oxytropis deflexa</i> var. <i>sericea</i>		nodding locoweed	PerF	Wide	Pres	Unc	Kyte 96-186 (FOBU)	1996	
Fabaceae (Leguminosae)	<i>Oxytropis sericea</i> var. <i>sericea</i>		white locoweed	PerF	Wide	Pres	Unc	Kyte 97-69 (FOBU)	1984	
Fabaceae (Leguminosae)	<i>Trifolium gymnocarpon</i> var. <i>plummerae</i>		holly-leaf clover	PerF	Wide	Pres	Unc	Kyte 96-17 (FOBU)	1984	
Fabaceae (Leguminosae)	<i>Trifolium hybridum</i>		alsike clover	PerF	Intro	Pres	Unc	Kyte 98-32 (FOBU)	1998	Native to Europe
Fabaceae (Leguminosae)	<i>Trifolium repens</i>		white clover	PerF	Intro	Pres	Unc	Litzinger 1345 (FOBU)	1977	Native to Europe
Fumariaceae	<i>Corydalis aurea</i> var. <i>aurea</i>		golden smoke	PerF	Wide	Pres	Unc	Kyte 96-141 (FOBU)	1984	
Gentianaceae	<i>Frasera speciosa</i>	<i>Swertia radiata</i>	elkweed	PerF	Wide	Pres	Unc	Litzinger 1170 (FOBU)	1977	
Gentianaceae	<i>Gentiana affinis</i> var. <i>affinis</i>	<i>Pneumonanthe affinis</i>	Rocky Mountain gentian	PerF	Wide	Pres	Unc	Kyte s.n. (FOBU)	1977	
Gentianaceae	<i>Gentiana amarella</i> var. <i>amarella</i>	<i>Gentiana amarella</i> , <i>Gentianella amarella</i> ssp. <i>acuta</i> , <i>Gentianella acuta</i>	northern gentian	PerF	Wide	Pres	Unc	Kyte 96-187 (FOBU)	1984	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Fossil Butte 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
Geraniaceae	<i>Erodium cicutarium</i>		stork's-bill	AnnF	Intro	Pres	Unc	Kyte 98-37 (FOBU)	1984	Native to Europe
Geraniaceae	<i>Geranium richardsonii</i>		Richardson's crane's- bill	PerF	Wide	Pres	Unc	Litzinger 1253 (FOBU)	1973	
Geraniaceae	<i>Geranium viscosissimum</i> var. <i>incisum</i>	<i>G. viscosissimum</i> var. <i>nervosum</i>	sticky crane's-bill	PerF	Wide	Pres	Unc	Kyte 96-24 (FOBU)	1984	
Geraniaceae	<i>Geranium viscosissimum</i> var. <i>viscosissimum</i>		sticky purple crane's- bill	PerF	Wide	Pres	Unc	Kyte 96-142 (FOBU)	1996	
Grossulariaceae (Saxifragaceae)	<i>Ribes cereum</i> var. <i>pedicellare</i>	<i>R. cereum</i> var. <i>inebrians</i> , includes var. <i>ceruum</i>	wax currant	Shrub	Wide	Pres	Unc	Kyte 96-25 (FOBU)	1973	
Grossulariaceae (Saxifragaceae)	<i>Ribes inerme</i>		whitestem gooseberry	Shrub	Wide	Pres	Unc	Litzinger 1230 (FOBU)	1977	
Grossulariaceae (Saxifragaceae)	<i>Ribes viscosissimum</i>	<i>R. viscosissimum</i> var. <i>viscosissimum</i>	sticky currant	Shrub	Wide	Rep	?	Dorn et al. (1984)	1984	
Hippuridaceae	<i>Hippuris vulgaris</i>		common mare's-tail	PerF	Wide	Pres	Unc	Kyte 96-188 (FOBU)	1984	
Hyacinthaceae (Liliaceae)	<i>Camassia quamash</i>	<i>C. quamash</i> var. <i>utahensis</i>	camas	PerF	Wide	Pres	Unc	Kyte 96-62 (FOBU)	1977	
Hydrophyllaceae	<i>Hydrophyllum capitatum</i>	<i>H. capitatum</i> var. <i>capitatum</i>	capitate waterleaf	PerF	Wide	Pres	Unc	Kyte 97-22 (FOBU)	1984	
Hydrophyllaceae	<i>Nemophila breviflora</i>		Great Basin nemophila	AnnF	Wide	Pres	Unc	Kyte 97-48 (FOBU)	1984	
Hydrophyllaceae	<i>Phacelia hastata</i>	Includes vars. <i>alpina</i> , <i>hastata</i> , & <i>leucophylla</i>	lanceleaf phacelia	PerF	Wide	Pres	Unc	Litzinger 1177 (FOBU)	1977	
Hydrophyllaceae	<i>Phacelia heterophylla</i> var. <i>virgata</i>	Includes ssp. <i>heterophylla</i>	wand phacelia	PerF	Periph	Pres	Unc	Kyte 96-143 (FOBU)	1984	
Hydrophyllaceae	<i>Phacelia sericea</i> var. <i>ciliosa</i>		silky phacelia	PerF	Wide	Pres	Unc	Kyte 96-90 (FOBU)	1977	
Hypericaceae (Guttiferae)	<i>Hypericum formosum</i> var. <i>scouleri</i>	<i>H. scouleri</i> , <i>H. scouleri</i> ssp. <i>nortoniae</i>	western St. John's- wort	PerF	Wide	Pres	Unc	Kyte s.n. (FOBU)	1995	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Fossil Butte 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
Iridaceae	<i>Iris missouriensis</i>		Rocky Mountain iris	PerF	Wide	Rep	?	Dorn et al. (1984)	1984	
Iridaceae	<i>Sisyrinchium idahoense</i> var. <i>occidentale</i>		Idaho blue-eyed grass	PerF	Wide	Pres	Unc	Litzinger (FOBU)	1319 1977	
Juncaceae	<i>Juncus balticus</i> var. <i>montanus</i>	<i>J. arcticus</i> var. <i>balticus</i> , <i>J. arcticus</i> ssp. <i>ater</i> , <i>J. balticus</i> var. <i>mexicanus</i>	Baltic rush	PerG	Wide	Pres	Unc	Kyte s.n. (FOBU)	1977	Includes report of var. <i>mexicanus</i> from NCPN (in ed.)
Juncaceae	<i>Juncus bufonius</i>	Includes vars. <i>bufonius</i> , <i>occidentalis</i> , <i>halophilus</i> , & <i>ambiguus</i>	toad rush	AnnG	Wide	Pres	Unc	Kyte 2000-35 (FOBU)	1984	
Juncaceae	<i>Juncus confusus</i>		perplexing rush	PerG	Wide	Pres	Unc	Litzinger 1395 (FOBU)	1973	
Juncaceae	<i>Juncus ensifolius</i> var. <i>montanus</i>	<i>J. saximontanus</i> , includes <i>J. tracyi</i>	mountain rush	PerG	Wide	Pres	Unc	Kyte s.n. (FOBU)	1977	
Juncaceae	<i>Juncus longistylus</i>		longstyle rush	PerG	Wide	Pres	Unc	Kyte s.n. (FOBU)	1984	
Juncaceae	<i>Juncus tenuis</i> var. <i>dudleyi</i>	<i>J. dudleyi</i> , includes <i>J. tenuis</i> (sensu <i>stricto</i>)	poverty rush	PerG	Wide	Pres	Unc	Kyte 96-174 (FOBU)	1996	
Juncaginaceae	<i>Triglochin maritima</i> var. <i>elata</i>	Includes <i>T. concinnum</i>	seaside arrowgrass	PerG	Wide	Pres	Unc	Kyte s.n. (FOBU)	1977	
Lamiaceae (Labiatae)	<i>Agastache urticifolia</i>		nettle-leaf horsemint	PerF	Wide	Pres	Unc	Kyte 96-112 (FOBU)	1977	
Lamiaceae (Labiatae)	<i>Dracocephalum parviflorum</i>	<i>Moldavica parviflora</i>	smallflower dragonhead	PerF	Wide	Pres	Unc	Kyte 96-113 (FOBU)	1996	
Lamiaceae (Labiatae)	<i>Marrubium vulgare</i>		common horehound	PerF	Intro	Pres	Unc	Kyte 97-103 (FOBU)	1984	Native to Eurasia
Lamiaceae (Labiatae)	<i>Mentha arvensis</i> var. <i>canadensis</i>	<i>M. arvensis</i> var. <i>glabrata</i>	field mint	PerF	Wide	Pres	Unc	Kyte 96-188 (FOBU)	1977	
Lamiaceae (Labiatae)	<i>Stachys palustris</i> var. <i>pilosa</i>		hairy hedge-nettle	PerF	Wide	Pres	Unc	Litzinger 1333 (FOBU)	1977	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Fossil Butte 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
Lemnaceae	<i>Lemna turionifera</i>	<i>L. minor</i>	lesser duckweed	PerF	Wide	Pres	Unc	Kyte 2000-36 (FOBU)	2000	
Liliaceae	<i>Fritillaria atropurpurea</i>		leopard-lily	PerF	Wide	Pres	Unc	Kyte 96-18 (FOBU)	1977	
Liliaceae	<i>Fritillaria pudica</i>		yellow-bell	PerF	Wide	Pres	Unc	Kyte 97-3 (FOBU)	1984	
Limnathaceae	<i>Floerkea proserpinacoides</i>		false mermaid	AnnF	Wide	Pres	Unc	Moon & Moon 1669 (FOBU, BRY)	1984	
Linaceae	<i>Linum lewisii</i>	<i>L. perenne</i> var. <i>lewisii</i> , <i>Adenolinum lewisii</i>	blue flax	PerF	Wide	Pres	Unc	Kyte s.n. (FOBU)	1973	
Loasaceae	<i>Mentzelia laevicaulis</i>	<i>Nuttallia laevicaulis</i>	giant blazingstar	PerF	Wide	Pres	Unc	Kyte 96-195 (FOBU)	1977	
Malvaceae	<i>Iliamna rivularis</i>	Includes vars. <i>diversa</i> & <i>rivularis</i>	wild hollyhock	PerF	Wide	Rep	?	Dorn et al. (1984)	1984	
Malvaceae	<i>Sidalcea oregana</i>	<i>S. oregana</i> var. <i>oregana</i>	Oregon checker-mallow	PerF	Periph	Pres	Unc	Kyte s.n. (FOBU)	1984	
Malvaceae	<i>Sphaeralcea coccinea</i>	Includes ssp. <i>coccinea</i> & <i>elata</i>	scarlet globe-mallow	PerF	Wide	Pres	Unc	Kyte 98-18 (FOBU)	1998	
Malvaceae	<i>Sphaeralcea munroana</i>	Includes ssp. <i>munroana</i> & <i>subrhomboidea</i>	white-stem globe-mallow	PerF	Wide	Pres	Unc	Kyte 96-175 (FOBU)	1977	
Melanthiaceae (Liliaceae)	<i>Zigadenus paniculatus</i>	<i>Toxicoscordion paniculatum</i>	foothills death-camas	PerF	Wide	Pres	Unc	Kyte 97-67 (FOBU)	1997	
Melanthiaceae (Liliaceae)	<i>Zigadenus venenosus</i> var. <i>gramineus</i>		meadow death-camas	PerF	Wide	Pres	Unc	Kyte 97-63 (FOBU)	1984	
Myrsinaceae (Primulaceae)	<i>Glaux maritima</i>		sea-milkwort	PerF	Wide	Pres	Unc	Kyte s.n. (FOBU)	1995	
Onagraceae	<i>Camissonia subcaulis</i>	<i>Oenothera subcaulis</i>	meadow camissonia	PerF	Wide	Rep	?	Dorn et al. (1984)	1984	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Fossil Butte 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>Chamerion angustifolium</i> var. <i>canescens</i>	<i>Epilobium angustifolium</i> var. <i>canescens</i> , <i>C. angustifolium</i> ssp. <i>circumvagum</i> , <i>C. danielsii</i>	fireweed	PerF	Wide	Pres	Unc	Kyte 96-176 (FOBU)	1984	
Onagraceae	<i>Epilobium brachycarpum</i>	<i>E. paniculatum</i> var. <i>paniculatum</i>	autumn willow-herb	AnnF	Wide	Pres	Unc	Kyte 96-196 (FOBU)	1984	
Onagraceae	<i>Epilobium ciliatum</i> var. <i>ciliatum</i>	<i>E. watsonii</i> , <i>E. adenocaulon</i>	northern willow-herb	PerF	Wide	Pres	Unc	Litzinger 1369 (FOBU)	1977	
Onagraceae	<i>Epilobium ciliatum</i> var. <i>glandulosum</i>	<i>E. glandulosum</i>	glandular willow-herb	PerF	Wide	Pres	Unc	Kyte s.n. (FOBU)	1995	
Onagraceae	<i>Epilobium halleanum</i>		Hall's willow-herb	PerF	Wide	Pres	Rare	Harms s.n. (FOBU)	2005	
Onagraceae	<i>Epilobium hornemanii</i>	<i>E. hornemanii</i> var. <i>hornemanii</i>	Hornemann's willow-herb	PerF	Wide	Pres	Rare	Harms & Kyte s.n. (FOBU)	2005	
Onagraceae	<i>Gayophytum diffusum</i> var. <i>strictipes</i>	<i>G. diffusum</i> ssp. <i>parviflorum</i> , <i>G. lasiospermum</i>	diffuse groundsmoke	AnnF	Wide	Pres	Unc	Litzinger 1592 (FOBU)	1977	
Onagraceae	<i>Gayophytum racemosum</i>		raceme groundsmoke	AnnF	Wide	Rep	?	Dorn et al. (1984)	1984	
Onagraceae	<i>Oenothera cespitosa</i> var. <i>cespitosa</i>		tufted evening-primrose	PerF	Wide	Pres	Unc	Kyte s.n. (FOBU)	1984	
Onagraceae	<i>Oenothera flava</i>	<i>O. flava</i> var. <i>flava</i>	yellow evening-primrose	PerF	Wide	Pres	Unc	Litzinger 1136 (FOBU)	1977	
Orchidaceae	<i>Corallorhiza maculata</i> var. <i>maculata</i>	<i>C. maculata</i>	spotted coral-root	PerF	Wide	Pres	Unc	Kyte 96-89 (FOBU)	1996	
Orchidaceae	<i>Corallorhiza striata</i> var. <i>striata</i>	<i>C. striata</i>	striped coral-root	PerF	Wide	Pres	Unc	Kyte 96-88 (FOBU)	1996	
Orchidaceae	<i>Platanthera aquilonis</i>	Previously included in <i>Habenaria hyperborea</i> or <i>Platanthera hyperborea</i>	northern bog-orchid	PerF	Wide	Pres	Unc	Kyte 96-145 (FOBU)	1996	
Orobanchaceae	<i>Orobancha fasciculata</i>	<i>Aphyllon fasciculatum</i>	clustered broomrape	PerF	Wide	Pres	Unc	Kyte 98-17 (FOBU)	1998	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Fossil Butte 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>Pinus flexilis</i>		limber pine	Tree	Wide	Pres	Unc	Kyte 96-212 (FOBU)	1973	
Pinaceae	<i>Pseudotsuga menziesii</i> var. <i>glauca</i>		Douglas-fir	Tree	Wide	Pres	Com	Litzinger 1601 (FOBU)	1973	
Plantaginaceae	<i>Plantago eriopoda</i>		woolly-base plantain	Perf	Wide	Pres	Unc	Kyte s.n. (FOBU)	1977	
Plantaginaceae	<i>Plantago major</i>	Includes "native" var. <i>pachyphylla</i>	common plantain	Perf	Intro	Rep	?	Dorn et al. (1984)	1984	Mostly native to Europe.
Poaceae (Gramineae)	<i>Achnatherum contractum</i>	<i>Oryzopsis contracta</i> , <i>O. hymenoides</i> var. <i>contracta</i>	contracted Indian ricegrass	PerG	Reg En	Pres	Unc	Kyte 97-107 (FOBU)	1997	
Poaceae (Gramineae)	<i>Achnatherum hymenoides</i>	<i>Oryzopsis hymenoides</i> , <i>Stipa hymenoides</i>	Indian ricegrass	PerG	Wide	Pres	Com	Litzinger 1365 (FOBU)	1973	
Poaceae (Gramineae)	<i>Achnatherum lettermanii</i>	<i>Stipa lettermanii</i>	Letterman's needlegrass	PerG	Wide	Pres	Unc	Kyte s.n. (FOBU)	1977	
Poaceae (Gramineae)	<i>Achnatherum nelsonii</i> var. <i>dorei</i>	<i>Stipa nelsonii</i> var. <i>dorei</i> , <i>S. occidentalis</i> var. <i>nelsonii</i>	Nelson's needlegrass	PerG	Wide	Pres	Unc	Kyte 2001-55 (FOBU)	2001	
Poaceae (Gramineae)	<i>Achnatherum nelsonii</i> var. <i>nelsonii</i>	<i>Stipa nelsonii</i> var. <i>nelsonii</i> , <i>S. columbiana</i> var. <i>nelsonii</i>	Nelson's needlegrass	PerG	Wide	Pres	Unc	Kyte 97-100 (FOBU)	1977	
Poaceae (Gramineae)	<i>Achnatherum pinetorum</i>	<i>Stipa pinetorum</i>	pine needlegrass	PerG	Wide	Rep	?	Dorn et al. (1984)	1973	
Poaceae (Gramineae)	<i>Agropyron cristatum</i> var. <i>cristatum</i>	<i>A. cristatum</i> ssp. <i>pectinatum</i> , <i>A. pectinatum</i> , <i>A. sibiricum</i> , <i>A. fragile</i> , <i>A. mongolicum</i>	crested wheatgrass	PerG	Intro	Pres	Unc	Kyte s.n. (FOBU)	1995	Native to Eurasia
Poaceae (Gramineae)	<i>Agropyron cristatum</i> var. <i>desertorum</i>	<i>A. desertorum</i> , included within <i>A. cristatum</i> by some authors.	clustered wheatgrass	PerG	Intro	Pres	Unc	Litzinger 1276 (FOBU)	1977	Native to Eurasia

Appendix A. Confirmed, historical, and reported vascular plant taxa of Fossil Butte 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
Poaceae (Gramineae)	<i>Agropyron triticeum</i>	<i>Eremopyrum triticeum</i>	annual wheatgrass	AnnG	Intro	Pres	Unc	Kyte 97-73 (FOBU)	1984	Native to Asia
Poaceae (Gramineae)	<i>Agrostis stolonifera</i>	<i>A. alba</i> , <i>A. gigantea</i>	redtop	PerG	Intro	Pres	Unc	Kyte 2001-64 (FOBU)	2001	Native to Eurasia and Africa
Poaceae (Gramineae)	<i>Alopecurus aequalis</i>	<i>A. aequalis</i> var. <i>aequalis</i>	short-awn foxtail	PerG	Wide	Pres	Unc	Kyte 97-130 (FOBU)	1997	
Poaceae (Gramineae)	<i>Alopecurus arundinaceus</i>	<i>A. ventricosus</i>	creeping foxtail	PerG	Intro	Pres	Unc	Kyte s.n. (FOBU)	1995	Native to Eurasia
Poaceae (Gramineae)	<i>Alopecurus pratensis</i>		meadow foxtail	PerG	Intro	Rep	Rare	No. Colorado Plateau Network (in ed.)	2005	Native to Eurasia
Poaceae (Gramineae)	<i>Beckmannia syzigachne</i>		American sloughgrass	AnnG	Wide	Pres	Unc	Kyte 97-131 (FOBU)	1977	
Poaceae (Gramineae)	<i>Bromus anomalus</i>	<i>Bromopsis porteri</i> , <i>Bromus frondosus</i> . According to <i>Flora of North America</i> (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	Pres	Unc	Kyte 97-116 (FOBU)	1997	
Poaceae (Gramineae)	<i>Bromus carinatus</i>	<i>B. marginatus</i> , <i>B. polyanthus</i> , <i>Ceratochloa carinata</i>	mountain brome	PerG	Wide	Pres	Unc	Harms & Kyte s.n. (FOBU)	1973	
Poaceae (Gramineae)	<i>Bromus inermis</i> var. <i>inermis</i>	<i>Bromopsis inermis</i>	smooth brome	PerG	Intro	Pres	Unc	Kyte 2000-18 (FOBU)	1973	Native to Eurasia
Poaceae (Gramineae)	<i>Bromus japonicus</i>	<i>B. arvensis</i> , includes <i>B. commutatus</i> according to some authors	Japanese brome	AnnG	Intro	Pres	Unc	Kyte 97-84 (FOBU)	1997	Native to Eurasia
Poaceae (Gramineae)	<i>Bromus tectorum</i>	<i>Anisantha tectorum</i>	cheatgrass	AnnG	Intro	Pres	Unc	Kyte 97-61 (FOBU)	1984	Native to Eurasia

Appendix A. Confirmed, historical, and reported vascular plant taxa of Fossil Butte 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
Poaceae (Gramineae)	<i>Calamagrostis inexpansa</i>	<i>C. stricta</i> ssp. <i>inexpansa</i> , <i>C. neglecta</i>	slimstem reedgrass	PerG	Wide	Pres	Unc	Litzinger 1279 (FOBU)	1977	
Poaceae (Gramineae)	<i>Catabrosa aquatica</i>		brookgrass	PerG	Wide	Pres	Unc	Kyte 97-129 (FOBU)	1984	
Poaceae (Gramineae)	<i>Dactylis glomerata</i>		orchard grass	PerG	Intro	Pres	Unc	Kyte 2000-4 (FOBU)	2000	Native to Eurasia and Africa
Poaceae (Gramineae)	<i>Danthonia californica</i>		California oatgrass	PerG	Wide	Pres	Unc	Kyte 2001-49 (FOBU)	1984	
Poaceae (Gramineae)	<i>Danthonia intermedia</i>		timber oatgrass	PerG	Wide	Rep	?	Beetle & Marlow (1974)	1973	Report from FOBU herbarium is based on a misidentified specimen of <i>D. unispicata</i> .
Poaceae (Gramineae)	<i>Danthonia unispicata</i>		oneside oatgrass	PerG	Wide	Pres	Unc	Litzinger 1391 (FOBU)	1977	
Poaceae (Gramineae)	<i>Deschampsia cespitosa</i>	<i>D. caespitosa</i>	tufted hairgrass	PerG	Wide	Pres	Unc	Kyte s.n. (FOBU)	1973	
Poaceae (Gramineae)	<i>Distichlis stricta</i>	<i>D. spicata</i> var. <i>stricta</i>	desert saltgrass	PerG	Wide	Pres	Unc	Kyte 2001-75 (FOBU)	2001	
Poaceae (Gramineae)	<i>Elymus cinereus</i>	<i>Leymus cinereus</i>	Great Basin wildrye	PerG	Wide	Pres	Com	Litzinger 1283 (FOBU)	1973	
Poaceae (Gramineae)	<i>Elymus elymoides</i> var. <i>elymoides</i>	<i>Sitanion hystrix</i>	squirreltail	PerG	Wide	Pres	Unc	Litzinger 1139 (FOBU)	1973	
Poaceae (Gramineae)	<i>Elymus glaucus</i>	Includes spp. <i>glaucus</i> & <i>jepsonii</i>	blue wildrye	PerG	Wide	Pres	Com	Kyte 97-124 (FOBU)	1984	
Poaceae (Gramineae)	<i>Elymus hispidus</i> var. <i>hispidus</i>	<i>Agropyron intermedium</i> , <i>Elytrigia intermedia</i> , <i>Thinopyrum intermedium</i>	intermediate wheatgrass	PerG	Intro	Pres	Unc	Kyte 2000-3 (FOBU)	1977	Native to Eurasia

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

Family	Species name	Synonymic/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Poaceae (Gramineae)	<i>Elymus hispidus</i> var. <i>ruthenicus</i>	<i>Agropyron intermedium</i> , <i>Elytrigia intermedia</i> , <i>Thinopyrum intermedium</i> ssp. <i>barbulatum</i>	intermediate wheatgrass	PerG	Intro	Pres	Unc	Kyte & Fertig 2004-18 (FOBU)	2004	Native to Eurasia
Poaceae (Gramineae)	<i>Elymus lanceolatus</i> var. <i>lanceolatus</i>	<i>Agropyron dasystachyum</i> var. <i>dasystachyum</i> , <i>A. albicans</i> var. <i>albicans</i> , <i>A. albicans</i> var. <i>griffithsii</i> .	thickspike wheatgrass	PerG	Wide	Pres	Unc	Kyte 97-112 (FOBU)	1973	
Poaceae (Gramineae)	<i>Elymus repens</i>	<i>Agropyron repens</i> , <i>Elytrigia repens</i>	quackgrass	PerG	Intro	Pres	Unc	Kyte 2001-56 (FOBU)	1984	Native to Eurasia. WY state noxious weed
Poaceae (Gramineae)	<i>Elymus smithii</i>	<i>Agropyron smithii</i> , <i>Pascopyrum smithii</i> , includes vars. <i>smithii</i> & <i>palmeri</i>	western wheatgrass	PerG	Wide	Pres	Com	Kyte s.n. (FOBU)	1973	
Poaceae (Gramineae)	<i>Elymus spicatus</i>	<i>Agropyron spicatum</i> , <i>Pseudoroegneria spicata</i> , includes ssp. <i>inermis</i> & <i>spicata</i>	bluebunch wheatgrass	PerG	Wide	Pres	Com	Kyte 97-108 (FOBU)	1973	
Poaceae (Gramineae)	<i>Elymus trachycaulus</i> var. <i>trachycaulus</i>	<i>Agropyron caninum</i> , <i>A. subsecundum</i> , <i>A. trachycaulum</i> , <i>A. latiglume</i> , <i>E. alaskanus</i> ssp. <i>latiglumis</i>	slender wheatgrass	PerG	Wide	Pres	Com	Kyte & Fertig 2004-09 (FOBU)	1973	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Fossil Butte 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
Poaceae (Gramineae)	<i>Elymus x saundersii</i>	x <i>Agrostianion saundersii</i> , hybrid between <i>E. trachycaulus</i> & <i>E. elymoides</i>	Saunders' wild-rye	PerG	Wide	Pres	Rare	Kyte & Fertig 2004-15 (FOBU)	2004	
Poaceae (Gramineae)	<i>Festuca idahoensis</i>	<i>F. ovina</i> var. <i>ingrata</i>	Idaho fescue	PerG	Wide	Pres	Unc	Kyte & Fertig 2004-17 (FOBU)	1984	
Poaceae (Gramineae)	<i>Glyceria striata</i>	Includes <i>G. elata</i>	fowl mannagrass	PerG	Wide	Pres	Unc	Kyte s.n. (FOBU)	1973	
Poaceae (Gramineae)	<i>Hordeum brachyantherum</i>	<i>Critesion brachyantherum</i>	meadow barley	PerG	Wide	Pres	Unc	Kyte s.n. (FOBU)	1984	
Poaceae (Gramineae)	<i>Hordeum jubatum</i>	<i>Critesion jubatum</i>	foxtail barley	PerG	Wide	Pres	Unc	Kyte s.n. (FOBU)	1977	
Poaceae (Gramineae)	<i>Hordeum x caespitosum</i>	<i>H. jubatum</i> ssp. <i>intermedium</i>	intermediate barley	PerG	Wide	Pres	Unc	Litzinger 1402 (FOBU)	1973	
Poaceae (Gramineae)	<i>Koeleria macrantha</i>	<i>Koeleria cristata</i> , <i>K. pyramidata</i> , <i>K. nitida</i>	junegrass	PerG	Wide	Pres	Unc	Kyte s.n. (FOBU)	1973	
Poaceae (Gramineae)	<i>Leucopoa kingii</i>	<i>Hesperochloa kingii</i>	spike fescue	PerG	Wide	Pres	Com	Kyte 97-55 (FOBU)	1973	
Poaceae (Gramineae)	<i>Melica bulbosa</i>	<i>Bromelica bulbosa</i>	oniongrass	PerG	Wide	Pres	Unc	Kyte 2001-05 (FOBU)	1984	
Poaceae (Gramineae)	<i>Muhlenbergia richardsonis</i>		mat muhly	PerG	Wide	Pres	Unc	Kyte s.n. (FOBU)	1973	
Poaceae (Gramineae)	<i>Phalaris arundinacea</i>	<i>Phalaroides arundinacea</i>	reed canary grass	PerG	Wide	Rep	?	Fertig (2000)	2000	Voucher has not been relocated (may be at RM)
Poaceae (Gramineae)	<i>Phleum alpinum</i>	<i>P. commutatum</i>	alpine timothy	PerG	Wide	Pres	Unc	Kyte 98-7 (FOBU)	1998	
Poaceae (Gramineae)	<i>Phleum pratense</i>		timothy	PerG	Intro	Pres	Unc	Kyte 2000-5 (FOBU)	1984	Native to Eurasia
Poaceae (Gramineae)	<i>Poa arida</i>		prairie bluegrass	PerG	Wide	Pres	Unc	Kyte s.n. (FOBU)	1984	Reported in Dorn et al. (1984) as <i>P. glaucifolia</i> .

Appendix A. Confirmed, historical, and reported vascular plant taxa of Fossil Butte 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
Poaceae (Gramineae)	<i>Poa bulbosa</i>		bulbous bluegrass	PerG	Intro	Pres	Unc	Kyte 96-65 (FOBU)	1996	Native to Eurasia and Africa
Poaceae (Gramineae)	<i>Poa compressa</i>		Canada bluegrass	PerG	Intro	Pres	Unc	Kyte & Fertig 2004-20	1984	Native to Eurasia
Poaceae (Gramineae)	<i>Poa cusickii</i> var. <i>pallida</i>	<i>P. cusickii</i> var. <i>cusickii</i> ; included in <i>P. fendleriana</i> by some authors	Cusick's bluegrass	PerG	Wide	Pres	Unc	Kyte 97-34 (FOBU)	1984	
Poaceae (Gramineae)	<i>Poa fendleriana</i>	<i>P. longiligula</i> , includes <i>ssp. fendleriana</i> & <i>longiligula</i>	muttongrass	PerG	Wide	Pres	Com	Litzing 1665 (FOBU)	1973	
Poaceae (Gramineae)	<i>Poa interior</i>	<i>P. nemoralis</i> ssp. <i>interior</i> ; <i>P. glauca</i> ssp. <i>glauca</i>	interior bluegrass	PerG	Wide	Pres	Unc	Kyte 97-125 (FOBU)	1984	
Poaceae (Gramineae)	<i>Poa juncifolia</i> var. <i>ampla</i>	Included in <i>P. secunda</i> by some authors; <i>P. ampla</i> , <i>P. secunda</i> ssp. <i>juncifolia</i>	big bluegrass	PerG	Wide	Pres	Unc	Kyte 2001-53 (FOBU)	1977	
Poaceae (Gramineae)	<i>Poa nevadensis</i>	Included in <i>P. secunda</i> by some authors; <i>P. secunda</i> ssp. <i>juncifolia</i>	Nevada bluegrass	PerG	Wide	Pres	Unc	Kyte 97-97 (FOBU)	1995	
Poaceae (Gramineae)	<i>Poa pratensis</i>	<i>P. agassizensis</i>	Kentucky bluegrass	PerG	Intro	Pres	Unc	Kyte s.n. (FOBU)	1973	Native to Europe
Poaceae (Gramineae)	<i>Poa secunda</i> var. <i>elongata</i>	<i>P. canbyi</i> ; <i>P. secunda</i> ssp. <i>secunda</i> . Vars. not recognized by some authors	Canby bluegrass	PerG	Wide	Pres	Com	Litzing 1199 (FOBU)	1977	

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

Family	Species name	Synonymic/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Poaceae (Gramineae)	<i>Poa secunda</i> var. <i>secunda</i>	<i>P. sandbergii</i> , includes <i>P. gracillima</i> , <i>P. juncifolia</i> , <i>P. canbyi</i> , <i>P. scabrella</i> , <i>P. nevadensis</i> , <i>P. ampla</i> and all vars. of <i>P. secunda</i>	Sandberg bluegrass	PerG	Wide	Pres	Com	Litzinger 1394 (FOBU)	1973	
Poaceae (Gramineae)	<i>Polypogon monspeliensis</i>		rabbitfoot grass	AnnG	Intro	Pres	Unc	Kyte s.n. (FOBU)	1995	Native to Eurasia and Africa
Poaceae (Gramineae)	<i>Puccinellia nuttalliana</i>	<i>P. airoides</i>	Nuttall's alkaligrass	PerG	Wide	Pres	Unc	Litzinger 1259 (FOBU)	1977	
Poaceae (Gramineae)	<i>Spartina gracilis</i>		alkali cordgrass	PerG	Wide	Pres	Unc	Kyte s.n. (FOBU)	1995	
Poaceae (Gramineae)	<i>Sporobolus airoides</i>	<i>S. airoides</i> var. <i>airoides</i>	alkali sacaton	PerG	Wide	Pres	Unc	Litzinger 1258 (FOBU)	1977	Incorrectly considered a false report in Fertig (2000).
Poaceae (Gramineae)	<i>Trisetum spicatum</i>	<i>T. montanum</i>	spike trisetum	PerG	Wide	Rep	?	Beetle & Marlow (1974)	1973	
Polemoniaceae	<i>Collomia linearis</i>		small collomia	AnnF	Wide	Pres	Unc	Kyte 96-86 (FOBU)	1984	
Polemoniaceae	<i>Ipomopsis aggregata</i> var. <i>aggregata</i>	<i>Gilia aggregata</i> var. <i>aggregata</i>	scarlet gilia	PerF	Wide	Pres	Unc	Kyte 96-87 (FOBU)	1973	
Polemoniaceae	<i>Ipomopsis congesta</i> var. <i>congesta</i>	<i>Gilia congesta</i> var. <i>congesta</i>	ball-head gilia	PerF	Wide	Pres	Unc	Kyte 96-26 (FOBU)	1984	
Polemoniaceae	<i>Leptosiphon septentrionalis</i>	<i>Linanthus septentrionalis</i> , <i>Linanthus harknessii</i> var. <i>septentrionalis</i>	northern linanthus	AnnF	Wide	Pres	Unc	Litzinger 1212 (FOBU)	1977	
Polemoniaceae	<i>Linanthus pungens</i>	<i>Leptodactylon pungens</i>	prickly-phlox	Shrub	Wide	Pres	Unc	Litzinger 1132 (FOBU)	1977	
Polemoniaceae	<i>Microsteris gracilis</i> var. <i>humilior</i>	<i>Phlox gracilis</i> ssp. <i>humilis</i>	slender phlox	AnnF	Wide	Pres	Unc	Kyte 2002-01 (FOBU)	2002	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Fossil Butte 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>Navarretia breweri</i>		yellow navarretia	AnnF	Wide	Pres	Unc	Kyte s.n. (FOBU)	1995	
Polemoniaceae	<i>Navarretia intertexta</i> var. <i>propinqua</i>	<i>N. saximontana</i> , <i>N. minima</i>	Great Basin navarretia	AnnF	Wide	Pres	Rare	Kyte s.n. (FOBU)	2003	
Polemoniaceae	<i>Phlox hoodii</i>	Includes spp. <i>canescens</i> , <i>glabrata</i> , <i>hoodii</i> , & <i>viscidula</i>	Hood's phlox	PerF	Wide	Pres	Com	Kyte 96-6 (FOBU)	1973	
Polemoniaceae	<i>Phlox longifolia</i>	Includes vars. <i>longifolia</i> & <i>stansburyi</i>	long-leaf phlox	PerF	Wide	Pres	Unc	Kyte s.n. (FOBU)	1977	
Polemoniaceae	<i>Phlox multiflora</i>	Includes spp. <i>multiflora</i> , <i>depressa</i> , & <i>patula</i>	Rocky Mountain phlox	PerF	Wide	Pres	Unc	Kyte 96-147 (FOBU)	1977	
Polemoniaceae	<i>Phlox muscoides</i>	<i>P. hoodii</i> spp. <i>muscoides</i> , <i>P. bryoides</i>	moss phlox	PerF	Wide	Rep	?	Dorn et al. (1984)	1984	
Polygonaceae	<i>Eriogonum acaule</i>		single-stem wild buckwheat	PerF	Reg En	Pres	Unc	Kyte 98-2 (FOBU)	1984	
Polygonaceae	<i>Eriogonum brevicaule</i> var. <i>brevicaule</i>		shortstem wild buckwheat	PerF	Wide	Pres	Unc	Kyte 96-198 (FOBU)	1977	
Polygonaceae	<i>Eriogonum brevicaule</i> var. <i>laxifolium</i>	Includes <i>E. brevicaule</i> var. <i>cottamii</i>	loose-leaf wild buckwheat	PerF	Reg En	Pres	Unc	Kyte 96-205 (FOBU)	1977	
Polygonaceae	<i>Eriogonum caespitosum</i>		matted wild buckwheat	PerF	Wide	Pres	Unc	Kyte 98-25 (FOBU)	1984	
Polygonaceae	<i>Eriogonum cernuum</i>	<i>E. cernuum</i> var. <i>cernuum</i>	matted wild buckwheat	AnnF	Wide	Pres	Unc	Kyte 97-113 (FOBU)	1997	
Polygonaceae	<i>Eriogonum microthecum</i> var. <i>laxiflorum</i>		slender wild buckwheat	Shrub	Wide	Pres	Unc	Litzinger 1387 (FOBU)	1973	
Polygonaceae	<i>Eriogonum ovalifolium</i> var. <i>purpureum</i>	Included in var. <i>ovalifolium</i> by some authors, or vars. not recognized.	cushion wild buckwheat	PerF	Wide	Pres	Unc	Kyte 97-85 (FOBU)	1984	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Fossil Butte 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
Polygonaceae	<i>Eriogonum umbellatum</i> var. <i>majus</i>	<i>E. umbellatum</i> var. <i>subalpinum</i> , <i>E. subalpinum</i>	cream wild buckwheat	PerF	Wide	Pres	Unc	Litzing 1516 (FOBU)	1973	
Polygonaceae	<i>Polygonum aviculare</i>	<i>P. arenastrum</i>	yard knotweed	AnnF	Intro	Pres	Unc	Kyte s.n. (FOBU)	1977	Native to Eurasia
Polygonaceae	<i>Polygonum bistortoides</i>	<i>Bistorta bistortoides</i>	American bistort	PerF	Wide	Pres	Unc	Kyte 96-67 (FOBU)	1984	
Polygonaceae	<i>Polygonum douglasii</i> var. <i>douglasii</i>	<i>P. douglasii</i>	Douglas' knotweed	AnnF	Wide	Pres	Unc	Kyte 96-178 (FOBU)	1984	
Polygonaceae	<i>Polygonum sawatchense</i>	<i>P. douglasii</i> var. <i>johnstonii</i> , <i>P. sawatchense</i> var. <i>sawatchense</i>	Sawatch knotweed	AnnF	Wide	Pres	Unc	Harms & Kyte s.n. (FOBU)	2005	
Polygonaceae	<i>Rumex crispus</i>		curly dock	PerF	Intro	Pres	Unc	Kyte 96-179 (FOBU)	1977	Native to Eurasia
Polygonaceae	<i>Rumex paucifolius</i>	<i>Acetosella paucifolia</i>	alpine sorrel	PerF	Wide	Pres	Unc	Kyte 98-8 (FOBU)	1998	
Polygonaceae	<i>Rumex salicifolius</i> var. <i>triangulivalvis</i>	<i>R. mexicanus</i> , <i>R. salicifolius</i> var. <i>mexicanus</i> , <i>R. utahensis</i> , <i>R. triangulivalvis</i> var. <i>mexicanus</i> , <i>R. triangulivalvis</i> var. <i>montigenitus</i>	willow dock	PerF	Wide	Pres	Unc	Kyte s.n. (FOBU)	1984	
Polygonaceae	<i>Stenogonum salsuginosum</i>	<i>Eriogonum salsuginosum</i>	smooth wild buckwheat	AnnF	Wide	Pres	Unc	Kyte 97-109 (FOBU)	1984	
Portulacaceae	<i>Claytonia lanceolata</i>	<i>C. lanceolata</i> var. <i>lanceolata</i>	lanceleaf springbeauty	PerF	Wide	Pres	Unc	Kyte 96-68 (FOBU)	1984	
Portulacaceae	<i>Lewisia pygmaea</i>	<i>Oreobroma pygmaea</i>	alpine bitter-root	PerF	Wide	Rep	Rare	Kyte observation	1994	Cited in Fertig (2000) without a voucher
Portulacaceae	<i>Lewisia rediviva</i>	<i>L. rediviva</i> var. <i>rediviva</i>	Oregon bitter-root	PerF	Wide	Pres	Unc	Kyte 97-79 (FOBU)	1997	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Fossil Butte 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
Potamogetonaceae	<i>Stuckenia pectinata</i>	<i>Potamogeton pectinatus</i> , <i>Coleogeton pectinatus</i>	fennel-leaf pondweed	PerF	Wide	Pres	Rare	Kyte 2001-41 (FOBU)	2001	
Primulaceae	<i>Androsace septentrionalis</i> var. <i>subulifera</i>	Includes ssp. <i>puberulenta</i> & <i>subumbellata</i>	pygmy-flower rock-jasmine	AnnF	Wide	Pres	Unc	Kyte 98-1 (FOBU)	1977	
Primulaceae	<i>Dodecatheon pulchellum</i>	<i>D. pauciflorum</i> , <i>D. pulchellum</i> var. <i>pulchellum</i>	dark-throat shooting-star	PerF	Wide	Pres	Unc	Kyte 96-69 (FOBU)	1977	
Ranunculaceae (Helleboraceae)	<i>Actaea rubra</i>	<i>A. rubra</i> ssp. <i>arguta</i>	red baneberry	PerF	Wide	Pres	Unc	Kyte 96-85 (FOBU)	1984	
Ranunculaceae (Helleboraceae)	<i>Aquilegia coerulea</i>	Includes vars. <i>alpina</i> , <i>coerulea</i> , & <i>ochroleuca</i> , <i>A. caerulea</i>	Colorado columbine	PerF	Wide	Pres	Unc	Kyte 96-114 (FOBU)	1984	
Ranunculaceae	<i>Clematis hirsutissima</i>	Includes vars. <i>hirsutissima</i> & <i>scottii</i> , <i>Coriflora hirsutissima</i>	sugar-bowls	PerF	Wide	Pres	Unc	Kyte 97-86 (FOBU)	1997	Includes reports of wideleaved form sometimes attributed to var. <i>scottii</i>
Ranunculaceae	<i>Clematis occidentalis</i> var. <i>groseserrata</i>	<i>Atragene occidentalis</i>	purple virgin's-bower	PerF	Wide	Pres	Rare	Kyte 2000-1 (FOBU)	2000	
Ranunculaceae (Helleboraceae)	<i>Delphinium glaucum</i>		tower larkspur	PerF	Wide	Pres	Unc	Kyte 96-115 (FOBU)	1996	
Ranunculaceae (Helleboraceae)	<i>Delphinium nuttallianum</i>	<i>D. nelsonii</i>	Nuttall's larkspur	PerF	Wide	Pres	Unc	Litzinger 1117 (FOBU)	1977	
Ranunculaceae	<i>Myosurus apetalus</i> var. <i>montanus</i>	<i>M. aristatus</i> , <i>A. apetalus</i>	bristly mouse-tail	AnnF	Wide	Pres	Unc	Kyte 97-38 (FOBU)	1984	
Ranunculaceae	<i>Ranunculus acrifloris</i> var. <i>montanensis</i>		sharp buttercup	PerF	Wide	Pres	Unc	Kyte 96-84 (FOBU)	1984	
Ranunculaceae	<i>Ranunculus acris</i>	<i>R. acris</i> var. <i>acris</i>	tall buttercup	PerF	Intro	Pres	Unc	Kyte 96-3 (FOBU)	1996	Native to Eurasia

Appendix A. Confirmed, historical, and reported vascular plant taxa of Fossil Butte 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	<i>Ranunculus aquatilis</i> var. <i>diffusus</i>	Includes <i>R. circinatus</i> , <i>R. longirostris</i> , <i>R. trichophyllus</i> var. <i>eradicatus</i> , <i>R. trichophyllus</i> var. <i>trichophyllus</i> , & <i>R. aquatilis</i> var. <i>hispidulus</i> , <i>Batrachium circinatum</i>	thread water-buttercup	PerF	Wide	Pres	Unc	Kyte 96-83 (FOBU)	1977	
Ranunculaceae	<i>Ranunculus cymbalaria</i> var. <i>saximontanus</i>	<i>Halerpestes cymbalaria</i> var. <i>saximontana</i>	marsh buttercup	PerF	Wide	Pres	Unc	Kyte s.n. (FOBU)	1984	
Ranunculaceae	<i>Ranunculus glaberrimus</i> var. <i>ellipticus</i>	Includes <i>R. oreogenes</i>	sagebrush buttercup	PerF	Wide	Pres	Unc	Kyte 97-14 (FOBU)	1984	
Ranunculaceae	<i>Ranunculus gmelinii</i>	<i>R. gmelinii</i> var. <i>hookeri</i> . Vars. not recognized by some authors	lesser yellow water buttercup	PerF	Wide	Pres	Rare	Kyte 2000-34 (FOBU)	2000	
Ranunculaceae	<i>Ranunculus sceleratus</i> var. <i>multifidus</i>	<i>Hecatonia scelerata</i>	blister buttercup	AnnF	Wide	Pres	Unc	Kyte 96-149 (FOBU)	1977	
Ranunculaceae	<i>Ranunculus testiculatus</i>	<i>Ceratocephala orthoceras</i> , <i>C. testiculata</i>	bur buttercup	AnnF	Intro	Pres	Unc	Kyte 97-21 (FOBU)	1984	Native to Eurasia
Ranunculaceae (Thalictraceae)	<i>Thalictrum occidentale</i>		western meadow-rue	PerF	Wide	Pres	Unc	Kyte 96-82 (FOBU)	1996	
Rhamnaceae	<i>Ceanothus martinii</i>		Utah mountain-lilac	Shrub	Periph	Pres	Rare	Kyte 97-121 (FOBU)	1997	
Rhamnaceae	<i>Ceanothus velutinus</i>	<i>C. velutinus</i> var. <i>velutinus</i>	deer-brush	Shrub	Wide	Pres	Rare	Kyte 2001-45 (FOBU)	1984	
Rosaceae	<i>Amelanchier alnifolia</i> var. <i>alnifolia</i>		Saskatoon serviceberry	Shrub	Wide	Rep	?	Beetle & Marlow (1974)	1973	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Fossil Butte 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>Amelanchier alnifolia</i> var. <i>pumila</i>	<i>A. pumila</i>	dwarf serviceberry	Shrub	Wide	Pres	Unc	Kyte 2002-10 (FOBU)	2002	Many reports of this species from vegetation mapping plots may actually represent <i>A. utahensis</i> .
Rosaceae	<i>Amelanchier utahensis</i>		Utah serviceberry	Shrub	Wide	Pres	Com	Kyte 96-28 (FOBU)	1984	
Rosaceae	<i>Cercocarpus montanus</i>		alder-leaf mountain mahogany	Shrub	Wide	Pres	Com	Litzinger 1187 (FOBU)	1973	
Rosaceae	<i>Fragaria virginiana</i>	Includes ssp. <i>glauca</i> & <i>platypetala</i>	Virginia strawberry	Perf	Wide	Pres	Unc	Kyte 96-191 (FOBU)	1984	
Rosaceae	<i>Geum macrophyllum</i> var. <i>perincisum</i>		large-leaved avens	Perf	Wide	Pres	Unc	Kyte 96-80 (FOBU)	1984	
Rosaceae	<i>Geum triflorum</i> var. <i>ciliatum</i>	<i>Erythrocoma triflora</i>	prairie smoke	Perf	Wide	Pres	Unc	Kyte 96-77 (FOBU)	1984	
Rosaceae	<i>Holodiscus dumosus</i>	<i>H. discolor</i>	bush oceanspray	Shrub	Wide	Pres	Unc	Kyte 96-79 (FOBU)	1973	
Rosaceae	<i>Pentaptylloides floribunda</i>	<i>Pentaptylloides fruticosa</i> , <i>Potentilla fruticosa</i> , <i>Dasiphora fruticosa</i> ssp. <i>floribunda</i> , <i>D. floribunda</i>	shrubby cinquefoil	Shrub	Wide	Pres	Unc	Kyte 96-81 (FOBU)	1984	
Rosaceae	<i>Potentilla anserina</i>	<i>Argentina anserina</i>	silverweed	Perf	Wide	Pres	Unc	Kyte s.n. (FOBU)	1984	
Rosaceae	<i>Potentilla arguta</i>	<i>Drymocalis arguta</i> , includes ssp. <i>arguta</i> & <i>convallaria</i>	tall cinquefoil	Perf	Wide	Pres	Unc	Kyte 2001-34 (FOBU)	1984	
Rosaceae	<i>Potentilla biennis</i>		biennial cinquefoil	AnnF	Wide	Pres	Unc	Kyte 97-70 (FOBU)	1997	
Rosaceae	<i>Potentilla gracilis</i> var. <i>elmeri</i>	<i>P. pectinsecta</i>	comb-leaf cinquefoil	Perf	Wide	Pres	Unc	Harms & Kyte s.n. (FOBU)	1995	
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	Pres	Unc	Kyte 96-117 (FOBU)	1977	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Fossil Butte 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>Potentilla gracilis</i> var. <i>pulcherrima</i>	<i>P. pulcherrima</i>	beautiful cinquefoil	PerF	Wide	Pres	Unc	Litzinger 1214 (FOBU)	1977	
Rosaceae	<i>Potentilla pennsylvanica</i>		Pennsylvania cinquefoil	PerF	Wide	Rep	?	Dorn et al. (1984)	1984	
Rosaceae	<i>Prunus virginiana</i> var. <i>melanocarpa</i>	<i>Padus virginiana</i> ssp. <i>melanocarpa</i>	western chokecherry	Shrub	Wide	Pres	Unc	Litzinger 1229 (FOBU)	1973	
Rosaceae	<i>Purshia tridentata</i>		antelope bitterbrush	Shrub	Wide	Pres	Com	Kyte 96-27 (FOBU)	1973	
Rosaceae	<i>Rosa nutkana</i> var. <i>hispida</i>	<i>R. nootkana</i>	Nootka rose	Shrub	Wide	Pres	Unc	Kyte 96-116 (FOBU)	1996	
Rosaceae	<i>Rosa woodsii</i>	<i>R. woodsii</i> var. <i>ultramontana</i>	Woods' rose	Shrub	Wide	Pres	Unc	Kyte 96-150 (FOBU)	1973	
Rosaceae	<i>Sanguisorba minor</i>	<i>S. minor</i> ssp. <i>muricata</i>	garden burnet	PerF	Intro	Pres	Unc	Kyte 96-192 (FOBU)	1996	Native to Europe
Rubiaceae	<i>Galium bifolium</i>		twin-leaf bedstraw	AnnF	Wide	Pres	Unc	Kyte 97-31 (FOBU)	1984	
Rubiaceae	<i>Galium boreale</i>	<i>G. septentrionale</i>	northern bedstraw	PerF	Wide	Pres	Unc	Kyte 96-76 (FOBU)	1977	
Rubiaceae	<i>Galium trifidum</i>	Includes ssp. <i>columbianum</i> , <i>trifidum</i> & <i>subbiflorum</i>	small bedstraw	PerF	Wide	Pres	Unc	Kyte 2000-23 (FOBU)	1984	
Salicaceae	<i>Populus angustifolia</i>		narrow-leaved cottonwood	Tree	Wide	Pres	Unc	Kyte 96-206 (FOBU)	1984	
Salicaceae	<i>Populus tremuloides</i>		quaking aspen	Tree	Wide	Pres	Com	Kyte 96-207 (FOBU)	1973	
Salicaceae	<i>Salix bebbiana</i>		Bebb's willow	Shrub	Wide	Pres	Unc	Kyte & Fertig 2004-08 (FOBU)	1984	
Salicaceae	<i>Salix boothii</i>		Booth's willow	Shrub	Wide	Rep	?	Dorn et al. (1984)	1984	
Salicaceae	<i>Salix eriocephala</i> var. <i>watsonii</i>	<i>Salix lutea</i> , <i>S. rigida</i> var. <i>watsonii</i>	yellow willow	Shrub	Wide	Pres	Unc	Kyte 96-152 (FOBU)	1984	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Fossil Butte 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
Salicaceae	<i>Salix exigua</i> var. <i>exigua</i>	<i>S. exigua</i> var. <i>stenophylla</i>	coyote willow	Shrub	Wide	Pres	Unc	Kyte 96-151 (FOBU)	1996	Kyte (s.n., 1995) collected a hybrid between <i>S. exigua</i> x <i>S. melanopsis</i> at FOBU
Salicaceae	<i>Salix geyeriana</i>	<i>S. geyeriana</i> var. <i>geyeriana</i>	Geyer's willow	Shrub	Wide	Pres	Unc	Kyte s.n. (FOBU)	1996	
Salicaceae	<i>Salix scouleriana</i>		Scouler's willow	Shrub	Wide	Pres	Unc	Kyte 96-70 (FOBU)	1973	
Santalaceae	<i>Comandra umbellata</i> var. <i>pallida</i>		bastard toadflax	PerF	Wide	Pres	Unc	Litzinger 1119 (FOBU)	1977	
Sarcobataceae (Chenopodiaceae)	<i>Sarcobatus vermiculatus</i>		greasewood	Shrub	Wide	Pres	Unc	Kyte 96-202 (FOBU)	1977	
Saxifragaceae	<i>Heuchera parvifolia</i>	Includes vars. <i>major</i> , <i>parvifolia</i> , & <i>utahensis</i>	little-leaf alumroot	PerF	Wide	Pres	Unc	Kyte 97-96 (FOBU)	1984	
Saxifragaceae	<i>Lithophragma glabrum</i> var. <i>ramulosum</i>	<i>L. bulbifera</i> , <i>L. glabra</i>	fringe cup woodlandstar	PerF	Wide	Pres	Unc	Kyte 97-43 (FOBU)	1984	
Saxifragaceae	<i>Lithophragma parviflorum</i>	<i>L. parviflora</i>	smallflower woodlandstar	PerF	Wide	Pres	Unc	Kyte 96-71 (FOBU)	1984	
Saxifragaceae	<i>Lithophragma tenellum</i>	<i>L. tenella</i>	slender woodlandstar	PerF	Wide	Pres	Unc	Kyte 97-33 (FOBU)	1984	
Scrophulariaceae	<i>Besseya wyomingensis</i>		Wyoming kittentails	PerF	Wide	Pres	Unc	Kyte 96-9 (FOBU)	1984	
Scrophulariaceae	<i>Castilleja angustifolia</i> var. <i>dubia</i>	<i>C. chromosa</i> , <i>C. applegatei</i> ssp. <i>martinii</i>	desert paintbrush	PerF	Wide	Pres	Unc	Kyte 96-31 (FOBU)	1984	
Scrophulariaceae	<i>Castilleja flava</i>	<i>C. flava</i> var. <i>flava</i>	yellow paintbrush	PerF	Wide	Pres	Unc	Kyte 96-30 (FOBU)	1977	
Scrophulariaceae	<i>Castilleja linariifolia</i>	<i>C. linariaefolia</i>	Wyoming paintbrush	PerF	Wide	Pres	Unc	Kyte 96-29 (FOBU)	1977	State flower of Wyoming
Scrophulariaceae	<i>Castilleja sulphurea</i>	<i>C. rhexifolia</i> var. <i>sulphurea</i>	sulphur paintbrush	PerF	Wide	Pres	Unc	Kyte 97-93 (FOBU)	1997	
Scrophulariaceae	<i>Collinsia parviflora</i>		blue-eyed Mary	AnnF	Wide	Pres	Unc	Kyte 96-33 (FOBU)	1984	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Fossil Butte 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>Cordylanthus ramosus</i>		bushy bird's-beak	AnnF	Wide	Pres	Unc	Kyte s.n. (FOBU)	1984	
Scrophulariaceae	<i>Mimulus guttatus</i>		yellow monkeyflower	PerF	Wide	Pres	Unc	Kyte s.n. (FOBU)	1984	
Scrophulariaceae	<i>Orthocarpus luteus</i>		yellow owl-clover	AnnF	Wide	Pres	Unc	Kyte s.n. (FOBU)	1984	
Scrophulariaceae	<i>Orthocarpus tolmiei</i>		Tolmie's owl-clover	AnnF	Reg En	Pres	Unc	Kyte s.n. (FOBU)	1995	
Scrophulariaceae	<i>Penstemon cyananthus</i>	Includes vars. <i>cyananthus</i> & <i>subglaber</i>	Wasatch penstemon	PerF	Reg En	Pres	Unc	Kyte & Fertig 2004-06 (FOBU)	1977	
Scrophulariaceae	<i>Penstemon humilis</i>	<i>P. humilis</i> var. <i>humilis</i>	low penstemon	PerF	Wide	Pres	Unc	Kyte 96-34 (FOBU)	1984	
Scrophulariaceae	<i>Penstemon paysoniorum</i>		Payson's penstemon	PerF	Reg En	Pres	Unc	Kyte 97-75 (FOBU)	1984	Type locality is between Opal and Kemmerer, Lincoln Co., WY (Payson & Armstrong 3221)
Scrophulariaceae	<i>Penstemon procerus</i>	<i>P. procerus</i> var. <i>procerus</i> , <i>P. confertus</i> ssp. <i>procerus</i>	small-flower penstemon	PerF	Wide	Pres	Unc	Kyte s.n. (FOBU)	1995	
Scrophulariaceae	<i>Penstemon radicosus</i>		mat-root penstemon	PerF	Wide	Pres	Unc	Kyte 97-95 (FOBU)	1973	Kyte specimen may have been collected outside of FOBU.
Scrophulariaceae	<i>Penstemon rydbergii</i> var. <i>rydbergii</i>		Rydberg's penstemon	PerF	Wide	Rep	?	Dorn et al. (1984)	1984	Also cited by No. Colorado Plateau Network (1997 in ed.) without a voucher.
Scrophulariaceae	<i>Scrophularia lanceolata</i>		lance-leaf figwort	PerF	Wide	Pres	Unc	Kyte 97-83 (FOBU)	1997	
Scrophulariaceae	<i>Verbascum thapsus</i>		woolly mullein	PerF	Intro	Pres	Unc	Kyte 97-102 (FOBU)	1997	Native to Eurasia
Scrophulariaceae	<i>Veronica americana</i>		American brooklime	PerF	Wide	Pres	Unc	Kyte 96-72 (FOBU)	1984	

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

Family	Species name	Synonymic/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Scrophulariaceae	<i>Veronica biloba</i>	<i>Pocilla biloba</i>	two-lobe speedwell	AnnF	Intro	Pres	Unc	Kyte 96-32 (FOBU)	1984	Native to Asia
Solanaceae	<i>Hyoscyamus niger</i>		black henbane	AnnF	Intro	Pres	Unc	Kyte 96-155 (FOBU)	1977	Native to Europe
Solanaceae	<i>Nicotiana attenuata</i>		coyote tobacco	AnnF	Wide	Pres	Rare	Kyte s.n. (FOBU)	2006	Arrived in FOBU after 2005 burn.
Solanaceae	<i>Solanum dulcamara</i>		European bittersweet	PerF	Intro	Pres	Unc	Kyte 98-38 (FOBU)	1997	Native to Eurasia
Solanaceae	<i>Solanum triflorum</i>		cut-leaf nightshade	AnnF	Wide	Pres	Unc	Kyte 97-127 (FOBU)	1977	
Sparganiaceae	<i>Sparganium emersum</i>	<i>S. simplex</i> , <i>S. erectum</i> sp. <i>stoloniferum</i>	emersed burr-reed	PerF	Wide	Pres	Rare	Kyte 2001-68 (FOBU)	2001	
Tamaricaceae	<i>Tamarix chinensis</i>	<i>T. pentandra</i> , <i>T. ramosissima</i>	five-stamen tamarisk	Shrub	Intro	Ext	NA	Kyte 99-2 (FOBU)	1999	Native to Eurasia. WY state noxious weed
Typhaceae	<i>Typha latifolia</i>		broad-leaved cattail	PerG	Wide	Pres	Unc	Kyte 97-104 (FOBU)	1977	
Urticaceae	<i>Urtica dioica</i> var. <i>occidentalis</i>	<i>U. dioica</i> sp. <i>holosericea</i> , <i>U. gracilis</i> sp. <i>holosericea</i>	stinging nettle	PerF	Wide	Pres	Unc	Kyte 96-156 (FOBU)	1977	
Valerianaceae	<i>Valeriana edulis</i>		tobacco-root	PerF	Wide	Pres	Unc	Litzinger 1322 (FOBU)	1977	
Valerianaceae	<i>Valeriana occidentalis</i>		western valerian	PerF	Wide	Pres	Unc	Kyte 97-49 (FOBU)	1984	
Verbenaceae	<i>Verbena bracteata</i>		prostrate vervain	PerF	Wide	Pres	Unc	Kyte 96-157 (FOBU)	1977	
Violaceae	<i>Viola adunca</i>		hook-spur violet	PerF	Wide	Pres	Unc	Kyte 96-36 (FOBU)	1977	
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	Rep	?	Dorn et al. (1984)	1984	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Fossil Butte 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
Violaceae	<i>Viola praemorsa</i> var. <i>altior</i>	<i>V. nuttallii</i> var. <i>praemorsa</i> , includes ssp. <i>flavovirens</i> , <i>major</i> , & <i>lingulifolia</i>	upland yellow violet	PerF	Wide	Rep	?	Dorn et al. (1984)	1984	
Violaceae	<i>Viola purpurea</i> var. <i>venosa</i>		goose-foot violet	PerF	Wide	Pres	Unc	Kyte 96-10 (FOBU)	1984	
Violaceae	<i>Viola sororia</i> var. <i>affinis</i>	<i>V. nephrophylla</i>	northern bog violet	PerF	Wide	Pres	Unc	Kyte 97-51 (FOBU)	1996	
Violaceae	<i>Viola vallicola</i>	<i>V. nuttallii</i> var. <i>vallicola</i>	valley violet	PerF	Wide	Pres	Unc	Kyte 96-11 (FOBU)	1984	

Appendix B. Potential (unconfirmed) taxa of Fossil Butte National Monument.

Family	Species name	Synonyms/Taxonomic notes	Common name	Life form	Range	Comments
Aceraceae	<i>Acer grandidentatum</i>		bigtooth maple	Tree	Periph	
Adiantaceae (Polypodiaceae or Sinopteridaceae)	<i>Pellaea breweri</i>		Brewer's cliffbrake	Fern	Wide	
Adoxaceae (Caprifoliaceae)	<i>Sambucus racemosa</i> var. <i>microbotrys</i>	Included in <i>S. racemosa</i> var. <i>racemosa</i> by some authors	red elderberry	Shrub	Wide	
Alliaceae (Liliaceae)	<i>Allium brandegeei</i>	<i>A. brandegeei</i>	Brandegee's onion	PerF	Wide	
Anacardiaceae	<i>Rhus aromatica</i> var. <i>trilobata</i>	<i>R. trilobata</i> var. <i>trilobata</i>	squawbush	Shrub	Wide	
Apiaceae (Umbelliferae)	<i>Cymopterus bulbosus</i>		onion spring-parsley	PerF	Wide	
Apiaceae (Umbelliferae)	<i>Heracleum sphondylium</i> var. <i>lanatum</i>	<i>H. lanatum</i> , <i>H. maximum</i> , <i>H. sphondylium</i> ssp. <i>montanum</i>	cow parsnip	PerF	Wide	
Apiaceae (Umbelliferae)	<i>Lomatium grayi</i>	<i>L. grayi</i> var. <i>grayi</i>	milfoil lomatium	PerF	Wide	
Apiaceae (Umbelliferae)	<i>Osmorhiza depauperata</i>		blunt sweet-cicely	PerF	Wide	
Aspleniaceae (Polypodiaceae)	<i>Cystopteris fragilis</i>	Some authors include <i>C. utahensis</i> , <i>C. reevesiana</i> , & <i>C. tenuis</i>	brittle bladder-fern	Fern	Wide	
Asteraceae (Compositae)	<i>Agoseris aurantiaca</i>	Includes vars. <i>aurantiaca</i> & <i>purpurea</i>	orange agoseris	PerF	Wide	
Asteraceae (Compositae)	<i>Artemisia arbuscula</i> var. <i>arbuscula</i>	<i>Seriphidium arbusculum</i> var. <i>arbusculum</i>	low sagebrush	Shrub	Periph	
Asteraceae (Compositae)	<i>Crepis atribarba</i>	<i>C. atribarba</i>	slender hawksbeard	PerF	Wide	
Asteraceae (Compositae)	<i>Crepis occidentalis</i> var. <i>costata</i>		basin hawksbeard	PerF	Wide	
Asteraceae (Compositae)	<i>Crepis runcinata</i> var. <i>runcinata</i>	<i>Psilochenia runcinata</i>	meadow hawksbeard	PerF	Wide	
Asteraceae (Compositae)	<i>Eurybia integrifolia</i>	<i>Aster integrifolius</i>	thick-stem wood-aster	PerF	Wide	
Asteraceae (Compositae)	<i>Hymenopappus filifolius</i> var. <i>luteus</i>		Wyoming hyalineherb	PerF	RegEn	
Asteraceae (Compositae)	<i>Matricaria matricarioides</i>	<i>M. discoidea</i> , <i>Lepidotheca suaveolens</i>	pineapple-weed	AnnF	Wide	
Asteraceae (Compositae)	<i>Packera streptanthifolia</i> var. <i>rubricaulis</i>	<i>Senecio streptanthifolius</i> var. <i>rubricaulis</i>	red-stemmed cleft-leaved groundsel	PerF	Wide	
Asteraceae (Compositae)	<i>Solidago missouriensis</i> var. <i>missouriensis</i>	Includes var. <i>extraria</i>	Missouri goldenrod	PerF	Wide	
Asteraceae (Compositae)	<i>Stenotus armerioides</i>	<i>Haplopappus armerioides</i> var. <i>armerioides</i>	thrift goldenweed	PerF	Wide	
Asteraceae (Compositae)	<i>Symphotrichum ciliatum</i>	<i>Aster brachyactis</i> , <i>Brachyactis ciliata</i> ssp. <i>angusta</i>	rayless alkali aster	AnnF	Wide	

Appendix B. Potential (unconfirmed) taxa of Fossil Butte National Monument, cont.

Family	Species name	Synonyms/Taxonomic notes	Common name	Life form	Range	Comments
Asteraceae (Compositae)	<i>Symphotrichum lanceolatum</i> var. <i>hesperium</i>	<i>Aster lanceolatus</i> var. <i>hesperius</i> , <i>A. hesperius</i>	Siskiyou aster	PerF	Wide	
Asteraceae (Compositae)	<i>Tragopogon lamottei</i>	<i>T. pratensis</i>	meadow salsify	PerF	Intro	Native to Europe
Asteraceae (Compositae)	<i>Xylorhiza glabriuscula</i>	<i>Machaeranthera glabriuscula</i> . Includes vars. <i>glabriuscula</i> & <i>villosa</i>	smooth woody-aster	PerF	RegEn	
Boraginaceae	<i>Cryptantha affinis</i>		ally cryptanth	AnnF	Wide	
Boraginaceae	<i>Cryptantha flavoculata</i>	<i>Oreocarya flavoculata</i>	yellow-eye cryptanth	PerF	Wide	
Boraginaceae	<i>Cryptantha torreyana</i>		Torrey's cryptanth	AnnF	Wide	
Boraginaceae	<i>Hackelia micrantha</i>	<i>H. jessicae</i>	smallflower stickseed	PerF	Wide	
Boraginaceae	<i>Lappula redowskii</i> var. <i>cupulata</i>	<i>L. texana</i> , <i>L. occidentalis</i> var. <i>cupulata</i> , <i>L. marginata</i>	cupseed stickseed	AnnF	Wide	
Boraginaceae	<i>Lithospermum incisum</i>		showy stoneseed	PerF	Wide	
Brassicaceae (Cruciferae)	<i>Boechea cobrensis</i>	<i>Arabis cobrensis</i>	masonic rockcress	PerF	Wide	
Brassicaceae (Cruciferae)	<i>Boechea demissa</i> var. <i>languida</i>	<i>Arabis demissa</i> var. <i>languida</i>	nodding rock cress	PerF	Wide	
Brassicaceae (Cruciferae)	<i>Boechea holboellii</i> var. <i>pinetorum</i>	<i>Arabis holboellii</i> var. <i>pinetorum</i> , name may be misapplied (Holmgren et al. 2005)	Holboell's rockcress	PerF	Wide	
Brassicaceae (Cruciferae)	<i>Boechea lignifera</i>	<i>Arabis lignifera</i>	Sweetwater rockcress	PerF	Wide	
Brassicaceae (Cruciferae)	<i>Cardaria pubescens</i>		hairy whitetop	PerF	Intro	Native to Asia. WY state noxious weed
Brassicaceae (Cruciferae)	<i>Conringia orientalis</i>		hare's-ear mustard	AnnF	Intro	Native to Europe
Brassicaceae (Cruciferae)	<i>Descurainia incana</i> var. <i>major</i>	<i>D. richardsonii</i> var. <i>richardsonii</i> , <i>D. incana</i> ssp. <i>incana</i>	mountain tansy-mustard	PerF	Wide	
Brassicaceae (Cruciferae)	<i>Descurainia pinnata</i> var. <i>nelsonii</i>		western tansy-mustard	AnnF	Wide	
Brassicaceae (Cruciferae)	<i>Isatis tinctoria</i>		Dyer's woad	PerF	Intro	Native to Europe. WY state noxious weed
Brassicaceae (Cruciferae)	<i>Lepidium densiflorum</i> var. <i>macrocarpum</i>	Included in var. <i>densiflorum</i> by some authors	miner's pepperwort	AnnF	Wide	

Appendix B. Potential (unconfirmed) taxa of Fossil Butte National Monument, cont.

Family	Species name	Synonyms/Taxonomic notes	Common name	Life form	Range	Comments
Brassicaceae (Cruciferae)	<i>Lepidium latifolium</i>	<i>Cardaria latifolia</i>	broad-leaf pepperwort	PerF	Intro	Native to Eurasia. WY state noxious weed
Brassicaceae (Cruciferae)	<i>Lesquerella condensata</i>	<i>L. alpina</i> var. <i>condensata</i> , <i>Physaria reediana</i> var. <i>condensata</i>	dense bladderpod	PerF	RegEn	Type locality is Tipton, Sweetwater Co, WY (Nelson 4797 RM)
Brassicaceae (Cruciferae)	<i>Lesquerella prostrata</i>	<i>Physaria prostrata</i>	prostrate bladderpod	PerF	RegEn	WY BLM: Sensitive. Type locality is Piedmont, Uinta Co, WY (Nelson 4564 RM)
Brassicaceae (Cruciferae)	<i>Physaria dornii</i>		Dorn's twinpod	PerF	LocEn	WY BLM: Sensitive, USFWS: former C2 candidate. Type locality is Rock Creek Ridge, Lincoln Co., WY (Dorn 3476 RM)
Brassicaceae (Cruciferae)	<i>Physaria integrifolia</i>	Includes var. <i>monticola</i>	Snake River twinpod	PerF	RegEn	
Brassicaceae (Cruciferae)	<i>Rorippa palustris</i> var. <i>hispida</i>	<i>R. islandica</i> var. <i>hispida</i>	hairy yellowcress	PerF	Wide	
Brassicaceae (Cruciferae)	<i>Sisymbrium loeselii</i>		false London rocket	AnnF	Intro	Native to Eurasia
Brassicaceae (Cruciferae)	<i>Stanleya pinnata</i>	Includes vars. <i>bipinnata</i> & <i>pinnata</i>	prince's-plume	PerF	Wide	
Callitrichaceae	<i>Callitriche palustris</i>	<i>C. verna</i>	Vernal water-starwort	PerF	Wide	
Caryophyllaceae (Alsinaceae)	<i>Eremogone hookeri</i> var. <i>hookeri</i>	<i>Arenaria hookeri</i> var. <i>hookeri</i>	Hooker's sandwort	PerF	Wide	
Caryophyllaceae (Alsinaceae)	<i>Spargularia rubra</i>		ruby sandspurrey	AnnF	Intro	Native to Europe
Chenopodiaceae	<i>Atriplex argentea</i>	<i>A. argentea</i> var. <i>argentea</i>	silver orache	AnnF	Wide	

Appendix B. Potential (unconfirmed) taxa of Fossil Butte National Monument, cont.

Family	Species name	Synonyms/Taxonomic notes	Common name	Life form	Range	Comments
Chenopodiaceae	<i>Bassia hyssopifolia</i>		five-horn smotherweed	AnnF	Intro	Native to Eurasia
Chenopodiaceae	<i>Salicornia rubra</i>	<i>S. europaea</i> , <i>S. europaea</i> ssp. <i>rubra</i>	red saltwort	AnnF	Wide	
Cyperaceae	<i>Carex vesicaria</i>		blister sedge	PerG	Wide	
Equisetaceae	<i>Equisetum hyemale</i> var. <i>affine</i>	<i>Hippochaete hyemalis</i> ssp. <i>affinis</i> , <i>E. praealtum</i>	tall scouring-rush	Fern	Wide	
Ericaceae (Pyrolaceae)	<i>Orthilia secunda</i>	<i>Pyrola secunda</i>	sidebells pyrola	PerF	Wide	
Fabaceae (Leguminosae)	<i>Astragalus chamaeleuce</i>	<i>A. chamaeleuce</i> var. <i>chamaeleuce</i>	cicada milkvetch	PerF	Wide	
Fabaceae (Leguminosae)	<i>Astragalus cibaricus</i>		browse milkvetch	PerF	Wide	
Fabaceae (Leguminosae)	<i>Astragalus miser</i> var. <i>decumbens</i>		timber milkvetch	PerF	RegEn	
Fabaceae (Leguminosae)	<i>Astragalus utahensis</i>		Utah milkvetch	PerF	Periph	
Fabaceae (Leguminosae)	<i>Hedysarum occidentale</i>	<i>H. occidentale</i> var. <i>occidentale</i>	western sweetvetch	PerF	Wide	
Fabaceae (Leguminosae)	<i>Lupinus argenteus</i> var. <i>argenteus</i>		silvery lupine	PerF	Wide	
Fabaceae (Leguminosae)	<i>Lupinus lepidus</i> var. <i>utahensis</i>	<i>L. lepidus</i> var. <i>caespitosus</i> , <i>L. caespitosus</i> var. <i>utahensis</i>	stemless lupine	PerF	Wide	
Fabaceae (Leguminosae)	<i>Lupinus pusillus</i> var. <i>intermontanus</i>		Great Basin lupine	AnnF	Wide	
Fabaceae (Leguminosae)	<i>Trifolium andinum</i>	<i>T. andinum</i> var. <i>andinum</i>	Andean clover	PerF	RegEn	
Fabaceae (Leguminosae)	<i>Trifolium longipes</i> var. <i>reflexum</i>		Wind River clover	PerF	Wide	
Grossulariaceae (Saxifragaceae)	<i>Ribes aureum</i> var. <i>aureum</i>		golden currant	Shrub	Wide	
Grossulariaceae (Saxifragaceae)	<i>Ribes oxycanthoides</i> var. <i>setosum</i>	<i>R. setosum</i>	Missouri gooseberry	Shrub	Wide	
Hydrophyllaceae	<i>Phacelia scopulina</i>	<i>P. lutea</i> var. <i>scopulina</i>	Debeque scorpion-weed	AnnF	Wide	
Lamiaceae (Labiatae)	<i>Prunella vulgaris</i>	<i>P. vulgaris</i> var. <i>lanceolata</i> , includes ssp. <i>vulgaris</i>	self-heal	PerF	Wide	
Linaceae	<i>Linum kingii</i>	<i>Mesyniopsis kingii</i>	King's yellow flax	PerF	Wide	
Loasaceae	<i>Mentzelia albicaulis</i>	<i>Acrolasia albicaulis</i> , <i>A. gracilis</i> , <i>M. obscura</i>	white-stem blazingstar	AnnF	Wide	
Onagraceae	<i>Camissonia breviflora</i>	<i>Oenothera breviflora</i>	dandelion camissonia	PerF	Wide	

Appendix B. Potential (unconfirmed) taxa of Fossil Butte National Monument, cont.

Family	Species name	Synonyms/Taxonomic notes	Common name	Life form	Range	Comments
Onagraceae	<i>Camissonia scapoidea</i>	<i>C. scapoidea</i> var. <i>scapoidea</i> , <i>Oenothera scapoidea</i>	Paiute suncup	AnnF	Wide	
Onagraceae	<i>Oenothera cespitosa</i> var. <i>marginata</i>		long-tube evening-primrose	PerF	Periph	
Onagraceae	<i>Oenothera pallida</i> var. <i>trichocalyx</i>		pale evening-primrose	PerF	RegEn	
Onagraceae	<i>Oenothera villosa</i> var. <i>strigosa</i>	<i>O. strigosa</i> , <i>O. biennis</i>	biennial evening-primrose	PerF	Wide	
Poaceae (Gramineae)	<i>Agrostis exarata</i>		spike bentgrass	PerG	Wide	
Poaceae (Gramineae)	<i>Agrostis scabra</i>	<i>A. hiemalis</i> , <i>A. geminata</i>	ticklegass	PerG	Wide	
Poaceae (Gramineae)	<i>Hesperostipa comata</i> var. <i>intermedia</i>	<i>Stipa comata</i> var. <i>intermedia</i>	needle-and-thread	PerG	Wide	
Poaceae (Gramineae)	<i>Muhlenbergia filiformis</i>		pullup muhly	AnnG	Wide	
Poaceae (Gramineae)	<i>Poa annua</i>		annual bluegrass	AnnG	Intro	Native to Eurasia and W North America
Poaceae (Gramineae)	<i>Poa juncifolia</i> var. <i>juncifolia</i>	Included in <i>P. secunda</i> by some authors; <i>P. nevadensis</i> var. <i>juncifolia</i>	alkali bluegrass	PerG	Wide	
Poaceae (Gramineae)	<i>Poa palustris</i>		fowl bluegrass	PerG	Wide	
Poaceae (Gramineae)	<i>Poa wheeleri</i>	<i>P. nervosa</i> var. <i>wheeleri</i>	Wheeler bluegrass	PerG	Wide	
Polemoniaceae	<i>Aliciella leptomeria</i>	<i>Gilia leptomeria</i> var. <i>leptomeria</i>	common gilia	AnnF	Wide	
Polemoniaceae	<i>Ipomopsis aggregata</i> var. <i>attenuata</i>	<i>Gilia aggregata</i> var. <i>attenuata</i>	scarlet gilia	PerF	RegEn	
Polemoniaceae	<i>Lathrocasis tenerrima</i>	<i>Gilia tenerrima</i>	delicate gilia	AnnF	Wide	
Polygonaceae	<i>Eriogonum brevicaule</i> var. <i>micranthum</i>		shortstem wild buckwheat	PerF	RegEn	
Polygonaceae	<i>Eriogonum heracleoides</i>	<i>E. heracleoides</i> var. <i>heracleoides</i>	whorled wild buckwheat	PerF	Spars	
Polygonaceae	<i>Eriogonum umbellatum</i> var. <i>dichrocephalum</i>	Included in var. <i>majus</i> by some authors	sulphur-flower wild buckwheat	PerF	Wide	
Polygonaceae	<i>Polygonum kelloggii</i> var. <i>kelloggii</i>	<i>P. polygaloides</i> var. <i>kelloggii</i>	Kellogg's knotweed	AnnF	Wide	
Polygonaceae	<i>Rumex maritimus</i> var. <i>fueginus</i>	<i>R. fueginus</i>	golden dock	AnnF	Wide	

Appendix B. Potential (unconfirmed) taxa of Fossil Butte National Monument, cont.

Family	Species name	Synonyms/Taxonomic notes	Common name	Life form	Range	Comments
Polygonaceae	<i>Rumex utahensis</i>	<i>R. salicifolius</i> var. <i>montigenitus</i> , <i>R. salicifolius</i> var. <i>denticulatus</i> , included in <i>R. salicifolius</i> by some authors	Utah dock	PerF	Wide	
Potamogetonaceae	<i>Stuckenia filiformis</i> var. <i>occidentalis</i>	<i>Potamogeton filiformis</i> var. <i>occidentalis</i>	slenderleaf pondweed	PerF	Wide	
Ranunculaceae	<i>Ranunculus macounii</i>		Macoun's buttercup	PerF	Wide	
Rosaceae	<i>Fragaria vesca</i>	<i>F. vesca</i> var. <i>bracteata</i>	woodland strawberry	PerF	Wide	
Rosaceae	<i>Ivesia gordonii</i>		Gordon's ivesia	PerF	Wide	
Rosaceae	<i>Potentilla concinna</i> var. <i>concinna</i>		red cinquefoil	PerF	Wide	
Rosaceae	<i>Potentilla ovina</i> var. <i>ovina</i>		sheep cinquefoil	PerF	Wide	
Rosaceae	<i>Rosa sayi</i>	<i>R. acicularis</i> var. <i>sayi</i>	prickly rose	Shrub	Wide	
Rosaceae	<i>Rubus idaeus</i> var. <i>strigosus</i>	<i>R. idaeus</i> var. <i>aculeatissimus</i> , <i>R.</i> <i>idaeus</i> ssp. <i>melanolasius</i>	common red raspberry	Shrub	Wide	
Salicaceae	<i>Salix lasiandra</i> var. <i>caudata</i>	<i>S. lucida</i> ssp. <i>caudata</i>	whiplash willow	Shrub	Wide	
Scrophulariaceae	<i>Castilleja angustifolia</i> var. <i>angustifolia</i>		narrowleaf paintbrush	PerF	Wide	
Scrophulariaceae	<i>Castilleja miniata</i>	Includes <i>C. gracillima</i>	scarlet paintbrush	PerF	Wide	
Scrophulariaceae	<i>Limosella aquatica</i>		mudwort	PerF	Wide	
Scrophulariaceae	<i>Linaria dalmatica</i>	<i>L. genistifolia</i> ssp. <i>dalmatica</i>	Dalmatian toadflax	PerF	Intro	Native to Europe. WY state noxious weed
Scrophulariaceae	<i>Mimulus suksdorfii</i>		Suksdorf's monkeyflower	AnnF	Wide	
Scrophulariaceae	<i>Pedicularis crenulata</i>		purple-flower lousewort	PerF	Wide	
Scrophulariaceae	<i>Penstemon caespitosus</i>	<i>P. caespitosus</i> var. <i>caespitosus</i>	mat penstemon	PerF	Wide	
Scrophulariaceae	<i>Penstemon fremontii</i>	<i>P. fremontii</i> var. <i>fremontii</i>	Fremont's penstemon	PerF	RegEn	
Scrophulariaceae	<i>Veronica anagallis-aquatica</i>		water speedwell	PerF	Intro	Native to Europe

The vascular plant species listed here are known from the vicinity of Fossil Butte National Monument in Lincoln County, Wyoming, but have not previously been reported or confirmed for the monument. Species on this list are derived from Fertig (2000), Hartman et al. (1996), Reifsdal 1996, and the digital Atlas of the Vascular Plants of Wyoming (www.esb.utexas.edu/tchumley/wyommap/at.as.htm). 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) taxa of Fossil Butte National Monument.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Comments
Alliaceae (Liliaceae)	<i>Allium geyeri</i> var. <i>geyeri</i>		Geyer's onion	PerF	Wide	FalsRep	Report from BRY & FOBU herbaria based on misidentified specimens of <i>A. textile</i>
Amaranthaceae	<i>Amaranthus albus</i>		tumble pigweed	AnnF	Intro	FalsRep	Report from FOBU herbarium based on a misidentified specimen of <i>Chenopodium glaucum</i> var. <i>salinum</i> . Native to tropical America.
Apiaceae (Umbelliferae)	<i>Lomatium juniperinum</i>		juniper lomatium	PerF	RegEn	FalsRep	Report from FOBU herbarium based on a misidentified specimen of <i>L. macrocarpum</i> .
Apiaceae (Umbelliferae)	<i>Lomatium orientale</i>		oriental desert-parsley	PerF	Wide	Ques?	Reported by Dorn et al. (1984) without a voucher, but Fossil Butte is well outside its known range
Asteraceae (Compositae)	<i>Antennaria rosulata</i>		Breaks pussytoes	PerF	na	FalsRep	Report from FOBU herbarium based on a misidentified specimen of <i>A. dimorpha</i> .
Asteraceae (Compositae)	<i>Arnica latifolia</i> var. <i>latifolia</i>	<i>A. latifolia</i>	broadleaf arnica	PerF	Wide	FalsRep	Report from FOBU herbarium based on a misidentified specimen of <i>A. cordifolia</i> .
Asteraceae (Compositae)	<i>Artemisia campestris</i> var. <i>scouleriana</i>	<i>Oligosporus campestris</i> ssp. <i>pacificus</i> , <i>A. campestris</i> ssp. <i>pacifica</i>	sand wormwood	PerF	Wide	Ques?	Reported by Dorn et al. (1984) without a voucher, but Fossil Butte is well outside its known range. Specimen from FOBU herbarium is based on a misidentified specimen of <i>A. biennis</i> var. <i>biennis</i> .
Asteraceae (Compositae)	<i>Artemisia tripartita</i> var. <i>rupicola</i>		three-tip sagebrush	Shrub	RegEn	Ques?	Reported by Dorn et al. (1984) without a voucher, but Fossil Butte is well outside its known range
Asteraceae (Compositae)	<i>Balsamorhiza incana</i>		hoary balsamroot	PerF	Wide	FalsRep	Report from FOBU herbarium based on a misidentified specimen of <i>B. macrophylla</i> .
Asteraceae (Compositae)	<i>Chaenactis stevioides</i>		stevia dusty-maiden	AnnF	Periph	FalsRep	Report from FOBU herbarium based on a misidentified specimen of <i>C. douglasii</i> var. <i>montana</i> .
Asteraceae (Compositae)	<i>Chrysothamnus viscidiflorus</i> ssp. <i>pumilus</i>	Included in var. <i>viscidiflorus</i> by many authors	green rabbitbrush	Shrub	na	FalsRep	Report from FOBU herbarium based on a misidentified specimen of <i>C. viscidiflorus</i> var. <i>viscidiflorus</i>
Asteraceae (Compositae)	<i>Cirsium scopulorum</i>	<i>C. eatonii</i> var. <i>eriocephalum</i>	carmine thistle	PerF	na	FalsRep	Report from FOBU herbarium based on a misidentified specimen of <i>C. pulcherrimum</i> .
Asteraceae (Compositae)	<i>Conyza canadensis</i>	<i>C. canadensis</i> var. <i>glabrata</i>	Canadian horseweed	AnnF	Wide	FalsRep	Report from FOBU herbarium based on a misidentified specimen of <i>Gnaphalium palustre</i> .

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

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Comments
Asteraceae (Compositae)	<i>Erigeron peregrinus</i> var. <i>scaposus</i>	<i>E. peregrinus</i> var. <i>callianthemus</i> , <i>E.</i> <i>glacialis</i> var. <i>glacialis</i>	wandering fleabane	PerF	Wide	FalsRep	Report from FOBU herbarium based on a misidentified specimen of <i>E. speciosus</i> .
Asteraceae (Compositae)	<i>Packera fendleri</i>	<i>Senecio fendleri</i>	Fendler's groundsel	PerF	Wide	FalsRep	Report from FOBU herbarium based on a misidentified specimen of <i>P. multilobata</i> .
Asteraceae (Compositae)	<i>Packera</i> <i>streptanthifolia</i> var. <i>borealis</i>	<i>Senecio</i> <i>streptanthifolius</i> var. <i>borealis</i>	boreal cleft-leaved groundsel	PerF	na	FalsRep	Reports from FOBU herbarium based on misidentified specimens of <i>Senecio</i> <i>multilobatus</i>
Asteraceae (Compositae)	<i>Senecio rapifolius</i>		turnip-leaf ragwort	PerF	RegEn	FalsRep	Report from FOBU herbarium based on a misidentified specimen of <i>Packera</i> <i>streptanthifolia</i> var. <i>streptanthifolia</i>
Asteraceae (Compositae)	<i>Senecio</i> <i>sphaerocephalus</i>		ballhead groundsel	PerF	Wide	FalsRep	Report from FOBU herbarium based on a misidentified specimen of <i>S. serra</i> var. <i>serra</i> .
Asteraceae (Compositae)	<i>Symphotrichum</i> <i>eatonii</i>	<i>Aster eatonii</i> , <i>A.</i> <i>bracteolatus</i>	Eaton's aster	PerF	Wide	FalsRep	Report from FOBU herbarium based on a misidentified specimen of <i>Aster glaucodes</i> .
Boraginaceae	<i>Cryptantha gracilis</i>		slender cryptanth	AnnF	Periph	FalsRep	Report from FOBU herbarium based on a misidentified specimen of <i>C. fendleri</i> .
Boraginaceae	<i>Hackelia deflexa</i> var. <i>americana</i>	<i>H. leptophylla</i>	nodding stickseed	PerF	Wide	FalsRep	Reports from FOBU herbarium (as <i>H.</i> <i>leptophylla</i>) are based on misidentified specimens of <i>H. floribunda</i> & <i>H. patens</i> .
Boraginaceae	<i>Mertensia ciliata</i>		streamside bluebell	PerF	Wide	FalsRep	Report from FOBU herbarium based on a misidentified specimen of <i>M. oblongifolia</i> .
Brassicaceae (Cruciferae)	<i>Barbarea vulgaris</i>	European wintercress		PerF	Intro	Ques?	Reported by Dorn et al. (1984) and Springer et al. (2006) without a voucher, but Fossil Butte is well outside its known range. Native to Eurasia.
Brassicaceae (Cruciferae)	<i>Cardaria draba</i>	<i>C. draba</i> var. <i>draba</i> , <i>Lepidium draba</i>	whitetop	PerF	Intro	FalsRep	Reports from FOBU herbarium based on misidentified specimens of <i>C. chalepensis</i> and <i>Lepidium densiflorum</i> var. <i>densiflorum</i> . Native to Europe. WY state noxious weed.
Brassicaceae (Cruciferae)	<i>Descurainia pinnata</i> var. <i>osmiarum</i>	<i>D. pinnata</i> ssp. <i>halictorum</i>	western tansy- mustard	AnnF	Wide	FalsRep	Report from Fertig (2000) is based on collections from outside FOBU.
Brassicaceae (Cruciferae)	<i>Physaria didymocarpa</i>	<i>P. didymocarpa</i> var. <i>didymocarpa</i>	common twinpod	PerF	Wide	FalsRep	Reports from FOBU and UW Range herbaria based on misidentified specimens of <i>P. condensata</i> .

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

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Comments
Brassicaceae (Cruciferae)	<i>Thelypodium sagittatum</i>	<i>Thelypodopsis sagittata</i> var. <i>sagittata</i>	arrowhead thelypody	PerF	Sparse	FalsRep	Report from FOBU based on a misidentified specimen of <i>T. paniculatum</i>
Caprifoliaceae	<i>Symphoricarpos occidentalis</i>		western snowberry	Shrub	Periph	FalsRep	Report from FOBU herbarium based on a misidentified specimen of <i>S. oreophilus</i> var. <i>utahensis</i> .
Caryophyllaceae (Alsinaceae)	<i>Cerastium arvense</i>	<i>C. strictum</i> , <i>C. arvense</i> ssp. <i>strictum</i>	field chickweed	PerF	Wide	FalsRep	Report from FOBU herbarium based on a misidentified specimen of <i>C. fontanum</i> .
Chenopodiaceae	<i>Atriplex patula</i>		spear orache	AnnF	Periph	FalsRep	Report from FOBU herbarium based on a misidentified specimen of <i>A. subspicata</i> .
Chenopodiaceae	<i>Atriplex suckleyi</i>	<i>Endolepis dioica</i>	Suckley's saltbush	AnnF	Wide	FalsRep	Report from Fertig (2000) based on misinterpretation of Dorn et al. (1984) report of <i>A. dioica</i> which is a synonym of <i>A. subspicata</i> , not <i>Endolepis dioica</i> [= <i>A. suckleyi</i>].
Chenopodiaceae	<i>Chenopodium album</i>	<i>C. album</i> var. <i>album</i>	lambquarter	AnnF	Intro	FalsRep	Report from FOBU herbarium based on a misidentified specimen of <i>C. atrovirens</i> . Native to Eurasia.
Chenopodiaceae	<i>Grayia spinosa</i>	<i>Atriplex spinosa</i> , <i>A. grayi</i>	spiny hop-sage	Shrub	Wide	FalsRep	Report from Fertig (2000) is based on records from outside FOBU.
Crassulaceae	<i>Sedum rhodanthum</i>	<i>Rhodiola rhodantha</i> , <i>Clementsia rhodantha</i>	redtop stonecrop	PerF	Wide	Ques?	Reported by Dorn et al. (1984) without a voucher, but Fossil Butte is well outside its known range
Euphorbiaceae	<i>Chamaesyce fendleri</i>	<i>Euphorbia fendleri</i>	Fendler's spurge	PerF	Wide	FalsRep	Report from FOBU herbarium based on a misidentified specimen of <i>C. glyptosperma</i> .
Fabaceae (Leguminosae)	<i>Astragalus alpinus</i>		alpine milkvetch	PerF	Wide	FalsRep	Reports from FOBU herbarium based on misidentified specimens of <i>A. canadensis</i> var. <i>brevidens</i> and <i>Oxytropis deflexa</i> var. <i>sericea</i> .
Fabaceae (Leguminosae)	<i>Astragalus laxmannii</i> var. <i>robustior</i>	<i>A. adsurgens</i> var. <i>robustior</i>	standing milkvetch	PerF	Wide	Ques?	Reported by Dorn et al. (1984) without a voucher, but Fossil Butte is well outside its known range
Fabaceae (Leguminosae)	<i>Astragalus platytropis</i>		broad-keeled milkvetch	PerF	Periph	Ques?	Report from Beetle & Marlow (1974) probably based on a misidentified specimen of <i>A. jejunus</i> var. <i>jejunus</i> .
Fabaceae (Leguminosae)	<i>Astragalus vexilliflexus</i>		bent-flower milkvetch	PerF	Wide	Ques?	Reported by Dorn et al. (1984) without a voucher, but Fossil Butte is well outside its known range

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

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Comments
Fabaceae (Leguminosae)	<i>Lupinus polyphyllus</i>		hairy bigleaf lupine	PerF	Wide	FalsRep	Report from FOBU herbarium based on a misidentified specimen of <i>L. argenteus</i> var. <i>rubricaulis</i>
Hypericaceae (Guttiferae)	<i>Hypericum formosum</i> var. <i>formosum</i>	<i>H. scouleri</i> ssp. <i>nortoniae</i>	western St. John's- wort	PerF	Wide	FalsRep	Report from Fertig (2000) based on a misidentified specimen of <i>H. formosum</i> var. <i>scouleri</i>
Iridaceae	<i>Sisyrinchium montanum</i>	<i>S. montanum</i> var. <i>montanum</i>	mountain blue-eyed grass	PerF	Wide	FalsRep	Report from FOBU herbarium based on a misidentified specimen of <i>S. idahoense</i> var. <i>occidentale</i> .
Juncaceae	<i>Juncus filiformis</i>		thread rush	PerG	Periph	FalsRep	Report from FOBU herbarium based on a misidentified specimen of <i>J. ensifolius</i> var. <i>montanus</i> (not var. <i>saximontanus</i> as reported in Fertig 2000).
Juncaceae	<i>Juncus nevadensis</i>	Includes vars. <i>badius</i> & <i>nevadensis</i>	Nevada rush	PerG	Wide	FalsRep	Report from FOBU herbarium based on a misidentified specimen of <i>J. ensifolius</i> var. <i>montanus</i> (not var. <i>saximontanus</i> as reported in Fertig 2000).
Lamiaceae (Labiatae)	<i>Agastache pallidiflora</i>		Bill Williams Mountain giant hyssop	PerF	na	FalsRep	Report from FOBU herbarium based on a misidentified specimen of <i>A. urticifolia</i> .
Malvaceae	<i>Malva pusilla</i>	<i>M. rotundifolia</i>	low mallow	AnnF	Intro	Ques?	Reported by Dorn et al. (1984) without a voucher, but Fossil Butte is well outside its known range. Native to Europe.
Malvaceae	<i>Sphaeralcea ambigua</i>	<i>S. ambigua</i> var. <i>ambigua</i>	Mohave globemallow	PerF	na	FalsRep	Report from FOBU herbarium based on a misidentified specimen of <i>S. munroana</i> . <i>S. ambigua</i> is not native to Wyoming.
Onagraceae	<i>Chamerion angustifolium</i> var. <i>angustifolium</i>	<i>Epilobium angustifolium</i> var. <i>angustifolium</i>	narrowleaf fireweed	PerF	Wide	Ques?	Reported for FOBU by Fertig 2000 based on a report from Dorn et al. (1984) that did not include the variety. No vouchers of var. <i>angustifolia</i> have been documented from FOBU, but var. <i>canescens</i> has been collected.
Onagraceae	<i>Epilobium palustre</i> var. <i>palustre</i>	<i>E. palustre</i> var. <i>grammadophyllum</i>	marsh willowherb	PerF	Sparse	FalsRep	Report from FOBU herbarium based on a misidentified specimen of <i>E. ciliatum</i> var. <i>ciliatum</i>
Onagraceae	<i>Gayophytum ramosissimum</i>		branching groundsmoke	AnnF	Wide	FalsRep	Report from FOBU herbarium based on a misidentified specimen of <i>G. diffusum</i> var. <i>strictipes</i> .

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

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Comments
Onagraceae	<i>Oenothera elata</i>	<i>O. hookeri</i> , <i>O. elata</i> ssp. <i>hirsutissima</i>	western evening- primrose	PerF	na	FalsRep	Report from FOBU herbarium (under <i>O. hookeri</i>) is based on a misidentified specimen of <i>O. flava</i> .
Orchidaceae	<i>Corallorhiza trifida</i>		early coralroot	PerF	Wide	FalsRep	Report from FOBU herbarium based on a misidentified specimen of <i>C. striata</i> .
Plantaginaceae	<i>Plantago tweedyi</i>		Tweedy's plantain	PerF	Wide	FalsRep	Report from FOBU herbarium based on a misidentified specimen of <i>P. eriopoda</i> .
Poaceae (Gramineae)	<i>Elymus trachycaulus</i> var. <i>andinus</i>	<i>Agropyron caninum</i> var. <i>andinum</i> . Considered a hybrid between <i>E.</i> <i>trachycaulus</i> and <i>E. scribneri</i> in FNA (2007).	slender wildrye	PerG	Wide	Ques?	Report in Fertig 2000 was incorrectly based on Dorn et al. 1984 citation of <i>Agropyron caninum</i> (without variety). The Dorn et al. 1984 report is now considered to represent <i>Elymus trachycaulus</i> var. <i>trachycaulus</i> rather than var. <i>andinus</i> .
Poaceae (Gramineae)	<i>Nassella viridula</i>	<i>Stipa viridula</i>	green needlegrass	PerG	Wide	Ques?	Reported by Beetle & Marlow (1974) and Dorn et al. (1984) without a voucher, but Fossil Butte is well outside its known range
Poaceae (Gramineae)	<i>Poa glaucifolia</i>	Included in <i>P. arida</i> by some authors	pale-leaf bluegrass	PerG	Wide	FalsRep	Reports from Dorn et al. (1984) and FOBU herbarium are based on misidentified specimens of <i>P. arida</i> .
Polemoniaceae	<i>Linanthus caespitosus</i>	<i>Leptodactylon</i> <i>caespitosum</i>	matted prickly-phlox	PerF	Sparse	FalsRep	Report from FOBU herbarium based on a misidentified specimen of <i>Phlox hoodii</i> .
Polygonaceae	<i>Eriogonum flavum</i> var. <i>flavum</i>		yellow wild buckwheat	PerF	Wide	FalsRep	Report from FOBU herbarium based on a misidentified specimen of <i>E. brevicaule</i> var. <i>laxifolium</i> .
Polygonaceae	<i>Eriogonum</i> <i>microthecum</i> var. <i>effusum</i>	<i>E. effusum</i>	spreading wild buckwheat	Shrub	Wide	Ques?	Report from Beetle & Marlow (1974) probably based on a misidentified specimen of <i>E. microthecum</i> var. <i>laxiflorum</i> .
Potamogetonaceae	<i>Potamogeton pusillus</i> var. <i>pusillus</i>		dwarf pondweed	PerF	Wide	Ques?	Reported by Dorn et al. (1984) without a voucher, but Fossil Butte is well outside its known range
Ranunculaceae	<i>Clematis hirsutissima</i> var. <i>scottii</i>		sugar-bowls	PerF	na	FalsRep	Report from FOBU herbarium based on a misidentified specimen of <i>Clematis hirsutissima</i> (without variety)
Ranunculaceae	<i>Ranunculus</i> <i>hyperboreus</i>	<i>R. natans</i> var. <i>intertextus</i> , <i>R.</i> <i>hyperboreus</i> var. <i>intertextus</i>	floating buttercup	PerF	Periph	FalsRep	Report from FOBU herbarium based on a misidentified specimen of <i>R. sceleratus</i> var. <i>multifidus</i> .

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

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Comments
Ranunculaceae (Thalictraceae)	<i>Thalictrum venulosum</i>		veiny-leaf meadow-rue	Perf	Wide	Ques?	Reported by Dorn et al. (1984) without a voucher, but Fossil Butte is well outside its known range. Reports from FOBU herbarium are based on misidentified specimens of <i>T. occidentale</i> .
Salicaceae	<i>Populus deltoides</i> var. <i>occidentalis</i>	<i>P. deltoides</i> ssp. <i>monilifera</i>	plains cottonwood	Tree	Wide	Ques?	Reported by Beetle and Marlow (1974) without a voucher, but Fossil Butte is well outside its known range. Report may have been based on a cultivated individual that has since died. State tree of Wyoming.
Salicaceae	<i>Salix lemmonii</i>		Lemmon's willow	Shrub	Wide	FalsRep	Report from FOBU herbarium based on a misidentified specimen of <i>S. geeyeriana</i>
Scrophulariaceae	<i>Penstemon attenuatus</i> var. <i>pseudoprocerus</i>		sulphur beardtongue	Perf	RegEn	FalsRep	Report from FOBU herbarium based on a misidentified specimen of <i>P. radicosus</i> .
Scrophulariaceae	<i>Penstemon saxosorum</i>		upland beardtongue	Perf	RegEn	FalsRep	Report from FOBU herbarium based on a misidentified specimen of <i>P. cyananthus</i> .
Violaceae	<i>Viola nuttallii</i>	<i>V. nuttallii</i> var. <i>major</i>	yellow prairie violet	Perf	Wide	Ques?	Reported by Beetle and Marlow (1974) without a voucher, but Fossil Butte is well outside its known range

The vascular plant species listed here have been reported for Fossil Butte NM from published and unpublished literature (Beetle and Marlow 1974, Dorn et al. 1984) 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 taxa of Fossil Butte National Monument, organized by life form with ecological notes.

Family	Species name	Common name	Nativity	Park status	Flower time	Sage/Gr	MiX Con	Asp	Wet	Comments
Trees										
Cupressaceae	<i>Juniperus scopulorum</i>	Rocky Mountain juniper	Native	Pres	NA	X		X		
Pinaceae	<i>Pinus flexilis</i>	limber pine	Native	Pres	NA	X	X	X		
Pinaceae	<i>Pseudotsuga menziesii</i> var. <i>glauca</i>	Douglas-fir	Native	Pres	NA	X	X	X		
Salicaceae	<i>Populus angustifolia</i>	narrow-leaved cottonwood	Native	Pres	Apr–Jun				X	
Salicaceae	<i>Populus tremuloides</i>	quaking aspen	Native	Pres	Mar–Jun		X	X		
Shrubs										
Aceraceae	<i>Acer glabrum</i>	Rocky Mountain maple	Native	Pres	Apr–Jun		X			
Adoxaceae (Caprifoliaceae)	<i>Sambucus racemosa</i> var. <i>melanocarpa</i>	black elderberry	Native	Pres	May–Jul	X		X		
Asteraceae (Compositae)	<i>Artemisia arbuscula</i> var. <i>longiloba</i>	dwarf sagebrush	Native	Pres	Jun–Sep	X				Clayey soils
Asteraceae (Compositae)	<i>Artemisia cana</i> var. <i>viscidula</i>	silver sagebrush	Native	Pres	Aug–Sep	X		X	X	
Asteraceae (Compositae)	<i>Artemisia frigida</i>	fringed sagebrush	Native	Pres	Jul–Sep	X				
Asteraceae (Compositae)	<i>Artemisia nova</i>	black sagebrush	Native	Pres	Sep–Oct	X				
Asteraceae (Compositae)	<i>Artemisia spinescens</i>	budsage	Native	Pres	Apr–Jun	X				
Asteraceae (Compositae)	<i>Artemisia tridentata</i> var. <i>tridentata</i>	basin big sagebrush	Native	Pres	Jul–Sep	X				
Asteraceae (Compositae)	<i>Artemisia tridentata</i> var. <i>vaseyana</i>	mountain big sagebrush	Native	Pres	Jul–Sep	X				
Asteraceae (Compositae)	<i>Artemisia tridentata</i> var. <i>wyomingensis</i>	Wyoming big sagebrush	Native	Pres	Jul–Sep	X				
Asteraceae (Compositae)	<i>Chrysothamnus viscidiflorus</i> var. <i>lanceolatus</i>	lanceleaf rabbitbrush	Native	Pres	Jul–Sep	X				
Asteraceae (Compositae)	<i>Chrysothamnus viscidiflorus</i> var. <i>viscidiflorus</i>	green rabbitbrush	Native	Pres	Jul–Sep	X				Barren sites
Asteraceae (Compositae)	<i>Ericameria nauseosa</i> var. <i>nauseosa</i>	rubber rabbitbrush	Native	Pres	Aug–Oct	X				
Asteraceae (Compositae)	<i>Ericameria nauseosa</i> var. <i>oreophila</i>	greenish rabbitbrush	Native	Pres	Aug–Oct	X				

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

Family	Species name	Common name	Nativity	Park status	Flower time	Sage/ Grs	Mix Con	Asp	Wet	Comments
<i>Shrubs, cont.</i>										
Asteraceae (Compositae)	<i>Gutierrezia sarothrae</i>	broom snakeweed	Native	Pres	Jul-Oct	X				
Asteraceae (Compositae)	<i>Tetradymia canescens</i>	spineless horsebrush	Native	Pres	Jun-Sep	X				
Asteraceae (Compositae)	<i>Tetradymia spinosa</i>	shortspine horsebrush	Native	Pres	Apr-Jun	X				Barren sites
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	
Caprifoliaceae	<i>Symphoricarpos oreophilus</i> var. <i>utahensis</i>	mountain snowberry	Native	Pres	Jun-Aug	X	X	X		
Celastraceae	<i>Paxistima myrsinites</i>	mountain-lover	Native	Pres	May-Aug		X	X		
Chenopodiaceae	<i>Atriplex canescens</i> var. <i>canescens</i>	four-wing saltbush	Native	Pres	May-Sep	X				Disturbed areas
Chenopodiaceae	<i>Atriplex confertifolia</i>	shadscale	Native	Pres	May-Sep	X				Barren sites
Chenopodiaceae	<i>Atriplex falcata</i>	sickle saltbush	Native	Pres	Jun-Sep	X				
Chenopodiaceae	<i>Atriplex gardneri</i> var. <i>gardneri</i>	Gardner's saltbush	Native	Pres	May-Aug	X				Barren sites
Chenopodiaceae	<i>Krascheninnikovia lanata</i>	winterfat	Native	Pres	May-Jul	X				Barren sites
Cornaceae	<i>Cornus 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			
Elaeagnaceae	<i>Shepherdia canadensis</i>	Canada buffaloberry	Native	Pres	May-Jul		X	X		
Ericaceae	<i>Arctostaphylos uva-ursi</i> var. <i>uva-ursi</i>	bearberry	Native	Pres	May-Aug		X	X		
Grossulariaceae (Saxifragaceae)	<i>Ribes cereum</i> var. <i>pedicellare</i>	wax currant	Native	Pres	Apr-Aug	X	X			
Grossulariaceae (Saxifragaceae)	<i>Ribes inerme</i>	whitestem gooseberry	Native	Pres	Apr-Jul			X	X	
Grossulariaceae (Saxifragaceae)	<i>Ribes viscosissimum</i>	sticky currant	Native	Rep	May-Aug		X	X		
Polemoniaceae	<i>Linanthus pungens</i>	prickly-phlox	Native	Pres	May-Jul	X				
Polygonaceae	<i>Eriogonum microthecum</i> var. <i>laxiflorum</i>	slender wild buckwheat	Native	Pres	Jun-Oct	X				Barren sites
Rhamnaceae	<i>Ceanothus martinii</i>	Utah mountain-lilac	Native	Pres	Jun-Jul	X	X			

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

Family	Species name	Common name	Nativity	Park status	Flower time	Sage/ Grs	MiX Con	Asp	Wet	Comments
<i>Shrubs, cont.</i>										
Rhamnaceae	<i>Ceanothus velutinus</i>	deer-brush	Native	Pres	Jun-Jul		X			
Rosaceae	<i>Amelanchier alnifolia</i> var. <i>alnifolia</i>	Saskatoon serviceberry	Native	Rep	May-Jul	X	X	X		
Rosaceae	<i>Amelanchier alnifolia</i> var. <i>pumila</i>	dwarf serviceberry	Native	Pres	May-Jul	X	X	X		
Rosaceae	<i>Amelanchier utahensis</i>	Utah serviceberry	Native	Pres	Apr-Jun	X	X			
Rosaceae	<i>Cercocarpus montanus</i>	alder-leaf mountain mahogany	Native	Pres	May-Jun	X	X	X		
Rosaceae	<i>Holodiscus dumosus</i>	bush oceanspray	Native	Pres	Jun-Aug	X				Rocky areas
Rosaceae	<i>Pentaphylloides floribunda</i>	shrubby cinquefoil	Native	Pres	Jun-Aug	X	X	X	X	
Rosaceae	<i>Prunus virginiana</i> var. <i>melanocarpa</i>	western chokecherry	Native	Pres	May-Jul	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	Pres	Jun-Jul	X		X		
Rosaceae	<i>Rosa woodsii</i>	Woods' rose	Native	Pres	May-Jul	X		X		
Salicaceae	<i>Salix bebbiana</i>	Bebb's willow	Native	Pres	May-Jun			X	X	
Salicaceae	<i>Salix boothii</i>	Booth's willow	Native	Rep	May-Jun				X	
Salicaceae	<i>Salix eriocephala</i> var. <i>watsonii</i>	yellow willow	Native	Pres	Apr-Jun				X	
Salicaceae	<i>Salix exigua</i> var. <i>exigua</i>	coyote willow	Native	Pres	Apr-Aug				X	
Salicaceae	<i>Salix geyeriana</i>	Geyer's willow	Native	Pres	Apr-Aug				X	
Salicaceae	<i>Salix scouleriana</i>	Scouler's willow	Native	Pres	Apr-Jun			X		
Sarcobataceae (Chenopodiaceae)	<i>Sarcobatus vermiculatus</i>	greasewood	Native	Pres	May-Aug	X				Alkaline soils
Tamaricaceae	<i>Tamarix chinensis</i>	five-stamen tamarisk	Intro	Ext	Apr-Sep				X	
Perennial Forbs										
Alliaceae (Liliaceae)	<i>Allium acuminatum</i>	taper-tip onion	Native	Pres	May-Jul				X	
Alliaceae (Liliaceae)	<i>Allium brevistylum</i>	short-style onion	Native	Pres	Jun-Aug			X		
Alliaceae (Liliaceae)	<i>Allium geyeri</i> var. <i>tenerum</i>	Geyer's onion	Native	Pres	May-Jun			X	X	

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

Family	Species name	Common name	Nativity	Park status	Flower time	Sage/Gr	Mix Con	Asp	Wet	Comments
<i>Perennial Forbs, cont.</i>										
Alliaceae (Liliaceae)	<i>Allium textile</i>	textile onion	Native	Pres	May–Jun	X				
Apiaceae (Umbelliferae)	<i>Angelica arguta</i>	Lyall's angelica	Native	Pres	Jun–Aug			X	X	
Apiaceae (Umbelliferae)	<i>Angelica pinnata</i>	pinnate angelica	Native	Pres	Jun–Aug				X	
Apiaceae (Umbelliferae)	<i>Cymopterus acaulis</i>	plains spring-parsley	Native	Rep	Apr–May	X				
Apiaceae (Umbelliferae)	<i>Cymopterus constancei</i>	Constance's spring-parsley	Native	Pres	Apr–May	X				
Apiaceae (Umbelliferae)	<i>Cymopterus longipes</i>	long-stalk spring-parsley	Native	Pres	Apr–Jun	X			X	
Apiaceae (Umbelliferae)	<i>Cymopterus nivalis</i>	snowline spring-parsley	Native	Pres	Jun	X				Barren sites
Apiaceae (Umbelliferae)	<i>Cymopterus terebinthinus</i> var. <i>albiflorus</i>	aromatic spring-parsley	Native	Pres	Apr–Jun	X				
Apiaceae (Umbelliferae)	<i>Ligusticum filicinum</i>	fernleaf ligusticum	Native	Pres	Jul–Aug			X		
Apiaceae (Umbelliferae)	<i>Lomatium bicolor</i>	Wasatch biscuitroot	Native	Pres	May–Jul	X	X			
Apiaceae (Umbelliferae)	<i>Lomatium dissectum</i> var. <i>multifidum</i>	fern-leaved desert-parsley	Native	Rep	Apr–Jun	X		X		
Apiaceae (Umbelliferae)	<i>Lomatium macrocarpum</i>	big-seed desert-parsley	Native	Pres	Apr–May	X				Alkaline soils
Apiaceae (Umbelliferae)	<i>Lomatium triternatum</i> var. <i>anomalum</i>	ternate desert-parsley	Native	Pres	May–Jul	X				
Apiaceae (Umbelliferae)	<i>Lomatium triternatum</i> var. <i>platycarpum</i>	ternate desert-parsley	Native	Pres	May–Jul	X				
Apiaceae (Umbelliferae)	<i>Orogenia linearifolia</i>	Indian-potato	Native	Pres	Mar–May	X				
Apiaceae (Umbelliferae)	<i>Osmorhiza berteroi</i>	Chilean sweet-cicely	Native	Pres	May–Jul			X		
Apiaceae (Umbelliferae)	<i>Osmorhiza occidentalis</i>	western sweet-cicely	Native	Pres	May–Jul				X	

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

Family	Species name	Common name	Nativity	Park status	Flower time	Sage/ Grs	MiX Con	Asp	Wet	Comments
<i>Perennial Forbs, cont.</i>										
Apiaceae (Umbelliferae)	<i>Perideridia montana</i>	common yampah	Native	Pres	Jul-Aug	X			X	
Apiaceae (Umbelliferae)	<i>Sium suave</i>	water parsnip	Native	Pres	Jul-Aug			X	X	
Apocynaceae	<i>Apocynum androsaemifolium</i>	spreading dogbane	Native	Pres	Jun-Aug			X		
Asclepiadaceae	<i>Asclepias speciosa</i>	showy milkweed	Native	Pres	May-Aug	X				
Asteraceae (Compositae)	<i>Achillea millefolium</i> var. <i>lanulosa</i>	common yarrow	Native	Pres	May-Sep	X				
Asteraceae (Compositae)	<i>Agoseris glauca</i> var. <i>dasycephala</i>	short agoseris	Native	Pres	May-Sep	X				
Asteraceae (Compositae)	<i>Agoseris glauca</i> var. <i>glauca</i>	pale agoseris	Native	Pres	May-Sep	X			X	
Asteraceae (Compositae)	<i>Agoseris glauca</i> var. <i>laciniata</i>	cutleaf agoseris	Native	Pres	May-Sep	X				
Asteraceae (Compositae)	<i>Antennaria dimorpha</i>	low pussytoes	Native	Pres	Apr-Jun	X				
Asteraceae (Compositae)	<i>Antennaria microphylla</i>	small-leaf pussytoes	Native	Pres	Jun-Aug	X			X	
Asteraceae (Compositae)	<i>Antennaria rosea</i>	rosy pussytoes	Native	Pres	Jun-Aug	X				
Asteraceae (Compositae)	<i>Arctium minus</i>	burdock	Intro	Pres	Jul-Sep	X				
Asteraceae (Compositae)	<i>Arnica cordifolia</i>	heartleaf arnica	Native	Pres	May-Aug			X		
Asteraceae (Compositae)	<i>Arnica sororia</i>	meadow arnica	Native	Pres	May-Aug				X	
Asteraceae (Compositae)	<i>Artemisia biennis</i> var. <i>biennis</i>	biennial wormwood	Native	Pres	Aug-Oct	X				
Asteraceae (Compositae)	<i>Artemisia dracunculus</i>	tarragon	Native	Pres	Jul-Oct	X		X		
Asteraceae (Compositae)	<i>Artemisia ludoviciana</i> var. <i>ludoviciana</i>	Louisiana wormwood	Native	Pres	Jul-Oct	X			X	
Asteraceae (Compositae)	<i>Balsamorhiza macrophylla</i>	cutleaf balsamroot	Native	Pres	May-Jul	X				

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

Family	Species name	Common name	Nativity	Park status	Flower time	Sage/ Grs	Mix Con	Asp	Wet	Comments
<i>Perennial Forbs, cont.</i>										
Asteraceae (Compositae)	<i>Balsamorhiza sagittata</i>	arrowleaf balsamroot	Native	Pres	Apr–Jul	X	X			
Asteraceae (Compositae)	<i>Carduus nutans</i>	musk thistle	Intro	Pres	Jun–Sep	X				Disturbed areas
Asteraceae (Compositae)	<i>Centaurea diffusa</i>	diffuse knapweed	Intro	Ext	Jul–Sep	X				Disturbed areas
Asteraceae (Compositae)	<i>Centaurea maculosa</i>	spotted knapweed	Intro	Pres	Jul–Sep	X				Disturbed areas
Asteraceae (Compositae)	<i>Centaurea repens</i>	Russian knapweed	Intro	Pres	Jun–Sep	X				
Asteraceae (Compositae)	<i>Chaenactis douglasii</i> var. <i>montana</i>	hoary dusty-maiden	Native	Pres	May–Sep	X				
Asteraceae (Compositae)	<i>Cirsium arvense</i>	Canada thistle	Intro	Pres	Jul–Sep				X	Disturbed areas
Asteraceae (Compositae)	<i>Cirsium pulcherrimum</i>	Wyoming thistle	Native	Pres	Jun–Aug	X				
Asteraceae (Compositae)	<i>Cirsium scariosum</i>	elk thistle	Native	Pres	Jun–Aug	X		X	X	
Asteraceae (Compositae)	<i>Cirsium subniveum</i>	snowy thistle	Native	Pres	Jun–Aug			X		
Asteraceae (Compositae)	<i>Cirsium undulatum</i> var. <i>undulatum</i>	wavy-leaved thistle	Native	Rep	Jun–Sep	X				Disturbed areas
Asteraceae (Compositae)	<i>Cirsium vulgare</i>	bull thistle	Intro	Pres	Jul–Aug				X	Disturbed areas
Asteraceae (Compositae)	<i>Crepis acuminata</i>	mountain hawksbeard	Native	Pres	May–Jul	X				
Asteraceae (Compositae)	<i>Crepis intermedia</i>	gray hawksbeard	Native	Rep	May–Jul	X				
Asteraceae (Compositae)	<i>Crepis modocensis</i>	Modoc hawksbeard	Native	Pres	May–Jul	X				
Asteraceae (Compositae)	<i>Erigeron compositus</i> var. <i>discoideus</i>	cut-leaved daisy	Native	Pres	May–Aug	X				
Asteraceae (Compositae)	<i>Erigeron corymbosus</i>	mountain daisy	Native	Pres	Jun–Jul	X		X		

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

Family	Species name	Common name	Nativity	Park status	Flower time	Sage/ Grs	MiX Con	Asp	Wet	Comments
<i>Perennial Forbs, cont.</i>										
Asteraceae (Compositae)	<i>Erigeron eatonii</i>	Eaton's fleabane	Native	Pres	May-Jul	X				
Asteraceae (Compositae)	<i>Erigeron engelmannii</i>	Engelmann's daisy	Native	Pres	May-Jul	X				
Asteraceae (Compositae)	<i>Erigeron glabellus</i> var. <i>glabellus</i>	smooth daisy	Native	Pres	Jun-Aug				X	
Asteraceae (Compositae)	<i>Erigeron lonchophyllus</i>	longleaf daisy	Native	Pres	Jun-Sep				X	
Asteraceae (Compositae)	<i>Erigeron nanus</i>	dwarf fleabane	Native	Pres	Jun-Jul	X				Barren sites
Asteraceae (Compositae)	<i>Erigeron ochroleucus</i> var. <i>ochroleucus</i>	buff fleabane	Native	Rep	May-Aug	X				
Asteraceae (Compositae)	<i>Erigeron pumilus</i> var. <i>concinus</i>	Navajo fleabane	Native	Rep	May-Aug	X				
Asteraceae (Compositae)	<i>Erigeron pumilus</i> var. <i>pumilus</i>	shaggy fleabane	Native	Rep	May-Aug	X				
Asteraceae (Compositae)	<i>Erigeron speciosus</i>	aspen daisy	Native	Pres	Jun-Aug	X		X		
Asteraceae (Compositae)	<i>Eucephalus elegans</i>	elegant aster	Native	Pres	Jul-Aug	X	X			
Asteraceae (Compositae)	<i>Eucephalus engelmannii</i>	Engelmann's aster	Native	Pres	Jun-Sep		X			
Asteraceae (Compositae)	<i>Eucephalus glaucus</i>	blueleaf aster	Native	Pres	Jul-Sep	X		X	X	
Asteraceae (Compositae)	<i>Gaillardia aristata</i>	common blanketflower	Native	Pres	Jun-Sep	X				Disturbed areas
Asteraceae (Compositae)	<i>Grindelia squarrosa</i> var. <i>squarrosa</i>	curly-cup gumweed	Native	Pres	Jul-Sep	X				Disturbed areas
Asteraceae (Compositae)	<i>Helianthella uniflora</i>	little sunflower	Native	Pres	Jun-Aug	X	X			
Asteraceae (Compositae)	<i>Hieracium cynoglossoides</i>	houndtongue hawkweed	Native	Pres	Jul-Aug			X		
Asteraceae (Compositae)	<i>Hymenoxys hoopesii</i>	orange sneezeweed	Native	Pres	Jun-Aug	X		X		

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

Family	Species name	Common name	Nativity	Park status	Flower time	Sage/Grass	Mix/Con	Asp	Wet	Comments
<i>Perennial Forbs, cont.</i>										
Asteraceae (Compositae)	<i>Iva axillaris</i> var. <i>axillaris</i>	poverty-weed	Native	Pres	May-Sep	X				Barren sites
Asteraceae (Compositae)	<i>Iva axillaris</i> var. <i>robustior</i>	poverty-weed	Native	Pres	May-Sep	X				Barren sites
Asteraceae (Compositae)	<i>Lactuca oblongifolia</i>	blue lettuce	Native	Pres	Jun-Sep				X	
Asteraceae (Compositae)	<i>Machaeranthera canescens</i> var. <i>canescens</i>	hoary tansy-aster	Native	Pres	May-Sep	X				Barren sites
Asteraceae (Compositae)	<i>Machaeranthera grindeloides</i>	gumweed aster	Native	Pres	May-Jul	X				Barren sites
Asteraceae (Compositae)	<i>Microseris nutans</i>	nodding microseris	Native	Pres	Apr-Aug	X				
Asteraceae (Compositae)	<i>Packera cana</i>	woolly groundsel	Native	Pres	May-Aug	X				
Asteraceae (Compositae)	<i>Packera multilobata</i>	basin groundsel	Native	Pres	Apr-Aug	X			X	
Asteraceae (Compositae)	<i>Packera paupercula</i>	balsam groundsel	Native	Rep	Jun-Aug			X		
Asteraceae (Compositae)	<i>Packera streptanthifolia</i> var. <i>streptanthifolia</i>	Rocky Mountain groundsel	Native	Pres	Jun-Aug	X		X		
Asteraceae (Compositae)	<i>Pyrrocoma lanceolata</i>	meadow goldenweed	Native	Pres	May-Aug				X	
Asteraceae (Compositae)	<i>Pyrrocoma uniflora</i>	plantain goldenweed	Native	Pres	May-Aug	X			X	
Asteraceae (Compositae)	<i>Rudbeckia occidentalis</i>	western coneflower	Native	Pres	Jun-Aug			X	X	
Asteraceae (Compositae)	<i>Senecio hydrophilus</i>	water groundsel	Native	Pres	Jul-Aug				X	
Asteraceae (Compositae)	<i>Senecio integerrimus</i> var. <i>exaltatus</i>	western groundsel	Native	Pres	Jun-Aug	X				
Asteraceae (Compositae)	<i>Senecio serra</i> var. <i>serra</i>	saw-toothed groundsel	Native	Pres	Jul-Sep	X		X		
Asteraceae (Compositae)	<i>Solidago canadensis</i> var. <i>saebrosa</i>	Canadian goldenrod	Native	Pres	Aug-Oct			X	X	

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

Family	Species name	Common name	Nativity	Park status	Flower time	Sage/Gr	MiX Con	Asp	Wet	Comments
<i>Perennial Forbs, cont.</i>										
Asteraceae (Compositae)	<i>Solidago velutina</i>	three-nerve goldenrod	Native	Pres	Aug-Oct			X		
Asteraceae (Compositae)	<i>Sonchus uliginosus</i>	marsh sow-thistle	Intro	Pres	Jul-Oct	X				Disturbed areas
Asteraceae (Compositae)	<i>Stenotus acaulis</i>	stemless goldenweed	Native	Pres	May-Jul	X				Barren sites
Asteraceae (Compositae)	<i>Stephanomeria runcinata</i>	desert wirelettuce	Native	Pres	Jul-Aug	X				Barren sites
Asteraceae (Compositae)	<i>Symphotrichum ascendens</i>	Pacific aster	Native	Pres	Jul-Oct	X			X	
Asteraceae (Compositae)	<i>Symphotrichum boreale</i>	boreal aster	Native	Pres	Jul-Sep				X	
Asteraceae (Compositae)	<i>Symphotrichum foliaceum</i> var. <i>parryi</i>	alpine leafy-head American-aster	Native	Rep	Jul-Sep			X	X	
Asteraceae (Compositae)	<i>Symphotrichum spathulatum</i>	western aster	Native	Pres	Jul-Sep			X		
Asteraceae (Compositae)	<i>Taraxacum laevigatum</i>	red-seed dandelion	Intro	Pres	Mar-Dec	X				Disturbed areas
Asteraceae (Compositae)	<i>Taraxacum officinale</i>	common dandelion	Intro	Pres	Apr-Dec	X			X	
Asteraceae (Compositae)	<i>Tetranneuris acaulis</i> var. <i>acaulis</i>	stemless hymenoxys	Native	Rep	Apr-Jun	X				
Asteraceae (Compositae)	<i>Tetranneuris torreyana</i>	Torrey's hymenoxys	Native	Pres	May-Jul					Barren sites
Asteraceae (Compositae)	<i>Townsendia nuttallii</i>	Nuttall's easter-daisy	Native	Pres	May-Jun	X				Barren sites
Asteraceae (Compositae)	<i>Tragopogon dubius</i>	yellow salsify	Intro	Pres	May-Jul	X				Disturbed areas
Asteraceae (Compositae)	<i>Viguiera multiflora</i>	showy goldeneye	Native	Pres	Jun-Sep	X				
Asteraceae (Compositae)	<i>Wyethia amplexicaulis</i>	mule's-ears	Native	Pres	May-Jun	X				
Boraginaceae	<i>Cryptantha caespitosa</i>	tufted cryptanth	Native	Pres	May-Jun	X				Barren sites
Boraginaceae	<i>Cryptantha celosioides</i>	cockscorn cryptanth	Native	Pres	Apr-Jul	X				Barren sites
Boraginaceae	<i>Cryptantha sericea</i>	silky cryptanth	Native	Pres	May-Jul	X				Barren sites

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

Family	Species name	Common name	Nativity	Park status	Flower time	Sage/ Grs	Mix Con	Asp	Wet	Comments
<i>Perennial Forbs, cont.</i>										
Boraginaceae	<i>Cynoglossum officinale</i>	common hound's-tongue	Intro	Pres	May-Jul				X	Disturbed areas
Boraginaceae	<i>Hackelia floribunda</i>	showy stickseed	Native	Pres	Jun-Aug	X				Disturbed areas
Boraginaceae	<i>Hackelia patens</i>	spotted stickseed	Native	Pres	Jun-Aug	X			X	
Boraginaceae	<i>Lithospermum ruderale</i>	western stoneseed	Native	Pres	Apr-Jun	X				
Boraginaceae	<i>Mertensia oblongifolia</i>	western bluebell	Native	Pres	Apr-May	X		X		
Boraginaceae	<i>Mertensia viridis</i>	mountain bluebell	Native	Pres	Jun-Aug		X			
Brassicaceae (Cruciferae)	<i>Arabis glabra</i>	tower-mustard	Native	Pres	May-Sep			X		
Brassicaceae (Cruciferae)	<i>Arabis hirsuta</i> var. <i>pyncocarpa</i>	hairy rockcress	Native	Pres	Jun-Aug	X				
Brassicaceae (Cruciferae)	<i>Barbarea orthoceras</i>	northern wintercress	Native	Pres	May-Aug			X	X	
Brassicaceae (Cruciferae)	<i>Boechea angustifolia</i>	Drummond's rockcress	Native	Pres	May-Sep	X		X		
Brassicaceae (Cruciferae)	<i>Boechea brachycarpa</i>	spreadingpod rockcress	Native	Pres	Jun-Jul	X		X		
Brassicaceae (Cruciferae)	<i>Boechea exilis</i>	deflexed rockcress	Native	Pres	Jun-Jul	X				
Brassicaceae (Cruciferae)	<i>Boechea holboellii</i> var. <i>secunda</i>	Holboell's rockcress	Native	Rep	May-Jul	X				
Brassicaceae (Cruciferae)	<i>Boechea nuttallii</i>	Nuttall's rockcress	Native	Pres	Apr-Jun	X			X	
Brassicaceae (Cruciferae)	<i>Boechea williamsii</i> var. <i>saximontana</i>	Wind River rockcress	Native	Pres	Apr-Jun	X				
Brassicaceae (Cruciferae)	<i>Cardaria chalepensis</i>	orbicular whitetop	Intro	Pres	May-Aug	X				Disturbed areas
Brassicaceae (Cruciferae)	<i>Descurainia incana</i> var. <i>macrosperma</i>	gray tansy-mustard	Native	Pres	Jun-Sep			X		
Brassicaceae (Cruciferae)	<i>Draba albertina</i>	slender whitlow-grass	Native	Pres	Jun-Aug	X		X		
Brassicaceae (Cruciferae)	<i>Draba oligosperma</i>	few-seed whitlow-grass	Native	Rep	May-Aug	X				
Brassicaceae (Cruciferae)	<i>Erysimum asperum</i> var. <i>arkansanum</i>	western wallflower	Native	Pres	Apr-Aug	X				

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

Family	Species name	Common name	Nativity	Park status	Flower time	Sage/Gr	MiX Con	Asp	Wet	Comments
<i>Perennial Forbs, cont.</i>										
Brassicaceae (Cruciferae)	<i>Erysimum cheiranthoides</i>	worm-seed wallflower	Native	Pres	Jun-Aug				X	
Brassicaceae (Cruciferae)	<i>Erysimum inconspicuum</i>	shy wallflower	Native	Pres	Apr-Jul	X				
Brassicaceae (Cruciferae)	<i>Lepidium integrifolium</i>	entire-leaf pepperwort	Native	Pres	Jun-Aug	X			X	Alkaline soils
Brassicaceae (Cruciferae)	<i>Lesquerella alpina</i>	alpine bladderpod	Native	Pres	May-Jul	X				Barren sites
Brassicaceae (Cruciferae)	<i>Physaria acutifolia</i>	sharp-leaf twinpod	Native	Pres	May-Jul	X				
Brassicaceae (Cruciferae)	<i>Physaria condensata</i>	tufted twinpod	Native	Pres	May-Jun	X				Barren sites
Brassicaceae (Cruciferae)	<i>Rorippa curvipes</i> var. <i>curvipes</i>	blunt-leaf yellowcress	Native	Pres	May-Aug			X	X	
Brassicaceae (Cruciferae)	<i>Schoenocrambe linifolia</i>	flax-leaved plainsmustard	Native	Pres	Apr-Jul	X				
Brassicaceae (Cruciferae)	<i>Stanleya viridiflora</i>	green prince's-plume	Native	Pres	May-Aug	X				Barren sites
Brassicaceae (Cruciferae)	<i>Streptanthus cordatus</i>	heart-leaf jewelflower	Native	Pres	Apr-Jul	X	X			
Brassicaceae (Cruciferae)	<i>Thelypodium integrifolium</i>	entire-leaf thelypody	Native	Pres	Jun-Sep	X			X	
Brassicaceae (Cruciferae)	<i>Thelypodium paniculatum</i>	northwestern thelypody	Native	Pres	Jun-Aug				X	
Cactaceae	<i>Opuntia polyacantha</i> var. <i>polyacantha</i>	plains prickly-pear	Native	Pres	May-Jun	X				
Calochortaceae (Liliaceae)	<i>Calochortus nuttallii</i>	sego-lily	Native	Pres	Jun-Jul	X				
Caryophyllaceae (Alsinaeae)	<i>Cerastium fontanum</i>	mouse-ear chickweed	Intro	Pres	Apr-Sep	X				
Caryophyllaceae (Alsinaeae)	<i>Eremogone congesta</i> var. <i>congesta</i>	ball-head sandwort	Native	Pres	May-Aug	X				
Caryophyllaceae (Alsinaeae)	<i>Eremogone kingii</i> var. <i>glabrescens</i>	basin sandwort	Native	Pres	May-Aug	X				

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

Family	Species name	Common name	Nativity	Park status	Flower time	Sage/Grass	Mix Con	Asp	Wet	Comments
<i>Perennial Forbs, cont.</i>										
Caryophyllaceae (Alsiniaceae)	<i>Minuartia nuttallii</i>	Nuttall's sandwort	Native	Pres	May-Aug					Barren sites
Caryophyllaceae (Alsiniaceae)	<i>Moehringia lateriflora</i>	blunt-leaf sandwort	Native	Pres	Apr-Aug				X	
Caryophyllaceae (Alsiniaceae)	<i>Pseudostellaria jamesiana</i>	James' chickweed	Native	Rep	Jun-Aug		X			
Caryophyllaceae	<i>Silene drummondii</i>	Drummond's catchfly	Native	Pres	May-Sep	X				
Caryophyllaceae	<i>Silene menziesii</i> var. <i>menziesii</i>	Menzies' campion	Native	Pres	Jun-Aug			X		
Caryophyllaceae (Alsiniaceae)	<i>Stellaria longipes</i>	long-stalk starwort	Native	Pres	May-Aug	X		X		
Convallariaceae (Liliaceae)	<i>Maianthemum racemosum</i> var. <i>amplexicaule</i>	false Solomon's-seal	Native	Pres	Jun-Jul		X			
Convallariaceae (Liliaceae)	<i>Maianthemum stellatum</i>	starry false Solomon's-seal	Native	Pres	Apr-Jun	X	X	X		
Convulvaceae	<i>Convolvulus arvensis</i>	field bindweed	Intro	Pres	Jun-Aug	X				Disturbed areas
Convulvaceae (Cuscutaceae)	<i>Cuscuta occidentalis</i>	chaparral dodder	Native	Pres	May-Aug	X				
Crassulaceae	<i>Sedum lanceolatum</i>	lance-leaved stonecrop	Native	Pres	Jun-Aug	X				
Ericaceae (Pyrolaceae)	<i>Pyrola asarifolia</i>	pink wintergreen	Native	Pres	Jun-Aug				X	
Fabaceae (Leguminosae)	<i>Astragalus agrestis</i>	field milkvetch	Native	Pres	May-Aug	X			X	
Fabaceae (Leguminosae)	<i>Astragalus argophyllus</i> var. <i>argophyllus</i>	silver-leaved milkvetch	Native	Pres	Apr-Jun				X	
Fabaceae (Leguminosae)	<i>Astragalus bisulcatus</i> var. <i>bisulcatus</i>	two-grooved milkvetch	Native	Pres	May-Aug	X				Barren sites
Fabaceae (Leguminosae)	<i>Astragalus bisulcatus</i> var. <i>major</i>	two-grooved milkvetch	Native	Pres	May-Aug	X				Barren sites
Fabaceae (Leguminosae)	<i>Astragalus canadensis</i> var. <i>brevidens</i>	pasture milkvetch	Native	Pres	May-Sep			X	X	
Fabaceae (Leguminosae)	<i>Astragalus cicer</i>	chickpea milkvetch	Intro	Pres	May-Aug	X				Disturbed areas
Fabaceae (Leguminosae)	<i>Astragalus convallarius</i>	lesser rushy milkvetch	Native	Pres	May-Aug	X				

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

Family	Species name	Common name	Nativity	Park status	Flower time	Sage/Gr	MiX Con	Asp	Wet	Comments
<i>Perennial Forbs, cont.</i>										
Fabaceae (Leguminosae)	<i>Astragalus jejunus</i> var. <i>jejunus</i>	starveling milkvetch	Native	Pres	May–Jul	X				Barren sites
Fabaceae (Leguminosae)	<i>Astragalus kentrophyta</i> var. <i>tegetarius</i>	mountain kentrophyta	Native	Rep	Jun–Sep	X				
Fabaceae (Leguminosae)	<i>Astragalus lentiginosus</i> var. <i>chartaceus</i>	broad-leaved milkvetch	Native	Pres	Apr–Jun	X				
Fabaceae (Leguminosae)	<i>Astragalus lentiginosus</i> var. <i>salinus</i>	salt milkvetch	Native	Pres	Apr–Jun	X				
Fabaceae (Leguminosae)	<i>Astragalus miser</i> var. <i>tenuifolius</i>	timber milkvetch	Native	Pres	Jun–Aug	X			X	
Fabaceae (Leguminosae)	<i>Astragalus purshii</i>	Pursh's milkvetch	Native	Pres	Apr–Jun	X				
Fabaceae (Leguminosae)	<i>Astragalus spatulatus</i>	spoonleaf milkvetch	Native	Pres	May–Jul	X				
Fabaceae (Leguminosae)	<i>Astragalus tenellus</i>	pulse milkvetch	Native	Pres	May–Aug	X			X	
Fabaceae (Leguminosae)	<i>Glycyrrhiza lepidota</i> var. <i>lepidota</i>	licorice-root	Native	Pres	May–Jul	X			X	
Fabaceae (Leguminosae)	<i>Hedysarum boreale</i> var. <i>pabulare</i>	Utah sweet-vetch	Native	Pres	May–Aug	X				
Fabaceae (Leguminosae)	<i>Lupinus argenteus</i> var. <i>rubicaulis</i>	subalpine lupine	Native	Pres	May–Aug	X		X		
Fabaceae (Leguminosae)	<i>Lupinus leucophyllus</i>	white-leaved lupine	Native	Rep	Jun–Aug	X				
Fabaceae (Leguminosae)	<i>Lupinus sericeus</i>	silky lupine	Native	Pres	May–Aug	X				
Fabaceae (Leguminosae)	<i>Medicago sativa</i> var. <i>sativa</i>	alfalfa	Intro	Pres	May–Sep	X				Disturbed areas
Fabaceae (Leguminosae)	<i>Meililotus officinalis</i>	yellow sweet-clover	Intro	Pres	May–Oct	X				
Fabaceae (Leguminosae)	<i>Oxytropis deflexa</i> var. <i>sericea</i>	nodding locoweed	Native	Pres	Jun–Aug			X	X	
Fabaceae (Leguminosae)	<i>Oxytropis sericea</i> var. <i>sericea</i>	white locoweed	Native	Pres	May/Jul	X				Barren sites

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

Family	Species name	Common name	Nativity	Park status	Flower time	Sage/Grass	Mix/Con	Asp	Wet	Comments
<i>Perennial Forbs, cont.</i>										
Fabaceae (Leguminosae)	<i>Trifolium gymnocarpon</i> var. <i>plummerae</i>	holly-leaf clover	Native	Pres	Apr–Aug	X				
Fabaceae (Leguminosae)	<i>Trifolium hybridum</i>	alsike clover	Intro	Pres	May–Oct	X		X		
Fabaceae (Leguminosae)	<i>Trifolium repens</i>	white clover	Intro	Pres	Apr–Sep				X	
Fumariaceae	<i>Corydalis aurea</i> var. <i>aurea</i>	golden smoke	Native	Pres	Apr–Sep	X	X		X	
Gentianaceae	<i>Frasera speciosa</i>	elkweed	Native	Pres	Jun–Aug	X	X			
Gentianaceae	<i>Gentiana affinis</i> var. <i>affinis</i>	Rocky Mountain gentian	Native	Pres	Jul–Sep	X			X	
Gentianaceae	<i>Gentiana amarella</i> var. <i>amarella</i>	northern gentian	Native	Pres	Jul–Aug			X	X	
Geraniaceae	<i>Geranium richardsonii</i>	Richardson's crane's-bill	Native	Pres	Jun–Aug	X				
Geraniaceae	<i>Geranium viscosissimum</i> var. <i>incisum</i>	sticky crane's-bill	Native	Pres	Jun–Aug	X	X	X		
Geraniaceae	<i>Geranium viscosissimum</i> var. <i>viscosissimum</i>	sticky purple crane's-bill	Native	Pres	Jun–Aug	X	X	X		
Hippuridaceae	<i>Hippuris vulgaris</i>	common mare's-tail	Native	Pres	Jun–Sep				X	
Hyacinthaceae (Liliaceae)	<i>Camassia quamash</i>	camas	Native	Pres	Apr–Jun			X	X	
Hydrophyllaceae	<i>Hydrophyllum capitatum</i>	capitate waterleaf	Native	Pres	Apr–Jul	X		X		
Hydrophyllaceae	<i>Phacelia hastata</i>	lanceleaf phacelia	Native	Pres	May–Aug	X				Barren sites
Hydrophyllaceae	<i>Phacelia heterophylla</i> var. <i>virgata</i>	wand phacelia	Native	Pres	Jun–Aug	X				
Hydrophyllaceae	<i>Phacelia sericea</i> var. <i>ciliosa</i>	silky phacelia	Native	Pres	Jun–Aug	X	X	X		
Hypericaceae (Guttiferae)	<i>Hypericum formosum</i> var. <i>scouleri</i>	western St. John's-wort	Native	Pres	May–Aug				X	
Iridaceae	<i>Iris missouriensis</i>	Rocky Mountain iris	Native	Rep	May–Jul				X	
Iridaceae	<i>Sisyrinchium idahoense</i> var. <i>occidentale</i>	Idaho blue-eyed grass	Native	Pres	May–Aug				X	
Lamiaceae (Labiatae)	<i>Agastache urticifolia</i>	nettle-leaf horsemint	Native	Pres	Jun–Aug	X		X	X	
Lamiaceae (Labiatae)	<i>Dracocephalum parviflorum</i>	smallflower dragonhead	Native	Pres	Jun–Aug				X	

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

Family	Species name	Common name	Nativity	Park status	Flower time	Sage/ Grs	MiX Con	Asp	Wet	Comments
<i>Perennial Forbs, cont.</i>										
Lamiaceae (Labiatae)	<i>Marrubium vulgare</i>	common horehound	Intro	Pres	May–Oct	X				Disturbed areas
Lamiaceae (Labiatae)	<i>Mentha arvensis</i> var. <i>canadensis</i>	field mint	Native	Pres	Jun–Sep				X	
Lamiaceae (Labiatae)	<i>Stachys palustris</i> var. <i>pilosa</i>	hairy hedge-nettle	Native	Pres	Jun–Aug				X	
Lemnaceae	<i>Lemna turionifera</i>	lesser duckweed	Native	Pres	Jun–Oct				X	
Liliaceae	<i>Fritillaria atropurpurea</i>	leopard-lily	Native	Pres	Apr–Jul	X				
Liliaceae	<i>Fritillaria pudica</i>	yellow-bell	Native	Pres	Mar–Jun	X				
Linaceae	<i>Linum lewisii</i>	blue flax	Native	Pres	Apr–Aug	X			X	
Loasaceae	<i>Mentzelia laevicaulis</i>	giant blazingstar	Native	Pres	May–Oct	X				Barren sites
Malvaceae	<i>Iliamna rivularis</i>	wild hollyhock	Native	Rep	Jun–Oct	X				
Malvaceae	<i>Sidalcea oregana</i>	Oregon checker-mallow	Native	Pres	May–Aug	X		X	X	
Malvaceae	<i>Sphaeralcea coccinea</i>	scarlet globe-mallow	Native	Pres	Apr–Oct	X				
Malvaceae	<i>Sphaeralcea munroana</i>	white-stem globe-mallow	Native	Pres	May–Oct	X				
Melanthiaceae (Liliaceae)	<i>Zigadenus paniculatus</i>	foothills death-camas	Native	Pres	Mar–Jun	X				
Melanthiaceae (Liliaceae)	<i>Zigadenus venenosus</i> var. <i>gramineus</i>	meadow death-camas	Native	Pres	Apr–Jul	X			X	
Myrsinaceae (Primulaceae)	<i>Glaux maritima</i>	sea-milkwort	Native	Pres	May–Jul				X	
Onagraceae	<i>Camissonia subcaulis</i>	meadow camissonia	Native	Rep	May–Jul				X	
Onagraceae	<i>Chamerion angustifolium</i> var. <i>canescens</i>	fireweed	Native	Pres	Jun–Sep			X	X	
Onagraceae	<i>Epilobium ciliatum</i> var. <i>ciliatum</i>	northern willow-herb	Native	Pres	Jun–Aug			X	X	
Onagraceae	<i>Epilobium ciliatum</i> var. <i>glandulosum</i>	glandular willow-herb	Native	Pres	Jun–Aug			X	X	
Onagraceae	<i>Epilobium halleanum</i>	Hall's willow-herb	Native	Pres	Jun–Aug				X	
Onagraceae	<i>Epilobium hornemanii</i>	Hornemann's willow-herb	Native	Pres	Jun–Aug				X	
Onagraceae	<i>Oenothera cespitosa</i> var. <i>cespitosa</i>	tufted evening-primrose	Native	Pres	Apr–Jun	X				Barren sites
Onagraceae	<i>Oenothera flava</i>	yellow evening-primrose	Native	Pres	Jun–Jul	X			X	

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

Family	Species name	Common name	Nativity	Park status	Flower time	Sage/Gr	Mix Con	Asp	Wet	Comments
<i>Perennial Forbs, cont.</i>										
Orchidaceae	<i>Corallorhiza maculata</i> var. <i>maculata</i>	spotted coral-root	Native	Pres	Jun-Jul			X		
Orchidaceae	<i>Corallorhiza striata</i> var. <i>striata</i>	striped coral-root	Native	Pres	Jun-Jul			X		
Orchidaceae	<i>Platanthera aquilonis</i>	northern bog-orchid	Native	Pres	Jun-Aug				X	
Orobanchaceae	<i>Orobanche fasciculata</i>	clustered broomrape	Native	Pres	Jun-Jul	X				
Plantaginaceae	<i>Plantago eriopoda</i>	woolly-base plantain	Native	Pres	May-Aug				X	
Plantaginaceae	<i>Plantago major</i>	common plantain	Intro	Rep	May-Aug	X				
Polemoniaceae	<i>Ipomopsis aggregata</i> var. <i>aggregata</i>	scarlet gilia	Native	Pres	May-Aug	X				
Polemoniaceae	<i>Ipomopsis congesta</i> var. <i>congesta</i>	ball-head gilia	Native	Pres	Jun-Aug	X				Barren sites
Polemoniaceae	<i>Phlox hoodii</i>	Hood's phlox	Native	Pres	Apr-Jun	X				
Polemoniaceae	<i>Phlox longifolia</i>	long-leaf phlox	Native	Pres	Apr-Jul	X				
Polemoniaceae	<i>Phlox multiflora</i>	Rocky Mountain phlox	Native	Pres	Jun-Aug	X				Barren sites
Polemoniaceae	<i>Phlox muscoides</i>	moss phlox	Native	Rep	May-Jun	X				Barren sites
Polygonaceae	<i>Eriogonum acaule</i>	single-stem wild buckwheat	Native	Pres	May-Jul	X				Barren sites
Polygonaceae	<i>Eriogonum brevicaulum</i> var. <i>brevicaule</i>	shortstem wild buckwheat	Native	Pres	Jun-Sep	X				Barren sites
Polygonaceae	<i>Eriogonum brevicaulum</i> var. <i>laxifolium</i>	loose-leaf wild buckwheat	Native	Pres	Jun-Sep	X				Barren sites
Polygonaceae	<i>Eriogonum caespitosum</i>	matted wild buckwheat	Native	Pres	Apr-Jul	X				
Polygonaceae	<i>Eriogonum ovalifolium</i> var. <i>purpureum</i>	cushion wild buckwheat	Native	Pres	Apr-Aug	X				
Polygonaceae	<i>Eriogonum umbellatum</i> var. <i>majus</i>	cream wild buckwheat	Native	Pres	Jun-Sep	X	X			
Polygonaceae	<i>Polygonum bistortoides</i>	American bistort	Native	Pres	Jul-Sep	X		X	X	
Polygonaceae	<i>Rumex crispus</i>	curly dock	Intro	Pres	May-Sep	X				Disturbed areas
Polygonaceae	<i>Rumex paucifolius</i>	alpine sorrel	Native	Pres	Apr-Sep	X				
Polygonaceae	<i>Rumex salicifolius</i> var. <i>triangularis</i>	willow dock	Native	Pres	May-Sep	X			X	Disturbed areas
Portulacaceae	<i>Claytonia lanceolata</i>	lanceleaf springbeauty	Native	Pres	Apr-Jul	X		X		
Portulacaceae	<i>Lewisia pygmaea</i>	alpine bitter-root	Native	Rep	May-Aug	X				

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

Family	Species name	Common name	Nativity	Park status	Flower time	Sage/Gr	MiX Con	Asp	Wet	Comments
<i>Perennial Forbs, cont.</i>										
Portulacaceae	<i>Lewisia rediviva</i>	Oregon bitter-root	Native	Pres	May-Jun	X				
Potamogetonaceae	<i>Stuckenia pectinata</i>	fennel-leaf pondweed	Native	Pres	Jul-Sep				X	
Primulaceae	<i>Dodecatheon pulchellum</i>	dark-throat shooting-star	Native	Pres	Mar-Aug		X	X	X	
Ranunculaceae (Helleboraceae)	<i>Actaea rubra</i>	red baneberry	Native	Pres	May-Aug			X		
Ranunculaceae (Helleboraceae)	<i>Aquilegia coerulea</i>	Colorado columbine	Native	Pres	Jun-Aug		X			
Ranunculaceae	<i>Clematis hirsutissima</i>	sugar-bowls	Native	Pres	May-Aug	X				
Ranunculaceae	<i>Clematis occidentalis</i> var. <i>grosseserrata</i>	purple virgin's-bower	Native	Pres	May-Aug	X				
Ranunculaceae (Helleboraceae)	<i>Delphinium glaucum</i>	tower larkspur	Native	Pres	Jun-Aug			X		
Ranunculaceae (Helleboraceae)	<i>Delphinium nuttallianum</i>	Nuttall's larkspur	Native	Pres	Apr-Jul	X				
Ranunculaceae	<i>Ranunculus acriformis</i> var. <i>montanensis</i>	sharp buttercup	Native	Pres	Jul-Aug			X	X	
Ranunculaceae	<i>Ranunculus acris</i>	tall buttercup	Intro	Pres	Jun-Sep			X		
Ranunculaceae	<i>Ranunculus aquatilis</i> var. <i>diffusus</i>	thread water-buttercup	Native	Pres	May-Sep				X	
Ranunculaceae	<i>Ranunculus cymbalaria</i> var. <i>saximontanus</i>	marsh buttercup	Native	Pres	May-Sep				X	
Ranunculaceae	<i>Ranunculus glaberrimus</i> var. <i>ellipticus</i>	sagebrush buttercup	Native	Pres	Apr-Jun	X				
Ranunculaceae	<i>Ranunculus gmelinii</i>	lesser yellow water buttercup	Native	Pres	Jun-Aug				X	
Ranunculaceae (Thalictraceae)	<i>Thalictrum occidentale</i>	western meadow-rue	Native	Pres	Jun-Aug			X		
Rosaceae	<i>Fragaria virginiana</i>	Virginia strawberry	Native	Pres	Jun-Jul	X		X		
Rosaceae	<i>Geum macrophyllum</i> var. <i>perincisum</i>	large-leaved avens	Native	Pres	May-Aug			X	X	
Rosaceae	<i>Geum triflorum</i> var. <i>ciliatum</i>	prairie smoke	Native	Pres	Jun-Aug	X				
Rosaceae	<i>Potentilla anserina</i>	silverweed	Native	Pres	May-Aug				X	
Rosaceae	<i>Potentilla arguta</i>	tall cinquefoil	Native	Pres	Jun-Jul	X		X		

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

Family	Species name	Common name	Nativity	Park status	Flower time	Sage/ Grs	Mix Con	Asp	Wet	Comments
<i>Perennial/ Forbs, cont.</i>										
Rosaceae	<i>Potentilla gracilis</i> var. <i>elmeri</i>	comb-leaf cinquefoil	Native	Pres	Jun-Aug				X	
Rosaceae	<i>Potentilla gracilis</i> var. <i>fastigiata</i>	glabrate cinquefoil	Native	Pres	Jun-Aug			X		
Rosaceae	<i>Potentilla gracilis</i> var. <i>pulcherrima</i>	beautiful cinquefoil	Native	Pres	Jun-Aug			X	X	
Rosaceae	<i>Potentilla pensylvanica</i>	Pennsylvania cinquefoil	Native	Rep	Jul-Aug			X		
Rosaceae	<i>Sanguisorba minor</i>	garden burnet	Intro	Pres	May-Jun	X				
Rubiaceae	<i>Galium boreale</i>	northern bedstraw	Native	Pres	Jun-Aug	X	X	X		
Rubiaceae	<i>Galium trifidum</i>	small bedstraw	Native	Pres	Jul-Aug			X	X	
Santalaceae	<i>Comandra umbellata</i> var. <i>pallida</i>	bastard toadflax	Native	Pres	Apr-Aug	X				Barren sites
Saxifragaceae	<i>Heuchera parvifolia</i>	little-leaf alumroot	Native	Pres	May-Sep		X			
Saxifragaceae	<i>Lithophragma glabrum</i> var. <i>ramulosum</i>	fringecup woodlandstar	Native	Pres	Mar-Aug	X		X		
Saxifragaceae	<i>Lithophragma parviflorum</i>	smallflower woodlandstar	Native	Pres	Apr-Aug	X		X		
Saxifragaceae	<i>Lithophragma tenellum</i>	slender woodlandstar	Native	Pres	Apr-Aug	X		X		
Scrophulariaceae	<i>Besseyia wyomingensis</i>	Wyoming kittentails	Native	Pres	Jun-Aug	X				
Scrophulariaceae	<i>Castilleja angustifolia</i> var. <i>dubia</i>	desert paintbrush	Native	Pres	Apr-Jun	X				Barren sites
Scrophulariaceae	<i>Castilleja flava</i>	yellow paintbrush	Native	Pres	Jun-Aug	X				
Scrophulariaceae	<i>Castilleja linariifolia</i>	Wyoming paintbrush	Native	Pres	Jul-Aug	X				
Scrophulariaceae	<i>Castilleja sulphurea</i>	sulphur paintbrush	Native	Pres	Jun-Aug	X	X			
Scrophulariaceae	<i>Mimulus guttatus</i>	yellow monkeyflower	Native	Pres	Jun-Aug				X	
Scrophulariaceae	<i>Penstemon cyananthus</i>	Wasatch penstemon	Native	Pres	May-Jul	X				
Scrophulariaceae	<i>Penstemon humilis</i>	low penstemon	Native	Pres	May-Jun	X				
Scrophulariaceae	<i>Penstemon paysoniorum</i>	Payson's penstemon	Native	Pres	May-Jun	X				Barren sites
Scrophulariaceae	<i>Penstemon procerus</i>	small-flower penstemon	Native	Pres	Jun-Aug	X			X	
Scrophulariaceae	<i>Penstemon radicosus</i>	mat-root penstemon	Native	Pres	May-Jul	X	X	X		
Scrophulariaceae	<i>Penstemon rydbergii</i> var. <i>rydbergii</i>	Rydberg's penstemon	Native	Rep	Jun-Jul				X	
Scrophulariaceae	<i>Scrophularia lanceolata</i>	lance-leaf figwort	Native	Pres	Jun-Jul	X		X	X	
Scrophulariaceae	<i>Verbascum thapsus</i>	woolly mullein	Intro	Pres	Jun-Aug	X			X	Disturbed areas

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

Family	Species name	Common name	Nativity	Park status	Flower time	Sage/Gr	Mix Con	Asp	Wet	Comments
<i>Perennial Forbs, cont.</i>										
Scrophulariaceae	<i>Veronica americana</i>	American brooklime	Native	Pres	Jul–Aug				X	
Solanaceae	<i>Solanum dulcamara</i>	European bittersweet	Intro	Pres	May–Sep	X				Disturbed areas
Sparganiaceae	<i>Sparganium emersum</i>	emersed burr-reed	Native	Pres	Jun–Sep				X	
Urticaceae	<i>Urtica dioica</i> var. <i>occidentalis</i>	stinging nettle	Native	Pres	Jul–Aug				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		
Verbenaceae	<i>Verbena bracteata</i>	prostrate vervain	Native	Pres	May–Sep	X				Disturbed areas
Violaceae	<i>Viola adunca</i>	hook-spur violet	Native	Pres	Mar–Aug	X		X		
Violaceae	<i>Viola canadensis</i>	Canadian white violet	Native	Rep	Apr–Aug			X		
Violaceae	<i>Viola praemorsa</i> var. <i>altior</i>	upland yellow violet	Native	Rep	Apr–Aug	X				
Violaceae	<i>Viola purpurea</i> var. <i>venosa</i>	goose-foot violet	Native	Pres	Mar–Aug	X	X			
Violaceae	<i>Viola sororia</i> var. <i>affinis</i>	northern bog violet	Native	Pres	Apr–Jul				X	
Violaceae	<i>Viola vallicola</i>	valley violet	Native	Pres	Mar–Jul	X				
Annual Forbs										
Amaranthaceae	<i>Amaranthus blitoides</i>	prostrate pigweed	Native	Pres	Jun–Sep	X				Disturbed areas
Asteraceae (Compositae)	<i>Gnaphalium palustre</i>	lowland cudweed	Native	Pres	May–Oct				X	
Asteraceae (Compositae)	<i>Helianthus annuus</i>	common sunflower	Native	Pres	Jun–Sep	X				Disturbed areas
Asteraceae (Compositae)	<i>Lactuca serriola</i>	prickly lettuce	Intro	Pres	Jul–Sep				X	Disturbed areas
Asteraceae (Compositae)	<i>Madia glomerata</i>	mountain tarweed	Native	Pres	Jul–Sep	X				Disturbed areas
Asteraceae (Compositae)	<i>Sonchus asper</i>	spiny-leaf sow-thistle	Intro	Pres	Jul–Oct				X	Disturbed areas
Asteraceae (Compositae)	<i>Symphotrichum frondosum</i>	leafy aster	Native	Pres	Aug–Oct				X	
Boraginaceae	<i>Cryptantha fendleri</i>	sand dune cryptanth	Native	Pres	May–Jul	X				
Boraginaceae	<i>Cryptantha watsonii</i>	Watson's cryptanth	Native	Pres	May–Jul	X				
Boraginaceae	<i>Lappula redowskii</i> var. <i>redowskii</i>	western stickseed	Native	Pres	Apr–Jun	X				Disturbed areas

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

Family	Species name	Common name	Nativity	Park status	Flower time	Sage/ Grs	Mix Con	Asp	Wet	Comments
<i>Annual Forbs, cont.</i>										
Boraginaceae	<i>Lappula squarrosa</i> var. <i>squarrosa</i>	European stickseed	Intro	Pres	Jun–Aug	X				Disturbed areas
Boraginaceae	<i>Plagiobothrys scouleri</i> var. <i>hispidulus</i>	meadow popcorn-flower	Native	Pres	May–Aug				X	
Brassicaceae (Cruciferae)	<i>Alyssum desertorum</i>	desert madwort	Intro	Pres	Apr–Jul	X				Disturbed areas
Brassicaceae (Cruciferae)	<i>Camelina microcarpa</i>	little-pod false flax	Intro	Pres	Apr–Jul	X				
Brassicaceae (Cruciferae)	<i>Capsella bursa-pastoris</i>	shepherd's-purse	Intro	Rep	Apr–Sep	X				Disturbed areas
Brassicaceae (Cruciferae)	<i>Chorisporea tenella</i>	blue mustard	Intro	Pres	Apr–Jun	X				Disturbed areas
Brassicaceae (Cruciferae)	<i>Descurainia incana</i> var. <i>incana</i>	mountain tansy-mustard	Native	Pres	Apr–Jul	X				
Brassicaceae (Cruciferae)	<i>Descurainia incana</i> var. <i>viscosa</i>	slender-leaved tansy-mustard	Native	Pres	Apr–Jul				X	
Brassicaceae (Cruciferae)	<i>Descurainia pinnata</i> var. <i>brachycarpa</i>	western tansy-mustard	Native	Pres	Apr–Aug	X				
Brassicaceae (Cruciferae)	<i>Descurainia sophia</i>	flixweed	Intro	Pres	Mar–Aug			X		
Brassicaceae (Cruciferae)	<i>Draba nemorosa</i>	woodland whitlow-grass	Intro	Pres	Apr–Jun	X				
Brassicaceae (Cruciferae)	<i>Erysimum repandum</i>	spreading wallflower	Intro	Pres	Apr–Jun	X				Disturbed areas
Brassicaceae (Cruciferae)	<i>Lepidium campestre</i>	field pepperwort	Intro	Pres	May–Jul	X				Disturbed areas
Brassicaceae (Cruciferae)	<i>Lepidium densiflorum</i> var. <i>densiflorum</i>	prairie pepperwort	Native	Pres	May–Jul	X				Disturbed areas
Brassicaceae (Cruciferae)	<i>Lepidium perfoliatum</i>	clasping pepperwort	Intro	Pres	May–Jul	X				Disturbed areas
Brassicaceae (Cruciferae)	<i>Lepidium ramosissimum</i> var. <i>ramosissimum</i>	branched pepperwort	Native	Pres	Apr–Aug				X	
Brassicaceae (Cruciferae)	<i>Lepidium virginicum</i> var. <i>pubescens</i>	poorman's pepperwort	Native	Pres	Apr–Aug	X				Disturbed areas

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

Family	Species name	Common name	Nativity	Park status	Flower time	Sage/Grass	Mix Con	Asp	Wet	Comments
<i>Annual Forbs, cont.</i>										
Brassicaceae (Cruciferae)	<i>Malcolmia africana</i>	African mustard	Intro	Pres	Apr–Jul	X				Disturbed areas
Brassicaceae (Cruciferae)	<i>Sisymbrium altissimum</i>	tumble mustard	Intro	Pres	May–Aug	X				Disturbed areas
Brassicaceae (Cruciferae)	<i>Thlaspi arvense</i>	field pennycress	Intro	Pres	May–Aug	X				Disturbed areas
Capparaceae (Cleomaceae)	<i>Cleome serrulata</i>	Rocky Mountain beeplant	Native	Pres	May–Oct	X				Disturbed areas
Chenopodiaceae	<i>Atriplex rosea</i>	tumbling orache	Intro	Pres	Jul–Sep	X				Barren sites
Chenopodiaceae	<i>Atriplex subspicata</i>	thickleaf orache	Native	Pres	Jun–Sep	X			X	Barren sites
Chenopodiaceae	<i>Atriplex truncata</i>	wedge-leaf orache	Native	Pres	Jun–Sep	X				Alkaline soils
Chenopodiaceae	<i>Bassia sieversiana</i>	summer-cypress	Intro	Pres	Aug–Oct	X				Disturbed areas
Chenopodiaceae	<i>Chenopodium atrovirens</i>	mountain goosefoot	Native	Pres	Jul–Sep	X				Disturbed areas
Chenopodiaceae	<i>Chenopodium berlandieri</i> var. <i>zschackei</i>	pitseed goosefoot	Native	Pres	Jul–Sep	X				Disturbed areas
Chenopodiaceae	<i>Chenopodium capitatum</i> var. <i>parvicapitatum</i>	smallhead goosefoot	Native	Pres	Jun–Sep				X	
Chenopodiaceae	<i>Chenopodium fremontii</i>	Fremont's goosefoot	Native	Pres	Aug–Oct	X				
Chenopodiaceae	<i>Chenopodium glaucum</i> var. <i>salinum</i>	oakleaf goosefoot	Native	Pres	Aug–Sep				X	
Chenopodiaceae	<i>Chenopodium leptophyllum</i>	narrow-leaf goosefoot	Native	Pres	Jul–Sep		X	X		
Chenopodiaceae	<i>Chenopodium rubrum</i> var. <i>glomeratum</i>	low goosefoot	Native	Pres	Jun–Aug				X	
Chenopodiaceae	<i>Halogeton glomeratus</i>	halogeton	Intro	Pres	Jul–Aug	X				Disturbed areas
Chenopodiaceae	<i>Monolepis nuttalliana</i>	Nuttall's poverty-weed	Native	Pres	Apr–Jul	X				Disturbed areas
Chenopodiaceae	<i>Salsola tragus</i>	Russian-thistle	Intro	Pres	Jun–Sep	X				Disturbed areas
Chenopodiaceae	<i>Suaeda calceoliformis</i>	broom seepweed	Native	Pres	Jul–Sep	X				Alkaline soils
Euphorbiaceae	<i>Chamaesyce glyptosperma</i>	ridge-seeded spurge	Native	Pres	Jun–Aug	X				
Euphorbiaceae	<i>Chamaesyce serpyllifolia</i>	thyme-leaved spurge	Native	Pres	May–Sep	X				Disturbed areas
Fabaceae (Leguminosae)	<i>Medicago lupulina</i>	black medick	Intro	Pres	May–Oct	X				Disturbed areas
Fabaceae (Leguminosae)	<i>Melilotus albus</i>	white sweet-clover	Intro	Pres	May–Oct	X				Disturbed areas

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

Family	Species name	Common name	Nativity	Park status	Flower time	Sage/ Grs	Mix Con	Asp	Wet	Comments
<i>Annual Forbs, cont.</i>										
Geraniaceae	<i>Erodium cicutarium</i>	stork's-bill	Intro	Pres	Feb-Oct	X				Disturbed areas
Hydrophyllaceae	<i>Nemophila breviflora</i>	Great Basin nemophila	Native	Pres	Apr-Jul			X		
Limnathaceae	<i>Floerkea proserpinacoides</i>	false mermaid	Native	Pres	Apr-Aug	X		X	X	
Onagraceae	<i>Epilobium brachycarpum</i>	autumn willow-herb	Native	Pres	Jul-Sep	X			X	Disturbed areas
Onagraceae	<i>Gayophytum diffusum</i> var. <i>strictipes</i>	diffuse groundsmoke	Native	Pres	May-Aug		X			
Onagraceae	<i>Gayophytum racemosum</i>	raceme groundsmoke	Native	Rep	May-Aug	X				
Polemoniaceae	<i>Collomia linearis</i>	small collomia	Native	Pres	May-Aug			X		
Polemoniaceae	<i>Leptosiphon septentrionalis</i>	northern linanthus	Native	Pres	May-Aug	X				
Polemoniaceae	<i>Microsteris gracilis</i> var. <i>humiflor</i>	slender phlox	Native	Pres	Mar-Jun	X				
Polemoniaceae	<i>Navarretia breweri</i>	yellow navarretia	Native	Pres	May-Jul	X				
Polemoniaceae	<i>Navarretia intertexta</i> var. <i>propinqua</i>	Great Basin navarretia	Native	Pres	Jun-Aug	X				
Polygonaceae	<i>Eriogonum cernuum</i>	matted wild buckwheat	Native	Pres	Apr-Oct	X				Disturbed areas
Polygonaceae	<i>Polygonum aviculare</i>	yard knotweed	Intro	Pres	May-Oct	X			X	Disturbed areas
Polygonaceae	<i>Polygonum douglasii</i> var. <i>douglasii</i>	Douglas' knotweed	Native	Pres	Jun-Oct	X		X	X	
Polygonaceae	<i>Polygonum sawatchense</i>	Sawatch knotweed	Native	Pres	Jun-Aug				X	
Polygonaceae	<i>Stenogonum salsuginosum</i>	smooth wild buckwheat	Native	Pres	Apr-Sep					Barren sites
Primulaceae	<i>Androsace septentrionalis</i> var. <i>subulifera</i>	pygmy-flower rock-jasmine	Native	Pres	May-Aug	X			X	
Ranunculaceae	<i>Myosurus apetalus</i> var. <i>montanus</i>	bristly mouse-tail	Native	Pres	Apr-Aug				X	
Ranunculaceae	<i>Ranunculus sceleratus</i> var. <i>multifidus</i>	blister buttercup	Native	Pres	May-Sep				X	
Ranunculaceae	<i>Ranunculus testiculatus</i>	bur buttercup	Intro	Pres	Apr-Jun	X				Disturbed areas
Rosaceae	<i>Potentilla biennis</i>	biennial cinquefoil	Native	Pres	May-Aug	X			X	Disturbed areas
Rubiaceae	<i>Galium bifolium</i>	twin-leaf bedstraw	Native	Pres	May-Aug	X		X		
Scrophulariaceae	<i>Collinsia parviflora</i>	blue-eyed Mary	Native	Pres	Apr-Jun	X	X	X		
Scrophulariaceae	<i>Cordylanthus ramosus</i>	bushy bird's-beak	Native	Pres	Jun-Aug	X				
Scrophulariaceae	<i>Orthocarpus luteus</i>	yellow owl-clover	Native	Pres	Jul-Aug				X	
Scrophulariaceae	<i>Orthocarpus tolmiei</i>	Tolmie's owl-clover	Native	Pres	Jul-Sep				X	

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

Family	Species name	Common name	Nativity	Park status	Flower time	Sage/Grass	Mix Con	Asp	Wet	Comments
<i>Annual Forbs, cont.</i>										
Scrophulariaceae	<i>Veronica biloba</i>	two-lobed speedwell	Intro	Pres	May-Jun	X		X		
Solanaceae	<i>Hyoscyamus niger</i>	black henbane	Intro	Pres	Jun-Aug	X				Disturbed areas
Solanaceae	<i>Nicotiana attenuata</i>	coyote tobacco	Native	Pres	Jun-Sep	X				Burned area
Solanaceae	<i>Solanum triflorum</i>	cut-leaf nightshade	Native	Pres	May-Sep	X				Disturbed areas
Perennial Graminoids										
Cyperaceae	<i>Carex aquatilis</i>	water sedge	Native	Pres	Jun-Aug				X	
Cyperaceae	<i>Carex athrostachya</i>	slender-beaked sedge	Native	Pres	May-Aug				X	
Cyperaceae	<i>Carex aurea</i>	golden sedge	Native	Pres	Apr-Aug				X	
Cyperaceae	<i>Carex douglasii</i>	Douglas' sedge	Native	Pres	Apr-Aug	X				
Cyperaceae	<i>Carex filifolia</i>	threadleaf sedge	Native	Rep	Apr-Jul	X				
Cyperaceae	<i>Carex geyeri</i>	elk sedge	Native	Rep	Apr-Jul	X				
Cyperaceae	<i>Carex hoodii</i>	Hood's sedge	Native	Pres	May-Jul			X		
Cyperaceae	<i>Carex microptera</i> var. <i>microptera</i>	small-wing sedge	Native	Pres	Jun-Aug				X	
Cyperaceae	<i>Carex nebrascensis</i>	Nebraska sedge	Native	Pres	May-Jul				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 praegracilis</i>	blackcreeper sedge	Native	Pres	May-Aug				X	
Cyperaceae	<i>Carex praticola</i>	meadow sedge	Native	Pres	Jun-Aug				X	
Cyperaceae	<i>Carex rossii</i>	Ross' sedge	Native	Pres	May-Aug	X	X			
Cyperaceae	<i>Carex simulata</i>	analogue sedge	Native	Pres	Jun-Aug				X	
Cyperaceae	<i>Carex stenophylla</i>	narrowleaf sedge	Native	Pres	Jun-Jul	X				
Cyperaceae	<i>Carex utriculata</i>	beaked sedge	Native	Pres	Jun-Aug				X	
Cyperaceae	<i>Carex vallicola</i>	valley sedge	Native	Pres	May-Jul	X				
Cyperaceae	<i>Eleocharis acicularis</i>	slender spikerush	Native	Pres	Jun-Sep				X	
Cyperaceae	<i>Eleocharis palustris</i>	common spikerush	Native	Pres	May-Aug				X	
Cyperaceae	<i>Schoenoplectus acutus</i> var. <i>occidentalis</i>	hardstem bulrush	Native	Pres	Jun-Aug				X	
Juncaceae	<i>Juncus balticus</i> var. <i>montanus</i>	Baltic rush	Native	Pres	May-Jul				X	
Juncaceae	<i>Juncus confusus</i>	perplexing rush	Native	Pres	Jun-Aug			X	X	

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

Family	Species name	Common name	Nativity	Park status	Flower time	Sage/Grass	Mix/Con	Asp	Wet	Comments
<i>Perennial Graminoids, cont.</i>										
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	X	
Juncaceae	<i>Juncus tenuis</i> var. <i>dudleyi</i>	poverty rush	Native	Pres	Jun-Aug				X	
Juncaginaceae	<i>Triglochin maritima</i> var. <i>elata</i>	seaside arrowgrass	Native	Pres	May-Aug				X	
Poaceae (Gramineae)	<i>Achnatherum contractum</i>	contracted Indian ricegrass	Native	Pres	Jun-Jul	X				
Poaceae (Gramineae)	<i>Achnatherum hymenoides</i>	Indian ricegrass	Native	Pres	May-Jul	X				
Poaceae (Gramineae)	<i>Achnatherum lettermanii</i>	Letterman's needlegrass	Native	Pres	Jul-Sep				X	
Poaceae (Gramineae)	<i>Achnatherum nelsonii</i> var. <i>dorei</i>	Nelson's needlegrass	Native	Pres	Jun-Sep				X	
Poaceae (Gramineae)	<i>Achnatherum nelsonii</i> var. <i>nelsonii</i>	Nelson's needlegrass	Native	Pres	Jun-Sep	X				
Poaceae (Gramineae)	<i>Achnatherum pinetorum</i>	pine needlegrass	Native	Rep	Jun-Aug	X				
Poaceae (Gramineae)	<i>Agropyron cristatum</i> var. <i>cristatum</i>	crested wheatgrass	Intro	Pres	Jun-Aug	X				Disturbed areas
Poaceae (Gramineae)	<i>Agropyron cristatum</i> var. <i>desertorum</i>	clustered wheatgrass	Intro	Pres	Jun-Aug	X				
Poaceae (Gramineae)	<i>Agrostis stolonifera</i>	redtop	Intro	Pres	Jun-Sep				X	
Poaceae (Gramineae)	<i>Alopecurus aequalis</i>	short-awn foxtail	Native	Pres	Jun-Aug				X	
Poaceae (Gramineae)	<i>Alopecurus arundinaceus</i>	creeping foxtail	Intro	Pres	Jun-Jul				X	
Poaceae (Gramineae)	<i>Alopecurus pratensis</i>	meadow foxtail	Intro	Rep	Jun-Jul				X	
Poaceae (Gramineae)	<i>Bromus anomalus</i>	nodding brome	Native	Pres	Jun-Aug			X		
Poaceae (Gramineae)	<i>Bromus carinatus</i>	mountain brome	Native	Pres	May-Aug	X			X	Disturbed areas

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

Family	Species name	Common name	Nativity	Park status	Flower time	Sage/Grass	Mix Con	Asp	Wet	Comments
<i>Perennial Graminoids, cont.</i>										
Poaceae (Gramineae)	<i>Bromus inermis</i> var. <i>inermis</i>	smooth brome	Intro	Pres	Jun-Aug			X		
Poaceae (Gramineae)	<i>Calamagrostis inexpansa</i>	slimstem reedgrass	Native	Pres	Jul-Aug				X	
Poaceae (Gramineae)	<i>Catabrosa aquatica</i>	brookgrass	Native	Pres	Jun-Sep				X	
Poaceae (Gramineae)	<i>Dactylis glomerata</i>	orchard grass	Intro	Pres	Jun-Aug	X				Disturbed areas
Poaceae (Gramineae)	<i>Danthonia californica</i>	California oatgrass	Native	Pres	Jun-Aug			X		
Poaceae (Gramineae)	<i>Danthonia intermedia</i>	timber oatgrass	Native	Rep	Jul-Aug		X			
Poaceae (Gramineae)	<i>Danthonia unispicata</i>	oneside oatgrass	Native	Pres	Jun-Aug	X				
Poaceae (Gramineae)	<i>Deschampsia cespitosa</i>	tufted hairgrass	Native	Pres	Jul-Sep			X	X	
Poaceae (Gramineae)	<i>Distichlis stricta</i>	desert saltgrass	Native	Pres	Jun-Sep	X			X	
Poaceae (Gramineae)	<i>Elymus cinereus</i>	Great Basin wildrye	Native	Pres	Jun-Aug	X		X	X	
Poaceae (Gramineae)	<i>Elymus elymoides</i> var. <i>elymoides</i>	squirreltail	Native	Pres	May-Aug	X				
Poaceae (Gramineae)	<i>Elymus glaucus</i>	blue wildrye	Native	Pres	Jul-Aug			X		
Poaceae (Gramineae)	<i>Elymus hispidus</i> var. <i>hispidus</i>	intermediate wheatgrass	Intro	Pres	Jun-Aug	X				Disturbed areas
Poaceae (Gramineae)	<i>Elymus hispidus</i> var. <i>ruthenicus</i>	intermediate wheatgrass	Intro	Pres	Jun-Aug	X				Disturbed areas
Poaceae (Gramineae)	<i>Elymus lanceolatus</i> var. <i>lanceolatus</i>	thickspike wheatgrass	Native	Pres	Jun-Aug	X				
Poaceae (Gramineae)	<i>Elymus repens</i>	quackgrass	Intro	Pres	Jun-Aug	X			X	
Poaceae (Gramineae)	<i>Elymus smithii</i>	western wheatgrass	Native	Pres	Jun-Aug	X				

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

Family	Species name	Common name	Nativity	Park status	Flower time	Sage/ Grs	Mix Con	Asp	Wet	Comments
<i>Perennial Graminoids, cont.</i>										
Poaceae (Gramineae)	<i>Elymus spicatus</i>	bluebunch wheatgrass	Native	Pres	Jun–Aug	X				
Poaceae (Gramineae)	<i>Elymus trachycaulus</i> var. <i>trachycaulus</i>	slender wheatgrass	Native	Pres	Jun–Aug	X			X	
Poaceae (Gramineae)	<i>Elymus x saundersii</i>	Saunders' wild-rye	Native	Pres	Jun–Aug			X		
Poaceae (Gramineae)	<i>Festuca idahoensis</i>	Idaho fescue	Native	Pres	May–Aug	X		X		
Poaceae (Gramineae)	<i>Glyceria striata</i>	fowl mannagrass	Native	Pres	Jul–Aug				X	
Poaceae (Gramineae)	<i>Hordeum brachyantherum</i>	meadow barley	Native	Pres	Jun–Aug				X	Disturbed areas
Poaceae (Gramineae)	<i>Hordeum jubatum</i>	foxtail barley	Native	Pres	Jun–Aug				X	Disturbed areas
Poaceae (Gramineae)	<i>Hordeum x caespitosum</i>	intermediate barley	Native	Pres	Jun–Aug	X			X	
Poaceae (Gramineae)	<i>Koeleria macrantha</i>	junegrass	Native	Pres	Jun–Aug	X				
Poaceae (Gramineae)	<i>Leucopoa kingii</i>	spike fescue	Native	Pres	Jun–Aug	X	X			
Poaceae (Gramineae)	<i>Melica bulbosa</i>	oniongrass	Native	Pres	May–Aug	X			X	
Poaceae (Gramineae)	<i>Muhlenbergia richardsonis</i>	mat muhly	Native	Pres	Jul–Sep				X	
Poaceae (Gramineae)	<i>Phalaris arundinacea</i>	reed canary grass	Native	Rep	Jun–Aug				X	
Poaceae (Gramineae)	<i>Phleum alpinum</i>	alpine timothy	Native	Pres	Jun–Aug	X			X	
Poaceae (Gramineae)	<i>Phleum pratense</i>	timothy	Intro	Pres	Jun–Sep	X			X	Disturbed areas
Poaceae (Gramineae)	<i>Poa arida</i>	prairie bluegrass	Native	Pres	Jun–Aug				X	
Poaceae (Gramineae)	<i>Poa bulbosa</i>	bulbous bluegrass	Intro	Pres	Apr–Jul			X		

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

Family	Species name	Common name	Nativity	Park status	Flower time	Sage/Grass	Mix Con	Asp	Wet	Comments
<i>Perennial Graminoids, cont.</i>										
Poaceae (Gramineae)	<i>Poa compressa</i>	Canada bluegrass	Intro	Pres	Jun-Aug	X	X			Disturbed areas
Poaceae (Gramineae)	<i>Poa cusickii</i> var. <i>pallida</i>	Cusick's bluegrass	Native	Pres	May-Jul	X				
Poaceae (Gramineae)	<i>Poa fendleriana</i>	muttongrass	Native	Pres	May-Aug	X	X			
Poaceae (Gramineae)	<i>Poa interior</i>	interior bluegrass	Native	Pres	Jun-Aug	X		X		
Poaceae (Gramineae)	<i>Poa juncifolia</i> var. <i>ampla</i>	big bluegrass	Native	Pres	Jun-Aug	X			X	
Poaceae (Gramineae)	<i>Poa nevadensis</i>	Nevada bluegrass	Native	Pres	Jun-Aug	X			X	
Poaceae (Gramineae)	<i>Poa pratensis</i>	Kentucky bluegrass	Intro	Pres	May-Aug	X		X	X	
Poaceae (Gramineae)	<i>Poa secunda</i> var. <i>elongata</i>	Canby bluegrass	Native	Pres	May-Aug	X	X			
Poaceae (Gramineae)	<i>Poa secunda</i> var. <i>secunda</i>	Sandberg bluegrass	Native	Pres	Apr-Sep	X				
Poaceae (Gramineae)	<i>Puccinellia nuttalliana</i>	Nuttall's alkalglass	Native	Pres	May-Aug	X				
Poaceae (Gramineae)	<i>Spartina gracilis</i>	alkali cordgrass	Native	Pres	Jun-Sep				X	
Poaceae (Gramineae)	<i>Sporobolus airoides</i>	alkali sacaton	Native	Pres	Jun-Aug	X				
Poaceae (Gramineae)	<i>Trisetum spicatum</i>	spike trisetum	Native	Rep	Jul-Sep	X	X			
Typhaceae	<i>Typha latifolia</i>	broad-leaved cattail	Native	Pres	Jun-Aug				X	
<i>Annual Graminoids</i>										
Juncaceae	<i>Juncus bufonius</i>	toad rush	Native	Pres	Jun-Aug				X	
Poaceae (Gramineae)	<i>Agropyron triticeum</i>	annual wheatgrass	Intro	Pres	May-Jul	X				Disturbed areas
Poaceae (Gramineae)	<i>Beckmannia syzigachne</i>	American sloughgrass	Native	Pres	Jul-Aug				X	
Poaceae (Gramineae)	<i>Bromus japonicus</i>	Japanese brome	Intro	Pres	Jun-Aug	X				Disturbed areas

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

Family	Species name	Common name	Nativity	Park status	Flower time	Sage/Grass	Mix Con	Asp	Wet	Comments
<i>Perennial Graminoids, cont.</i>										
Poaceae (Gramineae)	<i>Bromus tectorum</i>	cheatgrass	Intro	Pres	May-Jul	X				Disturbed areas
Poaceae (Gramineae)	<i>Polygonum monspeliensis</i>	rabbitfoot grass	Intro	Pres	Jun-Aug				X	
<i>Ferns and Allies</i>										
Equisetaceae	<i>Equisetum arvense</i>	field horsetail	Native	Pres	NA			X	X	
Equisetaceae	<i>Equisetum laevigatum</i>	smooth scouring-rush	Native	Pres	NA				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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National Park Service
U.S. Department of the Interior



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