



Annotated Checklist of Vascular Flora

Natural Bridges National Monument

Natural Resource Technical Report NPS/NCPN/NRTR-2009/155



ON THE COVER

Sipapu Bridge, Natural Bridges National Monument, Utah. Photograph by Walter Fertig.

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January 2009

U.S. Department of the Interior
National Park Service
Natural Resource Program Center
Fort Collins, Colorado

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Please cite this publication as:

Fertig, W. 2009. Annotated checklist of vascular flora: Natural Bridges National Monument. Natural Resource Technical Report NPS/NCPN/NRTR-2009/155. National Park Service, Fort Collins, Colorado.

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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 Natural Bridges National Monument. This entailed a thorough review of existing literature, re-examination of specimens from the Natural Bridges National Monument herbarium and other state and national museum collections, and additional field work to corroborate unverified species reports and locate new species. Based on this study, 428 vascular plant taxa have been confirmed or reliably reported as occurring in the monument (323 are known from validated herbarium specimens and 105 from unvouchered literature reports). Another 61 species formerly considered part of the monument flora have now been shown to be falsely reported. The current flora of Natural Bridges National Monument represents about 12% of the known flora of Utah and 25% of the flora of the Colorado Plateau ecoregion within Utah. At least 20 of these species are either formerly considered for federal listing as threatened, endangered, or sensitive, or are considered species of concern by the state’s natural heritage program. Introduced plants make up 11% of the monument flora (46 species), of which only two species are considered noxious weeds by the State of Utah. Further surveys in Natural Bridges National Monument are likely to find additional new species (about 126 are known from similar habitats outside the monument boundary), especially among late-season flowering, weedy, or wetland taxa.

Acknowledgements

I would like to thank the following individuals for their assistance with this project. Botanist Dr. Angela Evenden, former leader of the Northern Colorado Plateau Network (NCPN) in Moab, Utah, was an active proponent of this project and helped secure funding for field work and herbarium studies in 2006. Vicki Webster, curator of museum collections for the National Park Service Southeast Utah Group (SEUG), provided access to all mounted and unmounted herbarium specimens from Natural Bridges National Monument (NABR), as well as workspace within the museum vaults. Missy Powell, formerly of the NCPN, recorded specimen label data from all mounted collections in the NABR herbarium. Charlie Schelz, biologist with SEUG, provided research permits for work in 2005–2006 and shared his unmounted plant collections. Libby Nance, former database specialist with the NCPN, assisted with development and quality control of the monument's NPSpecies database. Libby Nance, Janet Coles, and Helen Thomas also provided data from recent vegetation mapping and wetland inventories on the monument. Drs. Stanley Welsh and Duane Atwood provided access to herbarium collections at Brigham Young University (BRY). Dr. Michael Piep provided access to collections at the Utah State University (Intermountain) herbarium. Dr. Ron Hartman and Ernie Nelson provided access and specimen loans from the Rocky Mountain Herbarium at the University of Wyoming. Mary Moran and Sarah Topp of the National Park Service shared collections from their fieldwork in Natural Bridges from 2004–2006. Thanks to the technical reviewers (Dr. Angela Evenden, Dr. Dusty Perkins, Mary Moran, Vicki Webster, and Libby Nance) for their comments and suggestions. To any others whom I may have inadvertently forgotten, please accept my apologies (and thanks).

Research was conducted under permit # NABR-2006-SCI-0002 for study number NABR-00005. Funding was provided by the National Park Service through the University of Wyoming.

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 Natural Bridges National Monument, in southeastern Utah. 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 Natural Bridges National Monument based on a review of herbarium collections and past literature.
2. Develop an annotated checklist of the flora of Natural Bridges 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

Natural Bridges National Monument (NM) is located in west-central San Juan County, Utah, approximately 40 miles west of Blanding (Figure 1.3.1). President Theodore Roosevelt established the monument under the Antiquities Act in April 1908, to preserve three of the world's 10 largest natural stone bridges, all located within about three air miles of each other in the bottom of White and Armstrong canyons. These bridges were largely unknown until publicized in *The National Geographic Magazine* in the early 1900s (Anonymous 1904). Colonel Edwin Holmes used the magazine to recommend national park status “so that roads may be opened and these greatest of the world's natural bridges can be made accessible for the tourists of our own country and from

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

all over the world. . . .” (Holmes 1907). Starting in 1909, the monument’s boundary was enlarged and redrawn on several occasions to incorporate important archeological sites and wilderness features, until reaching its present configuration and size (7,435 acres) in 1962 (Evenden et al. 2002).

1.3.2 Geology

Most of Natural Bridges National Monument is composed of sandstone outcrops of the lower Permian Cedar Mesa Formation deposited 270–290 million years ago. Cedar Mesa Sandstone was derived from deep sand dunes interspersed with clay and silt layers that were deposited along what was once the west coast of North America. Over time, the Cedar Mesa sandstone was buried under 5,000–10,000 feet of Triassic, Jurassic, and younger sediments laid down in stream, coastal plain, and dune environments. Nearly all of these upper layers were removed by erosion during the uplift of the Colorado Plateau over the last 6 million years. Remnants of the Permian Organ Rock and Triassic Moenkopi and Chinle formations persist only at the far western boundary of the monument. Quaternary-age alluvium lines the bottom of the major stream drainages (Huntoon et al. 2003).

The natural bridges themselves are believed to be less than 30,000 years old. They were formed after strongly meandering streams sliced through the soft clay and siltstone layers of the Cedar Mesa Sandstone to form deeply entrenched canyons. Over time, adjacent bends in the canyons became progressively wider, until they were separated only by narrow fins of resistant sandstone. Eventually, flood events and erosion cut through these fins to create stone bridges. Continued downcutting and freeze-thaw erosion have made the bridges progressively deeper and will ultimately lead to their collapse (Chronic 1988; Huntoon et al. 2003).

1.3.3 Vegetation

Welsh and Moore (1968) recognized five general plant communities within Natural Bridges National Monument (more detailed vegetation descriptions and maps are available in Floyd-Hanna and Heil 1993 and Coles et al. 2008). Mesa tops are dominated by a pygmy woodland of Utah juniper (*Juniperus osteosperma*) and two-needle pinyon (*Pinus edulis*). Understory composition varies depending on soil composition and depth, with basin big sagebrush (*Artemisia tridentata* var. *tridentata*) prevailing on deep, sandy soils and

broom snakeweed (*Gutierrezia sarothrae*) and rock-goldenrod (*Petradoria pumila*) common on shallow, rocky soils. Some open areas of sandy, reddish soil may be locally dominated by well-developed biological soil crusts (Welsh and Moore 1968). Juniper and pinyon also predominate in rimrock communities and dry, steep canyon slopes with scanty soil development. Common understory shrub species of rimrock sites include dwarf mountain mahogany (*Cercocarpus intricatus*), single-leaf ash (*Fraxinus anomala*), Gambel oak (*Quercus gambelii*), and Utah serviceberry (*Amelanchier utahensis*) (Welsh & Moore 1968). Mesa and rimrock vegetation cover nearly 89% of the monument (Evenden et al. 2002).

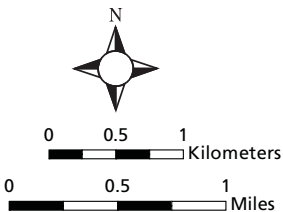
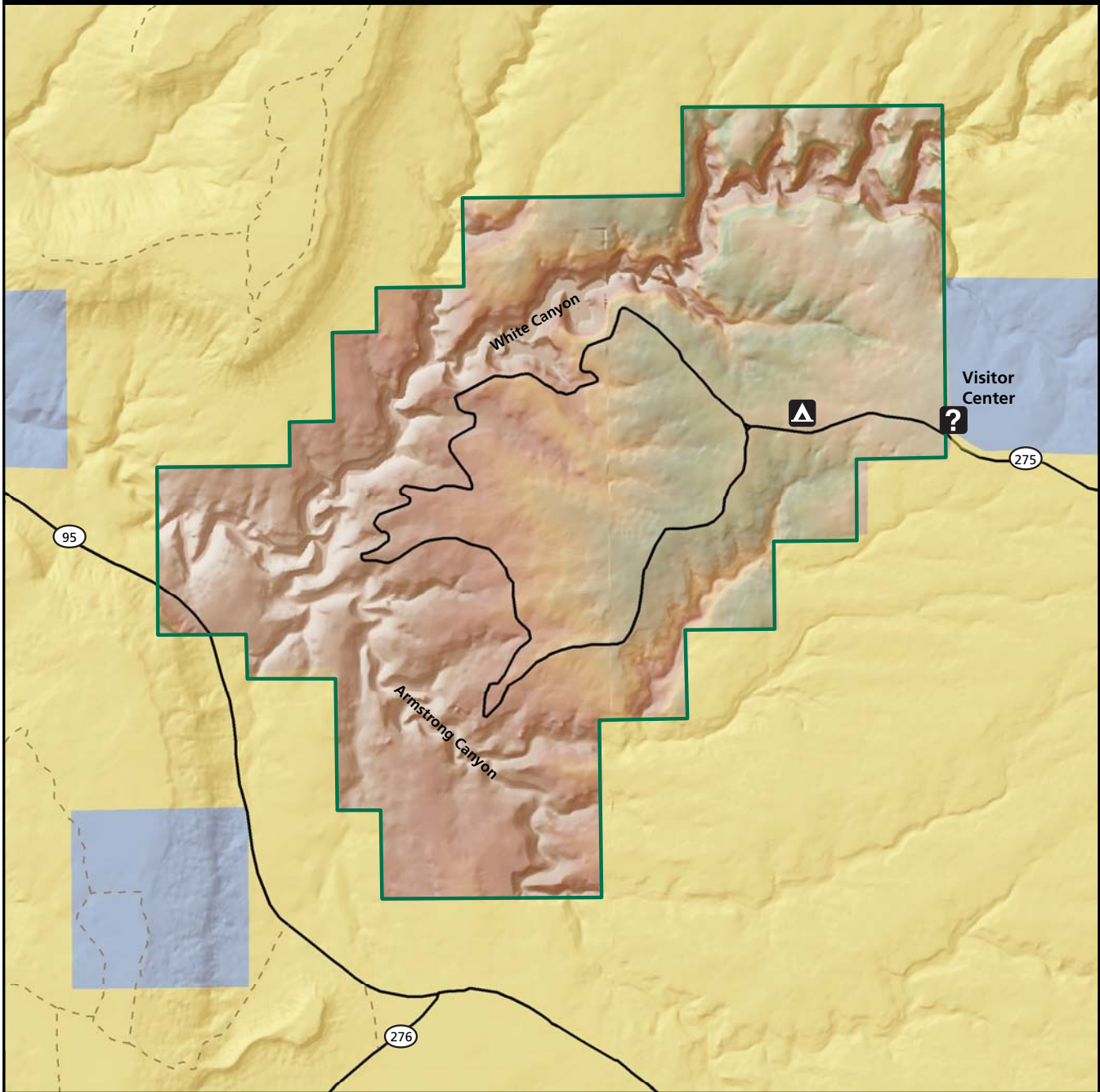
Steep, north-facing slopes within the major canyons support small stands of Douglas-fir (*Pseudotsuga menziesii* var. *glauca*) and ponderosa pine (*Pinus ponderosa* var. *scopulorum*) with an understory of mountain brush species, including round-leaf buffaloberry (*Shepherdia rotundifolia*), Utah serviceberry, and alder-leaf mountain mahogany (*Cercocarpus montanus*) (Welsh and Moore 1968). This community is considered a relict from more mesic times when montane forests covered extensive areas of southeast Utah (Evenden et al. 2002).

A narrow belt of riparian vegetation occupies the bottom of White, Armstrong, and Tuwa canyons. Among the dominant wetland trees and shrubs in this zone are box-elder (*Acer negundo*), Fremont cottonwood (*Populus fremontii*), narrowleaf cottonwood (*P. angustifolia*), coyote willow (*Salix exigua*) and yellow willow (*S. eriocephala* var. *watsonii*). A mix of forb and graminoid species, including hispid goldenaster (*Chrysopsis villosa*), goldenrod (*Solidago* spp.), asters (*Aster* spp.), Baltic rush (*Juncus arcticus*), and foxtail barley (*Hordeum jubatum*) commonly occur on sandy terraces bordering stream channels (Welsh and Moore 1968).

Hanging gardens are a specialized form of wetland vegetation associated with seep springs and shady alcoves where evaporation is reduced. In Natural Bridges NM, several small hanging gardens are found near the nick-points of re-entry canyons off White and Tuwa canyons and in caves and canyon walls where a perched water table is exposed. These mesic sites support southern maidenhair fern (*Adiantum capillus-veneris*), Eastwood’s monkey flower (*Mimulus eastwoodiae*), Kachina daisy (*Erigeron kachinensis*), alcove columbine (*Aquilegia micrantha*), alcove bog

Natural Bridges National Monument

Utah



Established April 16, 1908
1,738–1,951 m elevation
(5,700–6,400 ft elevation)
3,009 ha (7,435 ac)



Legend

- Paved roads
- - - Unimproved/4WD roads
- Park boundary (NPS)
- U.S. Bureau of Land Management
- State

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

Figure 1.3.1. Location of Natural Bridges National Monument, San Juan County, Utah.

orchid (*Habenaria zothecina*), and alcove death-camas (*Zigadenus vaginatus*) (Springer et al. 2006; Welsh 1989; Welsh & Moore 1968).

1.3.4 Previous botanical studies

The earliest known botanical expedition into Natural Bridges National Monument was conducted by Per Axel Rydberg of the New York Botanical Garden and A. O. Garrett of Salt Lake City in 1911 (Table 1.3.4) (Cronquist et al. 1972). Rydberg and Garrett collected at least six (and perhaps as many as 100) plant specimens from White Canyon and its vicinity, including the holotypes of two species new to science: Bridges evening-primrose (*Oenothera longissima*) and alcove death camas (*Zigadenus vaginatus*) (Welsh 1982). During the next 50 years, only 14 additional species were documented for the monument by Garrett, B. F. Harrison, and Rupert Barneby (who collected the holotype of birds-nest milkvetch [*Astragalus nidularius*] in White Canyon in 1955) (Welsh 1982; Welsh and Moore 1968).

Comprehensive floristic studies of Natural Bridges NM did not commence until the 1960s (Figure 1.3.4). From 1961 to 1968, Stanley Welsh, Glen Moore, Larry Higgins, N. Duane Atwood, and colleagues from Brigham Young University collected 192 new species from the monument (and reported 9 others without vouchers). Welsh and Moore (1968) summarized their findings and other historical records in a catalog of the monument flora that numbered 224 taxa. Perhaps their most noteworthy find was a species new to science, Kachina daisy, which initially was known only from the type locality near Kachina Bridge (it has since been found at other sites in southeast Utah and adjacent Colorado [Allphin and Harper 1994]).

Over the next two decades, only 11 new species were documented for the monument (Table 1.3.4). A second wave of floristic investigation began in 1987, when Jayne Belnap added seven new taxa to the Natural Bridges NM flora in the course of establishing vegetation monitoring plots (Evenden et al. 2002). From 1989 to 1991, Ken Heil, Rich Fleming, Leo Vermilion, and associates from San Juan College discovered 59 new species within the monument while conducting vegetation mapping and rare plant surveys for the National Park Service (Floyd-Hanna and Heil 1993; Heil et al. 1993). In 1993, Jim Fowler and Cathleen May added two new species while inventorying 10 hanging gardens in the monument

as part of their survey of hanging-garden ecosystems in the Colorado Plateau (Fowler 1995).

Since 1999, Charlie Schelz, Mary Moran, and colleagues from the NPS Southeast Utah Group (SEUG) biological staff have added at least three new vouchered species to the monument's flora while conducting vegetation transect and ecological monitoring studies. In the late 1990s, Schelz sifted through earlier monument species lists, specimens in the Natural Bridges NM herbarium (NABR), and unvouchered reports from past vegetation research to compile a revised vascular plant checklist for Natural Bridges NM. The most recent version of this list (Schelz et al. 2006) contained 442 taxa (425 if synonyms and duplicate names are removed). In 2003, Kim Andersen reported (without vouchers) two new weed species to the monument flora while conducting a noxious-weed mapping survey (Dewey and Andersen 2005). Sarah Topp, of the NCPN vegetation mapping crew, and Larry Stevens and Rebecca Harms, of the springs and seeps inventory team, collected two new species and reported (without vouchers) eight more taxa for the flora in 2004 (Coles et al. 2008; Springer et al. 2006).

Table 1.3.4. Chronology of plant-collecting efforts in Natural Bridges National Monument.

Year	Collector(s)	# of new taxa	Comments
1911	P. A. Rydberg & A. O. Garrett	6	Six collections are cited on the NY Botanical Garden Virtual Herbarium website, including holotypes of <i>Oenothera longissima</i> and <i>Zigadenus vaginatus</i> . Based on Rydberg's collection numbers, as many as 100 collections may have been made from Natural Bridges and vicinity, but most are not currently posted on NY Botanical Garden website.
1927	A. O. Garrett	1	Garrett collected smooth spindlestem (<i>Caulanthus crassicaulis</i> var. <i>glaber</i>), a species that has not been relocated within the monument since.
1933	B. F. Harrison	12	Collections cited in Welsh and Moore (1968).
1955	R. Barneby	1	Holotype of <i>Astragalus nidularius</i> collected in White Canyon.
1961–1968	S. L. Welsh, G. Moore, N. D. Atwood, & L. C. Higgins	192	First major floristic inventory of Natural Bridges National Monument conducted for NPS by S. L. Welsh and colleagues from Brigham Young University. Welsh and Moore (1968) published the first checklist of the monument's flora, documenting 223 taxa (including historical specimens from Harrison and Rydberg and unvouchered reports). The majority of specimens (133) were taken in 1963, including the holotype of <i>Erigeron kachinensis</i> from Kachina Bridge.
1969–1982	B. Welsh, N. D. Atwood, L. C. Higgins, R. A. Nelson, Blackburn, & M. D. Schwartz	11	Noel and Pat Holmgren, Leila and John Shultz, Elizabeth Neese, and B. Welsh also made collecting visits over this time period but did not add any new species to the monument flora.
1987	J. Belnap	7	Belnap and colleagues made collections while establishing 3 vegetation monitoring plots.
1989–1991	K. Heil, R. Fleming, L. Vermilion, & Etzkorn	59	Heil and colleagues from San Juan College, New Mexico, conducted rare plant surveys and made general collections in conjunction with a vegetation mapping study (Floyd-Hanna & Heil 1993; Heil et al. 1993).
1993	J. Fowler & C. L. May	2	Over 120 collections made in the monument during study of the biogeography of hanging gardens of the Colorado Plateau (Fowler 1995).
1999–2006	C. Schelz & M. Moran	3	Collections made in conjunction with vegetation monitoring studies. Schelz also compiled voucher and literature reports of all species cited for Natural Bridges National Monument, recognizing 425 taxa (Schelz et al. 2006).
2003	K. Andersen	2 (reported)	Weed survey by Dewey and Andersen (2005) nets 2 new reports of non-native taxa.
2004	S. Topp, L. Stevens, R. Harms	2	At least 2 new species were confirmed and 10 reported (without vouchers) during field work associated with vegetation mapping and springs and seeps inventory (Coles et al. 2008; Springer et al. 2006).
2006	W. Fertig	28	Field surveys were conducted in June and September to locate unvouchered potential and reported taxa, with an emphasis on wetland, late summer flowering, and cryptic taxa.

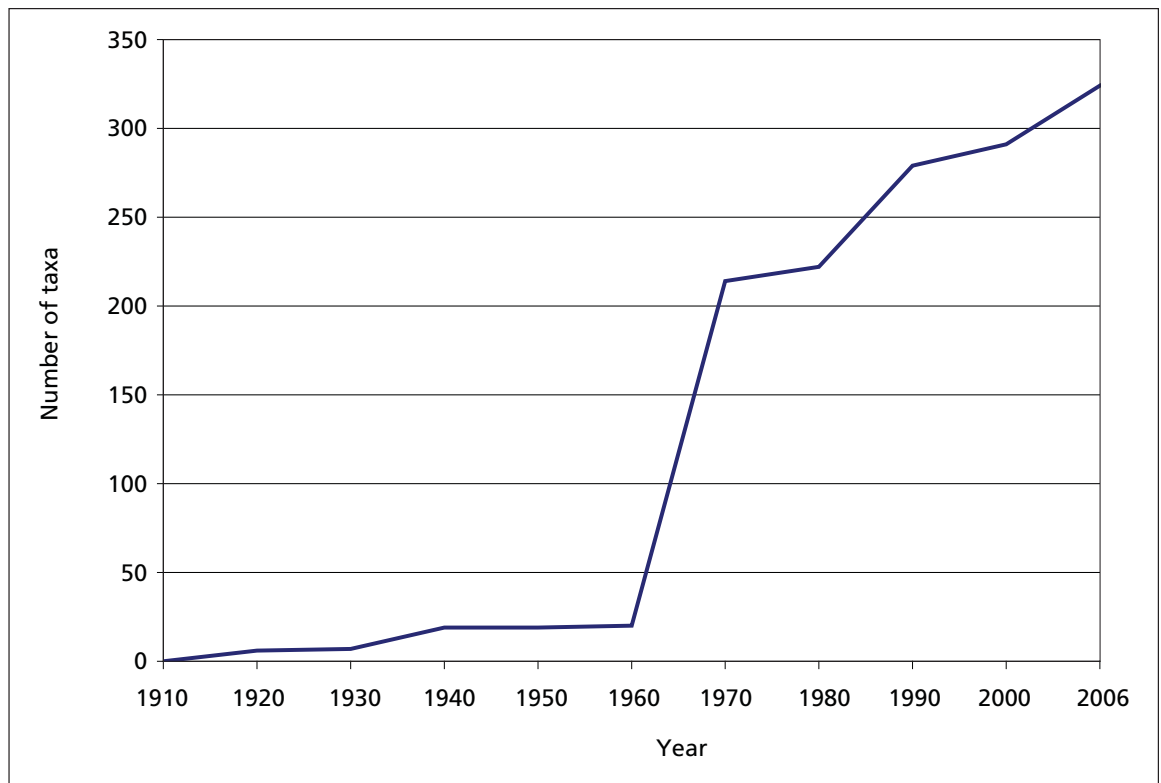


Figure 1.3.4. Increase in the number of plant taxa confirmed as present in Natural Bridges National Monument by decade, 1910–2006.

2 Methods

In July 2005, I reviewed all mounted specimens in the Natural Bridges National Monument herbarium (housed in the SEUG office in Moab, Utah) to determine whether each was correctly identified to species, subspecies, or variety following the nomenclature of Welsh et al. (2003). As necessary, I made corrections and annotations to each specimen and to the voucher records in the monument's Automated National Cataloging System (ANCS+) and NPSpecies database. Based on this herbarium work and a review of monument references (Schelz and Moran 2005; Welsh and Moore 1968), I developed four lists:

1. A revised checklist of species that were present in the park (confirmed by an authenticated voucher; included in Appendices A and D);
2. A list of species that were reported in the literature but not corroborated with a voucher (equivalent to "probably present" in NPSpecies terminology; included in Appendices A and D);
3. A list of potential species ("unconfirmed" in NPSpecies) A list of potential species ("unconfirmed" in NPSpecies) known from the vicinity of Natural Bridges NM based on Albee et al. (1988) and an unpublished list developed for the NCPN by Dr. N. Duane Atwood of Brigham Young University (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 Utah), population size in the monument (derived from Coles et al. 2008; Welsh and Moore 1968; and field observations), flowering period, distribution across general vegetation types, nativity, data source (collector and collection number from a sample specimen or literature citation), year of earliest collection (from herbarium records), and relevant synonymy and taxonomic problems (based on review of Barkworth et al. 2003, 2007; Barneby 1989; Cronquist 1994; Cronquist et al. 1972, 1977, 1984, 1997; Dorn 2001; Flora of North America Editorial Committee 1993, 1997, 2000, 2002a, 2002b, 2003, 2005, 2006a, 2006b, 2006c; Holmgren et al. 2005; and Weber and Wittmann 2001). The annotations to these lists and label data from the NABR herbarium review were then incorporated into the NPSpecies database for the monument.

Work in 2006–2007 focused on confirmation of reported and potential species for the monument flora through field surveys and review of collections from state and regional herbaria. I made two collecting trips to Natural Bridges NM, in June and September 2006, to target missing species, emphasizing under-sampled wetland, weedy, and late-flowering taxa. I undertook herbarium studies at Brigham Young University (BRY), Utah State University (USU), and the University of Wyoming (RM) in March, June, and October 2006 and February and March 2007. I also documented monument specimens from the Virtual Herbarium website of the New York Botanical Garden (<http://sciweb.nybg.org/science2/hcol/intf/index.asp>). Finally, I found additional new species reports by examining unmounted collections by SEUG and NCPN researchers and by reviewing plot data from recent vegetation mapping, weed surveys, and wetland inventories (Coles et al. 2008; Dewey and Andersen 2005; Springer et al. 2006).

3 Results

3.1 Summary of the flora of Natural Bridges National Monument

Of the 449 vascular plant vouchers in the NABR herbarium that I examined in 2005 (excluding 396 specimens on loan), 11 were misidentified (2.4%), 38 were revised to a more current name (8.5%), 34 had variety or subspecies names added (7.6%), and 366 were found to be correctly determined (81.5%). Based solely on these collections, the confirmed flora of Natural Bridges NM stood at 207 taxa (Fertig 2006). From 2006 to 2007, I located an additional 77 taxa from collections at Brigham Young University (mostly species reported in Welsh and Moore 1968, but without a duplicate voucher deposited in the NABR herbarium), 7 new spe-

cies from the New York Botanical Garden Virtual Herbarium, and 3 new taxa from the University of Wyoming's Rocky Mountain Herbarium. Field surveys in 2006 netted another 29 new species: 1 from SEUG botanist Mary Moran and 28 from my field collections. Overall, the documented flora of Natural Bridges NM has increased by 116 species (35.8%), bringing the total number of taxa to 323 (Table 3.1, Appendices A, D).

Currently, 105 additional taxa have been reported for Natural Bridges NM but have yet to be corroborated with a voucher specimen (Table 3.1, Appendix A). Of these, 93 were reported by Schelz et al. (2006) or Welsh and Moore (1968) and 11 others came from observations by recent vegetation mapping, weed survey, and wetland research crews (Coles et al. 2008; Dewey and Andersen 2005; Springer et al. 2006). One other probable

Table 3.1. Statistical summary of the flora of Natural Bridges National Monument.

Category	Number confirmed in park	Number additionally reported for park	Total
Taxonomic diversity			
Total taxa (including varieties and subspecies)	323	105	428
Full species (excluding varieties and subspecies)	311	96	407
Families	62	3	65
Life form diversity			
Tree taxa	12	2	14
Shrub taxa	56	18	74
Perennial forb taxa	153	48	201
Annual forb taxa	40	29	69
Perennial graminoid taxa	50	5	55
Annual graminoid taxa	5	3	8
Fern taxa	7	0	7
Biogeographic diversity			
Introduced taxa	30	16	46
Native taxa			
Locally endemic taxa	8	1	9
Regionally endemic taxa	47	16	63
Disjunct taxa	0	0	0
Peripheral taxa	3	1	4
Sparse taxa	1	1	2
Widespread taxa	234	70	304
<i>Total native taxa</i>	<i>293</i>	<i>89</i>	<i>382</i>

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

but unconfirmed report came from a species cited in the Natural Bridges NM ANCS+ database; it is currently on loan and could not be confirmed. Taken together, the number of confirmed and reported vascular plant taxa in Natural Bridges NM stands at 428 taxa (Table 3.1, Appendix A).

At the start of the 2006 field season, I recognized 309 taxa as potentially occurring in Natural Bridges NM, based on the proximity of the monument to known populations (Albee et al. 1988; Fertig 2006). At least 21 of these species were found to occur in the monument based on field collections or relocated herbarium specimens in 2006. Another 162 species were eliminated from the potential list based on their low probability of occurring in the monument. Most of these were species of montane coniferous forest or wetland habitats in the Abajo or La Sal mountain ranges. The current number of potential species that I am recognizing for Natural Bridges National Monument is 128 (Appendix B).

Of the original pool of species documented or reported for Natural Bridges NM, I found 34 taxa to be falsely reported based on misidentified voucher specimens in the NABR and BRY herbaria. I consider an additional 27 species cited (but not vouchered) by Schelz et al. (2006) and the NCPN vegetation mapping team (Coles et al. 2008) to be questionable based on the absence of suitable habitat or the distance of Natural Bridges NM to the known or expected range of each species (Appendix C).

The confirmed and reported flora of Natural Bridges NM represents 11.9% of the 3,594 native and naturalized taxa documented for the state of Utah by Welsh et al. (2003) and 43% of the state's 151 plant families (Table 3.1). Within San Juan County, the monument flora captures 31.2% of the 1,370 taxa reported by Welsh et al. (2003). At the ecoregional scale, Natural Bridges NM contains 25.3% of the 1,694 species reported for the Utah portion of the Colorado Plateau (Shultz et al. 2006).

3.2 Life form and biogeographic diversity

Although ecologically dominant, tree and shrub species make up only 20.5% of the confirmed and reported plant taxa of Natural Bridges National Monument (see Table 3.1). Perennial forbs are the most species-rich life form in the monument's flora, with 201 known and reported taxa (47% of

the total flora). Annual forbs and grass-like plants compose less than 18% of the flora. Like trees and shrubs, perennial graminoids are ecologically important but relatively species-poor, representing less than 13% of the total flora. The diversity of ferns and fern-allies in Natural Bridges NM is especially low (1.6%) (see Table 3.1).

Of the monument's 382 native taxa, 304 (79.6%) are widespread across Utah and western North America. Only nine species (2.1% of the total monument flora) have extremely limited global distributions (local endemics found within an area of less than 1° of latitude × 2° of longitude; see Appendices for complete definitions of biogeographic categories). Regional endemics (largely restricted to the Colorado Plateau) compose an additional 14.8% of the monument flora (see Table 3.1).

3.3 Plants of special concern

Natural Bridges National Monument has no plants listed as threatened or endangered under the U.S. Endangered Species Act. At least seven monument taxa were formerly candidates for listing (Category 2 or 3) under the act (Table 3.3) (UDWR 1998). Schelz and Moran (2007) cited five species from the monument as NPS species of concern, of which four were former candidates for listing (Table 3.3). The Utah Division of Wildlife Resources Conservation Data Center (UTCDC) lists 19 species from Natural Bridges NM as endemic or rare plants (UDWR 1998). Although not currently cited on any agency list, the recently described Moab pepperplant (*Lepidium moabense*), a narrow endemic of southeastern Utah, warrants attention as a species of concern due to its apparently limited range and low numbers (Welsh et al. 2003). It should be noted, however, that Holmgren et al. (2005) considered this taxon to be synonymous with Eastwood's pepperplant (*Lepidium eastwoodiae* or *L. montanum* var. *eastwoodiae*).

3.4 Non-native species and noxious weeds

Introduced plant species (not historically native to Utah or North America) make up 11% of the confirmed and reported flora of Natural Bridges National Monument (see Table 3.1). This figure is substantially lower than the statewide average of 13.5% non-native species (Welsh et al. 2003). Of the monument's 46 introduced plant species, only two are listed as noxious by the State of Utah

(Dewey and Andersen 2005; State of Utah Department of Agriculture and Food 2007).

Canada thistle (*Cirsium arvense*) is known primarily from White Canyon, and is apparently uncommon within the monument. Schelz et al. (2006) reported field bindweed (*Convolvulus arvensis*) from the monument, but no vouchers

have been found and its abundance is not known. Among the other non-native plants in the monument, five-stamen tamarisk (*Tamarix chinensis*) has received the most management attention, with control efforts in place since 1977 (Evenden et al. 2002). Additional field work is needed to confirm the presence of at least 14 non-native species that have been reported for the area.

Table 3.3. Plant species of conservation concern from Natural Bridges National Monument.

Family	Species	Common name	TNC global rank	Federal legal status	UTCDC status
Cactaceae	<i>Opuntia phaeacantha</i> var. <i>major</i>	large pricklypear	G5T5		Peripheral, S2S3
Compositae (Asteraceae)	<i>Chrysothamnus nauseosus</i> var. <i>bigelovii</i>	Bigelow's rabbitbrush	G5 T3T5Q		Peripheral, S2
Compositae (Asteraceae)	<i>Cirsium calcareum</i> var. <i>calcareum</i>	Caineville thistle	G4TNR		Taxonomic Problems, S1
Compositae (Asteraceae)	<i>Cirsium rydbergii</i>	Rydberg's thistle	G3	USFWS: 3C; SEUG Species of Concern	Watch, S2S3
Compositae (Asteraceae)	<i>Erigeron kachinensis</i>	Kachina daisy	G2	USFS Region 4: Sensitive; BLM (UT): Sensitive; USFWS: former C2 candidate; SEUG Species of Concern	Rare, S2
Cruciferae (Brassicaceae)	<i>Lepidium moabense</i>	Moab pepperplant	GNRQ		
Leguminosae (Fabaceae)	<i>Astragalus cottamii</i>	Cottam's milkvetch	G4T4	USFWS: 3C	Watch, S2
Leguminosae (Fabaceae)	<i>Astragalus nidularius</i>	birds-nest milkvetch	G3?	USFWS: 3C	Watch, S3?
Leguminosae (Fabaceae)	<i>Lupinus polyphyllus</i> var. <i>ammophilus</i>	sand lupine	G3G4		Watch, S1S2
Leguminosae (Fabaceae)	<i>Pediomelum aromaticum</i> var. <i>aromaticum</i>	aromatic breadroot	G3T2?		Rare, S1
Leguminosae (Fabaceae)	<i>Psoralea thompsoniae</i> var. <i>thompsoniae</i>	Thompson's indigo-bush	G3?T3?	USFWS: 3C	Watch, S3?
Liliaceae (Melanthiaceae)	<i>Zigadenus vaginatus</i>	alcove death camas	G2	USFWS: 3C; SEUG Species of Concern	Rare, S2
Orchidaceae	<i>Epipactis gigantea</i>	giant helleborine	G3G4	SEUG Species of Concern	
Orchidaceae	<i>Habenaria zothecina</i> (<i>Platanthera zothecina</i>)	alcove bog-orchid	G2	BLM (UT): Sensitive; USFWS: former C2 candidate; SEUG Species of Concern	Rare, S2
Polemoniaceae	<i>Gilia imperialis</i>	Cataract gilia	G4T2	BLM (UT): Sensitive	Rare, S2
Polypodiaceae (Adiantaceae)	<i>Pellaea glabella</i> var. <i>occidentalis</i>	western cliffbrake	G5T4		Peripheral, S2
Polypodiaceae (Adiantaceae)	<i>Pellaea limitanea</i>	border cloak-fern	G4G5		Peripheral, S1
Rubiaceae	<i>Galium multiflorum</i> var. <i>coloradoense</i>	Colorado bedstraw	G4		Watch, S3?

Table 3.3. Plant species of conservation concern from Natural Bridges National Monument, cont.

Family	Species	Common name	TNC global rank	Federal legal status	UTCDC status
Scrophulariaceae	<i>Penstemon lentus</i> var. <i>albiflorus</i>	whiteflower penstemon	G4T2T3		Watch, S2S3
Scrophulariaceae	<i>Penstemon strictiformis</i>	Natural Bridges penstemon	G3?		Watch, S1S2
Umbelliferae (Apiaceae)	<i>Aletes macdougalii</i> var. <i>breviradiatus</i>	canyonland spring-parsley	G3T2T3		Watch, S2

This list is derived from Schelz and Moran (2007) and Utah Division of Wildlife Resources (1998) for UTCDC status. All species are confirmed as present in the monument except for *Cirsium calcaureum* var. *calcaureum* (reported).

Codes: **TNC global rank** assesses abundance and conservation priority on a scale of 1-5 (1 being extremely vulnerable and 5 being secure) for full species (G) and varieties or subspecies (T) across their entire range. A "?" indicates uncertainty in the rank, Q = taxonomic questions, U = unknown, and NR = not ranked. A comparable scoring system is used to measure state abundance (S) in Utah under the column UTCDC status.

Under **legal status**, USFWS = US Fish and Wildlife Service. C2 = Category 2 candidate (a former category used for taxa that might warrant being proposed for Threatened or Endangered status following additional research). 3C = Category 3 candidates (species dropped from consideration for listing). USFS = U.S. Forest Service. BLM = U.S. Bureau of Land Management.

UTCDC status includes conservation categories adopted by the state natural heritage program to prioritize endemic and rare plant taxa (UDWR 1998). These categories include: Historical (presumed extinct or only known historically through their range), Rare (plants with rangewide viability concerns), Watch (regional endemics without rangewide viability concerns), Peripheral (rare or uncommon in Utah, but more common rangewide), Infrequent (plants occur infrequently over western U.S.), Taxonomic Problems (validity of species, subspecies, or variety has been questioned), Additional Data (species appear rare, but more information needed before being assigned to a different category).

4 Discussion

In the nearly 40 years since the publication of Welsh and Moore (1968), the known flora of Natural Bridges National Monument has nearly doubled, increasing from 223 to 428 taxa (Table 3.1, Figure 1.3.4, Appendix A). Based on available habitats and proximity, at least another 126 plant taxa may occur within the monument (Appendix B). Should all of these potential species be found, the documented flora of the monument would

increase by nearly 23%. 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).

5 Literature Cited

- Albee, B. J., L. M. Shultz, and S. Goodrich. 1988. Atlas of the vascular plants of Utah. +Occasional Publ. 7, Utah Museum of Natural History, Salt Lake City. 670 pp.
- Allphin, L., and K. T. Harper. 1994. Habitat requirements for *Erigeron kachinensis*, a rare endemic of the Colorado Plateau. Great Basin Naturalist 54(3):193–203.
- Anonymous. 1904. Colossal natural bridges of Utah. The National Geographic Magazine 15(9):367–369.
- Barkworth, M. E., K. M. Capels, S. Long, and M. B. Piep, eds. 2003. Magnoliophyta: Commelinidae (in part): Poaceae, part 2. Flora of North America north of Mexico, Volume 25. New York: Oxford University Press. 783 pp.
- Barkworth, M. E., K. M. Capels, S. Long, L. K. Anderton, and M. B. Piep, eds. 2007. Magnoliophyta: Commelinidae (in part): Poaceae, part 1. Flora of North America north of Mexico, Volume 24. New York: Oxford University Press. 911 pp.
- Barneby, R. C. 1989. Volume 3, Part B. Fabales. In Cronquist, A., A. H. Holmgren, N. H. Holmgren, J. L. Reveal, and P. K. Holmgren, eds. Intermountain flora: Vascular plants of the Intermountain West, U.S.A. Bronx, N.Y.: New York Botanical Garden. 279 pp.
- Chronic, H. 1988. Pages of stone: Geology of western National Parks and Monuments: Grand Canyon and the Plateau Country. Seattle, Wa.: The Mountaineers. 158 pp.
- Coles, J., J. Von Loh, A. Evenden, G. Manis, G. Wakefield, and A. Wight. 2008. Vegetation classification and mapping project report, Natural Bridges National Monument. Natural Resource Report NPS/NCPN/NRTR/2008/077. National Park Service, Ft. Collins, Co.
- Cronquist, A. 1994. Volume 5, Asterales. In Cronquist, A., A. H. Holmgren, N. H. Holmgren, J. L. Reveal, and P. K. Holmgren, eds. Intermountain flora: Vascular plants of the Intermountain West, U.S.A. Bronx, N.Y.: New York Botanical Garden. 496 pp.
- Cronquist, A., A. H. Holmgren, N. H. Holmgren, and J. L. Reveal, eds. 1972. Volume 1, Geological and botanical history of the region, its plant geography and a glossary: The vascular cryptogams and the gymnosperms. Intermountain Flora, Vascular Plants of the Intermountain West, U.S.A. Bronx, N.Y.: New York Botanical Garden. 270 pp.
- Cronquist, A., A. H. Holmgren, N. H. Holmgren, J. L. Reveal, and P. K. Holmgren, eds. 1977. Volume 6, The Monocotyledons. Intermountain flora: Vascular plants of the Intermountain West, U.S.A. Bronx, N.Y.: New York Botanical Garden. 584 pp.
- . 1984. Volume 4, Subclass Asteridae (except Asteraceae). Intermountain flora: Vascular plants of the Intermountain West, U.S.A. Bronx, N.Y.: New York Botanical Garden. 573 pp.
- Cronquist, A., N. H. Holmgren, and P. K. Holmgren, eds. 1997. Volume 3, Part A, Subclass Rosidae (except Fabales). Intermountain flora: Vascular plants of the Intermountain West, U.S.A. Bronx, N.Y.: New York Botanical Garden. 446 pp.
- Dewey, S., and K. Andersen. 2005. An inventory of invasive non-native plants in Natural Bridges National Monument (2003): Final report. Utah State University. Weed Science Research Project # SD0520A.
- Dorn, R. D. 2001. Vascular plants of Wyoming, third edition. Cheyenne, Wy.: Mountain West Publishing. 412 pp.
- Evenden, A., M. Miller, M. Beer, E. Nance, S. Daw, A. Wight, M. Estenson, and L. Cudlip. 2002. Northern Colorado Plateau Vital Signs Network and Prototype Cluster: Plan for natural resources monitoring: Phase I report, October 1, 2002 [two volumes]. National Park Service, Northern Colorado Plateau Network, Moab, Ut. 138 pp + app.
- Fertig, W. 2006. Herbarium and field studies of vascular plant flora of NABR for National Park Service Inventory and Monitoring program. Investigator's Annual Report, National Park Service. 2 pp.
- . 2007. Introduced and naturalized plants of Utah. Sego Lily 30(5):7–11.
- Flora of North America Editorial Committee. 1993. Pteridophytes and Gymnosperms. Flora of North America north of Mexico, Volume 2. New York: Oxford University Press. 475 pp.

- . 1997. Magnoliophyta: Magnoliidae and Hamamelidae. *Flora of North America north of Mexico*, Volume 3. New York: Oxford University Press. 590 pp.
- . 2000. Magnoliophyta: Alismatidae, Arecidae, Commelinidae (in part), and Zingiberidae. *Flora of North America north of Mexico*, Volume 22. New York: Oxford University Press. 352 pp.
- . 2002a. Magnoliophyta: Commelinidae (in part): Cyperaceae. *Flora of North America north of Mexico*, Volume 23. New York: Oxford University Press. 608 pp.
- . 2002b. Magnoliophyta: Liliidae: Liliales and Orchidales. *Flora of North America north of Mexico*, Volume 26. New York: Oxford University Press. 723 pp.
- . 2003. Magnoliophyta: Caryophyllidae, part 1. *Flora of North America north of Mexico*. Volume 4. New York: Oxford University Press. 559 pp.
- . 2005. Magnoliophyta: Caryophyllidae, part 2. *Flora of North America north of Mexico*. Volume 5. New York: Oxford University Press. 656 pp.
- . 2006a. Magnoliophyta: Asteridae, part 6: Asteraceae, part 1. *Flora of North America north of Mexico*. Volume 19. New York: Oxford University Press. 579 pp.
- . 2006b. Magnoliophyta: Asteridae, part 7: Asteraceae, part 2. *Flora of North America north of Mexico*. Volume 20. New York: Oxford University Press. 666 pp.
- . 2006c. Magnoliophyta: Asteridae, part 8: Asteraceae, part 3. *Flora of North America north of Mexico*. Volume 21. New York: Oxford University Press. 616 pp.
- Floyd-Hanna, L., and K. D. Heil. 1993. Vegetation community analysis and preparation of a working vegetation map of Natural Bridges National Park. Prepared for the National Park Service, Rocky Mountain Region, under contract # CA1463-5-0001. San Juan College, Farmington, N.M. 15 pp.
- Fowler, J. F. 1995. Biogeography of hanging gardens on the Colorado Plateau (diversity, species richness). PhD dissertation, Department of Zoology and Physiology, University of Wyoming, Laramie, Wy. 209 pp.
- Heil, K. D., L. Floyd-Hanna, L. Reeves, D. Hyder, and R. Fleming. 1993. Composition, distribution, abundance, and habitat requirements of endangered, threatened, and rare plant species in the Southeast Utah Group of National Parks. San Juan College, Farmington, N.M. 96 pp.
- Holmes, E. F. 1907. The great natural bridges of Utah. *The National Geographic Magazine* 18(3):199–204.
- Holmgren, N. H., P. K. Holmgren, and A. Cronquist. 2005. Volume 2, Part B Subclass Dilleniidae. *Intermountain flora: Vascular plants of the Intermountain West, U.S.A.* Bronx, N.Y.: New York Botanical Garden. 488 pp.
- Huntoon, J. E., J. D. Stanesco, R. F. Dubiel, and J. Dougan. 2003. Geology of Natural Bridges National Monument. Pages 232–249 in Sprinkel, D. A., T. C. Chidsey Jr., and P. B. Anderson, eds. *Geology of Utah's parks and monuments*. Utah Geological Association Publication 28 (second edition).
- Margules, C. R., and R. L. Pressey. 2000. Systematic conservation planning. *Nature* 405:243–253.
- National Park Service. 2000. Management policies. Washington, D.C.: U.S. Department of Interior, National Park Service. Publication # NPS D1416. 137 pp.
- Noss, R. F., and A. Y. Cooperrider. 1994. *Saving nature's legacy: Protecting and restoring biodiversity*. Washington, D.C.: Island Press. 416 pp.
- Schelz, C., and M. Moran. 2005. Southeast Utah Group plants. National Park Service Southeast Utah Group (Arches NP, Canyonlands NP, Hovenweep NM, and Natural Bridges NM), Moab, Ut. 17 pp.
- . 2007. Southeast Utah Group threatened, endangered and species of concern. Southeast Utah Group (Arches NP, Canyonlands NP, Hovenweep NM, and Natural Bridges NM), Moab, Ut. 3 pp.
- Schelz, C., M. Moran, and A. Lafever. 2006. Southeast Utah Group plants. National Park Service Southeast Utah Group (Arches NP, Canyonlands NP, Hovenweep NM, and Natural Bridges NM), Moab, Ut. 16 pp.
- Shultz, L. M., R. D. Ramsey, and W. Lindquist. 2006. Revised atlas of Utah plants. College

- of Natural Resources, Utah State University, Logan, Ut. <http://earth.gis.usu.edu/plants>.
- Springer, A. E., L. E. Stevens, and R. Harms. 2006. Inventory and classification of selected National Park Service springs on the Colorado Plateau. Northern Arizona University, Flagstaff, Az. NPS Cooperative Agreement # CA 1200-99-009; Task # NAU-118.
- State of Utah Department of Agriculture and Food. 2007. Utah noxious weed list. http://ag.utah.gov/plantind/noxious_weeds.html.
- Utah Division of Wildlife Resources (UDWR). 1998. Inventory of sensitive species and ecosystems in Utah. Endemic and rare plants of Utah: An overview of their distribution and status. Report prepared for the Utah Reclamation Mitigation and Conservation Commission and U.S. Department of the Interior. 566 pp + app.
- Weber, W. A., and R. C. Wittmann. 2001. Colorado flora: Western Slope, third edition. Boulder: University Press of Colorado. 488 pp.
- Welsh, S. L. 1982. Utah plant types: Historical perspective, 1840–1981, annotated list and bibliography. *Great Basin Naturalist* 42:1–44.
- . 1989. On the distribution of Utah's hanging gardens. *Great Basin Naturalist* 49:1–30.
- Welsh, S. L., N. D. Atwood, S. Goodrich, and L. C. Higgins. 2003. A Utah flora, third edition, revised. Provo, Ut: Brigham Young University. 912 pp.
- Welsh, S. L. and G. Moore. 1968. Plants of Natural Bridges National Monument. *Proceedings of Utah Academy of Sciences, Arts, & Letters* 45(1): 220–248.

Appendices

The following appendices contain annotated checklists of the vascular flora of Natural Bridges 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 (Coles et al. 2008; Schelz et al. 2006; Springer et al. 2006; Welsh and Moore 1968). Vouchers were examined from the NABR herbarium (housed in the National Park Service's Southeast Utah Group office in Moab, Utah), and collections from Brigham Young University (BRY), Utah State University (USU), the University of Wyoming (RM), and the digital museum database of the New York Botanical Garden (NY). Species entries in Appendix A are organized alphabetically by family and genus.

Appendix B includes species that may potentially occur within Natural Bridges National Monument 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 Natural Bridges National Monument but are now considered erroneous because they are based on misidentified specimens or questionable literature records.

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

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

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

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

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

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

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

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

1997, 2000, 2002a, 2002b, 2003, 2005, 2006a, 2006b, 2006c; Holmgren et al. 2005; Weber and Wittmann 2001). No effort has been made to identify additional synonyms from monographs and floras preceding the early 1970s.

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

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

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

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

Range (Appendices A, B, and C)

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

Park status (Appendices A, C, and D)

Park status identifies whether a species is Present (**Pres**), Historical (**Hist**), or Reported (**Rep**) for Natural Bridges National Monument. Species are considered Present if a confirmed voucher or documented observation has been made within monument boundaries since 1970. Historical species have been confirmed with a voucher from the monument but have not been relocated since before 1970. Reported species are listed for the monument in the literature (Coles et al. 2008; Schelz et al. 2006; Springer et al. 2006; Welsh and Moore 1968), but have not been corroborated with a voucher specimen. Species that may potentially occur in NABR 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 Natural Bridges National Monument. Abundance data are derived from Welsh and Moore (1968), Coles et al. (2008), 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 Natural Bridges National Monument herbarium (**NABR**), Brigham Young University (**BRY**), Utah State University (**USU**), New York Botanical Garden (**NY**), and the University of Wyoming’s Rocky Mountain Herbarium (**RM**).

Year doc. (Appendix A)

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

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

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

Nativity (Appendix D)

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

Flower Time (Appendix D)

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

Habitat (Appendix D)

The distribution of species across generalized habitats in Natural Bridges National Monument is indicated by an “x” in the columns PinJun through Wet and is derived from the Natural Bridges National Monument vegetation classification (Coles et al. 2008), Welsh and Moore (1968), and Welsh et al. (2003). **PinJun**=Pinyon-juniper woodlands/rimrock (including pockets of sandy soils and sagebrush). **PonP-DF**=Ponderosa pine-Douglas fir woodlands. **Wet**=Wetlands (including hanging gardens). Additional comments are included for species that are restricted to a particular soil/geologic type or are found mostly in disturbed sites.

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

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Aceraceae	<i>Acer glabrum</i> var. <i>glabrum</i>	<i>A. glabrum</i>	Rocky Mountain maple	Shrub	Wide	Pres	Unc	Fleming 1064 (NABR)	1990	
Aceraceae	<i>Acer negundo</i>	<i>A. negundo</i> var. <i>interius</i> , <i>Negundo aceroides</i> ssp. <i>interius</i>	box elder	Tree	Wide	Pres	Com	Fleming 1113 (NABR)	1963	
Agavaceae	<i>Yucca angustissima</i>	<i>Y. angustissima</i> var. <i>angustissima</i>	narrowleaved yucca	Shrub	RegEn	Pres	Unc	Moore 136 (BRY)	1963	
Agavaceae	<i>Yucca baccata</i>	<i>Y. baccata</i> var. <i>baccata</i>	datil yucca	Shrub	Wide	Pres	Com	Moore 142 (BRY)	1964	
Agavaceae	<i>Yucca baileyi</i>		Bailey's yucca	Shrub	Periph	Rep	?	Schelz et al. (2006)	NA	Report may be based on <i>Y. angustissima</i>
Agavaceae	<i>Yucca harrimaniae</i> var. <i>harrimaniae</i>		Harriman's yucca	PerG	Wide	Rep	Com	Coles et al. (2008)	2004	Report from Welsh & Moore (1968) based on misidentified specimen of <i>Y. angustissima</i> . Type locality is Helper, Carbon Co., UT (Trelease s.n. MO)
Amaranthaceae	<i>Amaranthus albus</i>		tumble pigweed	AnnF	Intro	Rep	?	Schelz et al. (2006)	NA	Native to tropical America
Amaranthaceae	<i>Amaranthus blitoides</i>	<i>A. graecizans</i>	prostrate pigweed	AnnF	Wide	Pres	Unc	Fleming 1112 (NABR)	1963	
Amaranthaceae	<i>Amaranthus retroflexus</i>		redroot pigweed	AnnF	Intro	Pres	Unc	Welsh & Moore 2511 (BRY)	1963	Native to Central America
Anacardiaceae	<i>Rhus aromatica</i> var. <i>simplicifolia</i>	<i>R. trilobata</i> var. <i>simplicifolia</i>	squawbush	Shrub	Wide	Pres	Unc	Fertig 22576 (NABR)	2006	
Anacardiaceae	<i>Rhus aromatica</i> var. <i>trilobata</i>	<i>R. trilobata</i> var. <i>trilobata</i>	squawbush	Shrub	Wide	Pres	Com	Fleming 924 (NABR)	1963	
Anacardiaceae	<i>Toxicodendron rydbergii</i>	<i>Rhus radicans</i> , <i>T. radicans</i>	western poison ivy	Shrub	Wide	Rep	Rare	Welsh & Moore (1968)	1963	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Natural Bridges 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
Apocynaceae	<i>Amsonia tomentosa</i> var. <i>stenophylla</i>	<i>A. tomentosa</i> , <i>A. eastwoodiana</i>	tomentose amsonia	PerF	Wide	Rep	?	Schelz et al. (2006)	NA	Type locality of <i>A. eastwoodiana</i> is Moab vicinity, Grand Co., UT (Rydborg & Garrett 8468 NY)
Apocynaceae	<i>Apocynum cannabinum</i>	<i>A. cannabinum</i> var. <i>cannabinum</i>	common dogbane	PerF	Wide	Pres	Unc	Fleming 1018 (NABR)	1963	
Asclepiadaceae	<i>Asclepias asperula</i> var. <i>asperula</i>		spider milkweed	PerF	Wide	Rep	?	Schelz et al. (2006)	NA	
Asclepiadaceae	<i>Asclepias cryptoceras</i> var. <i>cryptoceras</i>		pallid milkweed	PerF	Wide	Rep	Unc	Coles et al. (2008)	2004	
Asclepiadaceae	<i>Asclepias speciosa</i>		showy milkweed	PerF	Wide	Pres	Unc	Topp ST061104001 (NABR)	2004	
Berberidaceae	<i>Mahonia fremontii</i>	<i>Berberis fremontii</i>	Fremont's mahonia	Shrub	Wide	Pres	Com	Fleming 905 (NABR)	1963	
Berberidaceae	<i>Mahonia repens</i>	<i>Berberis repens</i>	Oregon-grape	Shrub	Wide	Pres	Unc	Fleming 947 (NABR)	1963	
Boraginaceae	<i>Cryptantha bakeri</i>	<i>Oreocarya bakeri</i>	Baker's cryptanth	PerF	RegEn	Pres	Rare	Welsh, Atwood, & Higgins 8949 (BRY)	1969	
Boraginaceae	<i>Cryptantha confertiflora</i>		basin yellow cryptanth	PerF	Wide	Pres	Unc	Fleming 908 (NABR)	1990	
Boraginaceae	<i>Cryptantha crassipala</i> var. <i>elachantha</i>		thick-sepal cryptanth	AnnF	Wide	Rep	Unc	Coles et al. (2008)	2004	
Boraginaceae	<i>Cryptantha flava</i>	<i>Oreocarya flava</i>	plateau yellow cryptanth	PerF	Wide	Pres	Com	Moore 140 (BRY)	1964	
Boraginaceae	<i>Cryptantha flavoculata</i>	<i>Oreocarya flavoculata</i>	yellow-eye cryptanth	PerF	Wide	Pres	Com	Fleming 903 (NABR)	1966	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Natural Bridges 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>Cryptantha fulvocanescens</i>	<i>Oreocarya fulvocanescens</i>	plateau cryptanth	PerF	RegEn	Pres	Unc	Heil 6625 (NABR)	1991	Type locality of var. <i>echinoides</i> is Paria Canyon, Garfield Co., UT (Jones 5297p POM)
Boraginaceae	<i>Cryptantha gracilis</i>		slender cryptanth	AnnF	Wide	Rep	?	Schelz et al. (2006)	1990	Fleming # 1025 has not been relocated for confirmation.
Boraginaceae	<i>Cryptantha tenuis</i>		slender cryptanth	PerF	RegEn	Pres	Unc	Atwood 1541 (BRY)	1968	Type locality is Courthouse Wash, Grand Co., UT (Eastwood s.n. CAS)
Boraginaceae	<i>Heliotropium convolvulaceum</i>	<i>Euploca convolvulacea</i> spp. <i>californica</i>	bindweed heliotrope	AnnF	Wide	Rep	?	Schelz et al. (2006)	NA	
Boraginaceae	<i>Lappula occidentalis</i> var. <i>cupulata</i>	<i>L. texana</i> , <i>L. redowskii</i> var. <i>cupulata</i> , <i>L. marginata</i>	cupseed stickseed	AnnF	Wide	Pres	Com	Fleming 931 (NABR)	1964	
Boraginaceae	<i>Lappula occidentalis</i> var. <i>occidentalis</i>	<i>L. redowskii</i> var. <i>redowskii</i>	western stickseed	AnnF	Wide	Pres	Unc	Fertig 22587 (NABR)	2006	
Boraginaceae	<i>Lithospermum incisum</i>		showy stoneseed	PerF	Wide	Pres	Com	Fleming 899 (NABR)	1964	
Boraginaceae (Ehretiaceae)	<i>Tiquilia latior</i>	<i>Coldenia hispidissima</i>	matted tiquilia	PerF	RegEn	Rep	?	Schelz et al. (2006)	NA	
Cactaceae	<i>Echinocereus triglochidiatus</i> var. <i>melanacanthus</i>	Includes var. <i>inermis</i> . Vars. not recognized by some authors	claretcup	PerF	Wide	Pres	Com	Higgins 523 (BRY)	1966	
Cactaceae	<i>Opuntia erinacea</i> var. <i>utahensis</i>	<i>O. polyacantha</i> var. <i>hystricina</i>	Utah pricklypear	PerF	Wide	Rep	Unc	Coles et al. (2008)	2004	
Cactaceae	<i>Opuntia phaeacantha</i> var. <i>discata</i>	<i>O. engelmannii</i> var. <i>engelmannii</i>	frying pan pricklypear	PerF	Periph	Pres	Unc	Welsh & Moore 2479 (BRY)	1963	Cited as <i>Opuntia covillei</i> by Welsh and Moore (1968).

Appendix A. Confirmed, historical, and reported vascular plant taxa of Natural Bridges 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
Cactaceae	<i>Opuntia phaeacantha</i> var. <i>major</i>	Vars. not recognized by some authors	large pricklypear	PerF	Wide	Pres	Unc	Fertig 22584 (NABR)	2006	
Cactaceae	<i>Opuntia polyacantha</i> var. <i>polyacantha</i>		plains pricklypear	PerF	Wide	Pres	Com	Fertig 22569 (NABR)	2006	
Cactaceae	<i>Opuntia whipplei</i>	<i>Cylindropuntia whipplei</i>	Whipple's cholla	Shrub	RegEn	Rep	?	Schelz et al. (2006)	NA	
Cactaceae	<i>Sclerocactus whipplei</i> var. <i>roseus</i>	<i>S. parviflorus</i> , <i>S. whipplei</i> var. <i>intermedius</i> , <i>Echinocactus whipplei</i>	small-flower fishhook cactus	PerF	Wide	Pres	Com	Welsh & Moore 7161 (BRY)	1968	Type locality of <i>S. parviflorus</i> is Glen Canyon, San Juan Co., UT (Clover & Jotter 2398 US)
Capparaceae (Cleomaceae)	<i>Cleome lutea</i>		yellow beeplant	AnnF	Wide	Pres	Unc	Welsh & Moore 2487 (BRY)	1963	
Capparaceae (Cleomaceae)	<i>Cleome serrulata</i>		Rocky Mountain beeplant	AnnF	Wide	Pres	Unc	Welsh & Moore 2498 (BRY)	1963	
Caprifoliaceae	<i>Symphoricarpos longiflorus</i>		long-flower snowberry	Shrub	Wide	Pres	Unc	Welsh & Moore 7137 (BRY)	1968	
Caprifoliaceae	<i>Symphoricarpos oreophilus</i> var. <i>utahensis</i>	<i>S. rotundifolius</i>	mountain snowberry	Shub	Wide	Pres	Com	Fleming 1055 (NABR)	1963	Type locality of var. <i>utahensis</i> is Logan, Cache Co., UT (Rydberg s.n. US).
Caryophyllaceae	<i>Arenaria fendleri</i> var. <i>eastwoodiae</i>	<i>Eremogone eastwoodiae</i> var. <i>eastwoodiae</i> , <i>A. eastwoodiae</i>	Eastwood's sandwort	PerF	Wide	Pres	Unc	Fleming 1063 (NABR)	1964	
Caryophyllaceae	<i>Silene antirrhina</i>		sleepy catchfly	AnnF	Wide	Rep	?	Schelz et al. (2006)	NA	
Celastraceae	<i>Pachystima myrsinites</i>	<i>Paxistima myrsinites</i> , <i>Pachistima myrsinites</i>	mountain-lover	Shrub	Wide	Pres	Unc	Belnap 317 (NABR)	1933	
Chenopodiaceae	<i>Atriplex canescens</i> var. <i>canescens</i>	<i>A. canescens</i> var. <i>occidentalis</i>	fourwing saltbush	Shrub	Wide	Pres	Unc	Fleming 1115 (NABR)	1963	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Natural Bridges 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 confertifolia</i>		shadscale	Shrub	Wide	Pres	Unc	Moore 153 (BRY)	1964	Type locality is Great Salt Lake (near mouth of Weber River), Weber Co., UT (Fremont 761 NY)
Chenopodiaceae	<i>Atriplex gardneri</i> var. <i>cuneata</i>	<i>A. cuneata</i>	Castle Valley saltbush	Shrub	RegEn	Rep	?	Scheiz et al. (2006)	NA	Type locality is near Emery, Emery Co., UT (Jones 5443 RM)
Chenopodiaceae	<i>Bassia americana</i>	<i>Kochia americana</i>	greenmolly	PerF	Wide	Rep	?	Scheiz et al. (2006)	NA	
Chenopodiaceae	<i>Bassia hyssopifolia</i>		five-horn smotherweed	AnnF	Intro	Rep	?	Scheiz et al. (2006)	NA	Native to Eurasia
Chenopodiaceae	<i>Chenopodium album</i> var. <i>album</i>	<i>C. album</i>	lambquarter	AnnF	Intro	Rep	?	Scheiz et al. (2006)	NA	Native to Eurasia
Chenopodiaceae	<i>Chenopodium desiccatum</i>	<i>C. pratericola</i>	desert goosefoot	AnnF	Sparse	Pres	Unc	Welsh & Moore 2491 (BRY)	1963	
Chenopodiaceae	<i>Chenopodium fremontii</i> var. <i>fremontii</i>	<i>C. fremontii</i>	Fremont's goosefoot	AnnF	Wide	Pres	Unc	Welsh & Moore 2430 (BRY)	1963	
Chenopodiaceae	<i>Chenopodium leptophyllum</i>		narrow-leaf goosefoot	AnnF	Wide	Pres	Unc	Welsh & Moore 2474 (BRY)	1963	
Chenopodiaceae	<i>Corispermum americanum</i>	Includes vars. <i>americanum</i> & <i>rydbergii</i>	American bugseed	AnnF	Wide	Pres	Rare	Moran s.n. (NABR)	2006	
Chenopodiaceae	<i>Krascheninnikovia lanata</i> var. <i>lanata</i>	<i>Ceratoides lanata</i> , <i>Eurotia lanata</i>	winterfat	Shrub	Wide	Pres	Unc	Fertig 22603 (NABR)	2006	
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	Fleming 1135 (NABR)	1963	Native to Asia
Chenopodiaceae (Sarcobataceae)	<i>Sarcobatus vermiculatus</i>		greasewood	Shrub	Wide	Pres	Unc	Fertig 22602 (NABR)	2006	
Chenopodiaceae	<i>Zuckia brandegei</i> var. <i>brandegei</i>	<i>Z. brandegeei</i> var. <i>brandegeei</i> , <i>Atriplex brandegei</i>	Brandegee's siltbush	Shrub	RegEn	Rep	?	Scheiz et al. (2006)	NA	Type locality is San Juan River, San Juan Co., UT (Brandegee s.n. GH)

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

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Compositae (Asteraceae)	<i>Achillea millefolium</i> ssp. <i>lanulosa</i>	<i>A. lanulosa</i> , <i>A. millefolium</i> var. <i>occidentalis</i>	common yarrow	PerF	Wide	Pres	Unc	Moore 62 (BRY)	1964	
Compositae (Asteraceae)	<i>Ambrosia acanthicarpa</i>	<i>Franseria acanthicarpa</i>	bur ragweed	AnnF	Wide	Pres	Com	Fleming 1133 (NABR)	1963	
Compositae (Asteraceae)	<i>Antennaria marginata</i>	Includes previous records of <i>A. neglecta</i> from UT	sandstone pussytoes	PerF	Wide	Pres	Unc	Heil & Fleming 5679 (NABR)	1968	
Compositae (Asteraceae)	<i>Artemisia bigelovii</i>		Bigelow's sagebrush	Shrub	Wide	Pres	Unc	Fleming 1137 (NABR)	1963	
Compositae (Asteraceae)	<i>Artemisia campestris</i> var. <i>scouleriana</i>	<i>Oligosporus campestris</i> ssp. <i>pacificus</i> , <i>O. pacificus</i> , <i>A. campestris</i> ssp. <i>pacifica</i>	sand wormwood	PerF	Wide	Rep	?	Schelz et al. (2006)	NA	
Compositae (Asteraceae)	<i>Artemisia dracunculoides</i> ssp. <i>glaucoides</i>	<i>Oligosporus dracunculoides</i>	tarragon	PerF	Wide	Pres	Abun	Fleming 1107 (NABR)	1963	
Compositae (Asteraceae)	<i>Artemisia frigida</i>		fringed sagebrush	Shrub	Wide	Pres	Unc	Heil 6619 (NABR)	1990	
Compositae (Asteraceae)	<i>Artemisia ludoviciana</i> var. <i>ludoviciana</i>		Louisiana wormwood	PerF	Wide	Rep	?	Schelz et al. (2006)	NA	Report may be based on var. <i>mexicana</i>
Compositae (Asteraceae)	<i>Artemisia ludoviciana</i> var. <i>mexicana</i>		Louisiana wormwood	PerF	Wide	Pres	Com	Welsh & Moore 2524 (BRY)	1963	
Compositae (Asteraceae)	<i>Artemisia spinescens</i>	<i>Picrothamnus desertorum</i>	budsage	Shrub	Wide	Rep	?	Schelz et al. (2006)	NA	
Compositae (Asteraceae)	<i>Artemisia tridentata</i> var. <i>tridentata</i>	<i>Seriphidium tridentatum</i> ssp. <i>tridentatum</i>	basin big sagebrush	Shrub	Wide	Pres	Abun	Fleming 1139 (NABR)	1963	
Compositae (Asteraceae)	<i>Artemisia tridentata</i> var. <i>wyomingensis</i>	<i>Seriphidium tridentatum</i> ssp. <i>wyomingense</i>	Wyoming big sagebrush	Shrub	Wide	Rep	Unc	Coles et al. (2008)	2004	

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

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Compositae (Asteraceae)	<i>Aster ascendens</i>	<i>A. chilensis</i> ssp. <i>adscendens</i> , <i>A. adscendens</i> , <i>Symphotrichum ascendens</i> , <i>Virgulastrer ascendens</i>	Pacific aster	PerF	Wide	Pres	Com	Belnap 488 (NABR)	1963	Some NABR collections are tending towards <i>A. spathulatus</i> .
Compositae (Asteraceae)	<i>Aster glaucodes</i>	<i>Eucephalus glaucus</i> , <i>Eurybia glauca</i> , <i>Herrickia glauca</i> var. <i>glauca</i>	blueleaf aster	PerF	Wide	Pres	Unc	Fleming 1057 (NABR)	1963	
Compositae (Asteraceae)	<i>Aster hesperius</i>	<i>A. lanceolatus</i> var. <i>hesperius</i> , <i>Symphotrichum lanceolatum</i> var. <i>hesperium</i>	Siskiyou aster	PerF	Wide	Pres	Unc	Fertig 23022 (NABR)	2006	
Compositae (Asteraceae)	<i>Aster pansus</i>	<i>Symphotrichum ericoides</i> var. <i>pansum</i> , <i>A. ericoides</i> var. <i>pansus</i> , <i>Virgulus ericoides</i>	white heath aster	PerF	Wide	Rep	?	Springer et al. (2006)	2005	
Compositae (Asteraceae)	<i>Baccharis salicina</i>	Includes <i>B. emoryi</i>	Rio Grande seepwillow	Shrub	Wide	Rep	?	Schelz et al. (2006)	NA	
Compositae (Asteraceae)	<i>Brickellia californica</i>		California brickellbush	Shrub	Wide	Rep	?	Schelz et al. (2006)	NA	
Compositae (Asteraceae)	<i>Brickellia longifolia</i>	<i>B. longifolia</i> var. <i>longifolia</i>	longleaf brickellbush	Shrub	Wide	Pres	Rare	Fleming 1140 (NABR)	1990	
Compositae (Asteraceae)	<i>Brickellia microphylla</i> var. <i>scabra</i>	<i>B. scabra</i>	rough brickellbush	Shrub	Wide	Pres	Unc	Fleming 1131 (NABR)	1963	
Compositae (Asteraceae)	<i>Chaenactis douglasii</i>	<i>C. douglasii</i> var. <i>montana</i>	hoary dusty-maiden	PerF	Wide	Rep	?	Schelz et al. (2006)	NA	
Compositae (Asteraceae)	<i>Chaenactis stevioides</i>		stevia dusty-maiden	AnnF	Wide	Rep	Unc	Schelz et al. (2006)	NA	Cited (without voucher) by NABR veg mapping crew in 2004

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

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Compositae (Asteraceae)	<i>Chaetopappa ericoides</i>	<i>Leucelene ericoides</i> , <i>Aster arenosus</i>	rose-heath	PerF	Wide	Pres	Unc	Moore 107 (BRY)	1964	
Compositae (Asteraceae)	<i>Chrysopsis villosa</i> var. <i>minor</i>	<i>C. villosa</i> var. <i>hispida</i> , <i>Heterotheca villosa</i> var. <i>hispida</i> , <i>H. villosa</i> var. <i>minor</i>	hispid golden-aster	PerF	Wide	Pres	Com	Fowler & May 1099 (NABR)	1963	Cited as <i>C. foliosa</i> in Welsh & Moore (1968)
Compositae (Asteraceae)	<i>Chrysopsis villosa</i> var. <i>villosa</i>	<i>Heterotheca villosa</i> var. <i>villosa</i>	hairy golden-aster	PerF	Wide	Rep	?	Springer et al. (2006)	2005	Report from Schelz et al. (2006) based on misidentified specimens of <i>C. villosa</i> var. <i>minor</i> .
Compositae (Asteraceae)	<i>Chrysothamnus linifolius</i>	<i>Loranandersonia linifolia</i>	spear-leaf rabbitbrush	Shrub	Wide	Pres	Unc	Fleming 1108 (NABR)	1990	
Compositae (Asteraceae)	<i>Chrysothamnus nauseosus</i> var. <i>bigelovii</i>	<i>Ericameria nauseosa</i> var. <i>bigelovii</i>	Bigelow's rabbitbrush	Shrub	RegEn	Pres	Rare	Heil & Fleming 5670 (BRY)	1989	
Compositae (Asteraceae)	<i>Chrysothamnus nauseosus</i> var. <i>consimilis</i>	<i>C. nauseosus</i> var. <i>oreophilus</i> , <i>Ericameria nauseosa</i> var. <i>consimilis</i> , <i>E. nauseosa</i> var. <i>oreophila</i>	greenish rabbitbrush	Shrub	Wide	Pres	Com	Fleming 1130 (NABR)	1990	
Compositae (Asteraceae)	<i>Chrysothamnus nauseosus</i> var. <i>gnaphalodes</i>	<i>C. nauseosus</i> var. <i>hololeucus</i> , <i>Ericameria nauseosa</i> var. <i>hololeuca</i>	graystem rabbitbrush	Shrub	Wide	Pres	Com	Fertig 23027 (NABR)	2006	
Compositae (Asteraceae)	<i>Chrysothamnus nauseosus</i> var. <i>juncea</i>	<i>Ericameria nauseosa</i> var. <i>juncea</i>	rush rabbitbrush	Shrub	RegEn	Rep	?	Schelz et al. (2006)	NA	
Compositae (Asteraceae)	<i>Chrysothamnus nauseosus</i> var. <i>leiospermus</i>	<i>Ericameria nauseosa</i> var. <i>leiosperma</i>	smoothseed rabbitbrush	Shrub	RegEn	Pres	Unc	Fleming 1138 (NABR)	1990	Type locality is St. George, Washington Co., UT (Palmer s.n. NY)
Compositae (Asteraceae)	<i>Chrysothamnus viscidiflorus</i> var. <i>stenophyllus</i>	Included in var. <i>viscidiflorus</i> by some authors	slenderleaf rabbitbrush	Shrub	Wide	Rep	?	Schelz et al. (2006)	NA	

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

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Compositae (Asteraceae)	<i>Chrysothamnus viscidiflorus</i> var. <i>viscidiflorus</i>	<i>C. viscidiflorus</i> ssp. <i>pumilus</i>	green rabbitbrush	Shrub	Wide	Pres	Abun	Fleming 1100 (NABR)	1963	
Compositae (Asteraceae)	<i>Cirsium arvense</i>	Includes vars. <i>horridum</i> & <i>integrifolium</i> , <i>Breea arvensis</i>	Canada thistle	PerF	Intro	Pres	Unc	Fleming 1049 (NABR)	1990	Utah state noxious weed. Native to Eurasia
Compositae (Asteraceae)	<i>Cirsium calcareum</i> var. <i>bipinnatum</i>	<i>C. arizonicum</i> var. <i>bipinnatum</i>	wingless thistle	PerF	RegEn	Pres	Unc	Fertig 22588 (NABR)	2006	
Compositae (Asteraceae)	<i>Cirsium calcareum</i> var. <i>calcareum</i>	Included in <i>C. arizonicum</i> var. <i>bipinnatum</i> by some authors	Caineville thistle	PerF	LocEn	Rep	?	Vermilion 17 (NABR?)	1991	Vermilion specimen has not been relocated for confirmation. Report may be based on var. <i>pulchellum</i> . Type locality is Bromide Pass, Henry Mountains, Garfield Co., UT (Jones 5695bh US)
Compositae (Asteraceae)	<i>Cirsium calcareum</i> var. <i>pulchellum</i>	Included in <i>C. arizonicum</i> var. <i>bipinnatum</i> by some authors	pretty thistle	PerF	Wide	Pres	Com	Belnap 315 (NABR)	1963	Cited as <i>Cirsium pulchellum</i> in Welsh & Moore (1968)
Compositae (Asteraceae)	<i>Cirsium neomexicanum</i> var. <i>utahense</i>	<i>C. utahense</i>	Utah thistle	PerF	RegEn	Rep	?	Schelz et al. (2006)	NA	Type locality is Silver Reef, Washington Co., UT (Jones 5163q GH)
Compositae (Asteraceae)	<i>Cirsium rothrockii</i>	<i>C. arizonicum</i> var. <i>rothrockii</i>	Rothrock's thistle	PerF	RegEn	Rep	?	Schelz et al. (2006)	NA	Occurrence of this species in UT has been questioned in FNA (2007)

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

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Compositae (Asteraceae)	<i>Cirsium rydbergii</i>		Rydberg's thistle	PerF	RegEn	Pres	Unc	Fleming 1070 (NABR)	1990	Type locality is along San Juan River near Bluff, San Juan Co., UT (Rydberg & Garrett 10001 NY). Former USFWS 3C candidate
Compositae (Asteraceae)	<i>Cirsium undulatum</i> var. <i>undulatum</i>	<i>C. undulatum</i>	wavy-leaved thistle	PerF	Wide	Pres	Unc	Fowler & May 1260 (RM)	1993	
Compositae (Asteraceae)	<i>Conyza canadensis</i> var. <i>glabrata</i>	Includes var. <i>canadensis</i>	Canadian horseweed	AnnF	Wide	Pres	Com	Fleming 1087 (NABR)	1963	
Compositae (Asteraceae)	<i>Dyssodia papposa</i>		pappose glandweed	AnnF	Intro*	Pres	Rare	Fertig 23017 (NABR)	2006	Native to western North America, but probably not UT
Compositae (Asteraceae)	<i>Erigeron aphanactis</i> var. <i>aphanactis</i>	<i>E. concinnus</i> var. <i>aphanactis</i>	hairy daisy	PerF	Wide	Pres	Unc	Fertig 22605 (NABR)	2006	
Compositae (Asteraceae)	<i>Erigeron argentatus</i>		silver daisy	PerF	Wide	Rep	?	Heil 6608 (NABR)	1990	Label data from Heil collection are contradictory – specimen may be from outside NABR
Compositae (Asteraceae)	<i>Erigeron divergens</i> var. <i>divergens</i>	<i>E. divergens</i>	spreading daisy	PerF	Wide	Pres	Unc	Fertig 22604 (NABR)	2006	
Compositae (Asteraceae)	<i>Erigeron engelmannii</i>		Engelmann's daisy	PerF	Wide	Pres	Unc	Welsh & Moore 7153 (BRY)	1964	
Compositae (Asteraceae)	<i>Erigeron flagellaris</i>		trailing daisy	PerF	Wide	Rep	?	Scheiz et al. (2006)	NA	

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

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Compositae (Asteraceae)	<i>Erigeron kachinensis</i>		Kachina daisy	PerF	LocEn	Pres	Unc	Fowler & May 1245 (NABR)	1963	Type locality is "near Kachina Natural Bridge" (Welsh & Moore 1968). USFWS Region 4 & UT BLM Sensitive. Former USFWS C2 candidate.
Compositae (Asteraceae)	<i>Erigeron pumilus</i> var. <i>concinus</i>	<i>E. concinns</i> var. <i>concinus</i>	Navajo fleabane	PerF	Wide	Pres	Unc	Moore 145 (BRY)	1964	
Compositae (Asteraceae)	<i>Erigeron utahensis</i> var. <i>sparsifolius</i>	<i>E. sparsifolius</i>	slenderleaf daisy	PerF	RegEn	Pres	Unc	Welsh & Moore 2360 (BRY)	1963	Type locality is Willow Creek, San Juan Co., UT (Eastwood 48 CAS)
Compositae (Asteraceae)	<i>Gutierrezia microcephala</i>		thread snakeweed	Shrub	Wide	Pres	Com	Heil & Fleming 5676 (NABR)	1963	
Compositae (Asteraceae)	<i>Gutierrezia sarothrae</i>		broom snakeweed	Shrub	Wide	Pres	Com	Fleming 1099 (NABR)	1990	
Compositae (Asteraceae)	<i>Haplopappus armerioides</i> var. <i>armerioides</i>	<i>Stenotus armerioides</i> var. <i>armerioides</i>	thrift goldenweed	PerF	Wide	Pres	Unc	Fertig 22578 (NABR)	2006	
Compositae (Asteraceae)	<i>Haplopappus rusbyi</i>	<i>H. drummondii</i> , <i>Isocoma rusbyi</i> , l. <i>drummondii</i>	Rusby's goldenbush	Shrub	Wide	Pres	Unc	Welsh & Moore 2447 (BRY)	1963	
Compositae (Asteraceae)	<i>Haplopappus scopulorum</i> var. <i>hirtellus</i>	<i>Hesperodoria scopulorum</i> , <i>Chrysothamnus scopulorum</i>	spindly goldenbush	Shrub	RegEn	Pres	Rare	Nelson 9833 (RM)	1971	Type locality is Cedar Canyon, Iron Co., UT (Garrett 6051 US)
Compositae (Asteraceae)	<i>Helianthella microcephala</i>		purpldisk sunflower	PerF	RegEn	Pres	Com	Heil & Fleming 5671 (NABR)	1963	Type locality is Abajo Mountains, San Juan Co., UT (Newberry s.n. GH)
Compositae (Asteraceae)	<i>Helianthus annuus</i> var. <i>lenticularis</i>	<i>H. annuus</i>	common sunflower	AnnF	Wide	Rep	?	Schelz et al. (2006)	NA	

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

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Compositae (Asteraceae)	<i>Helianthus petiolaris</i> ssp. <i>fallax</i>	Includes var. <i>petiolaris</i>	prairie sunflower	AnnF	Wide	Pres	Rare	Welsh & Moore 2528 (BRY)	1963	
Compositae (Asteraceae)	<i>Hymenopappus filifolius</i> var. <i>cinereus</i>	<i>H. filifolius</i> var. <i>lugens</i> , <i>H. filifolius</i> var. <i>pauciflorus</i> , <i>H. filifolius</i> var. <i>megacephalus</i> , <i>H. filifolius</i> var. <i>tomentosus</i>	common hyalineherb	PerF	Wide	Pres	Com	Heil & Fleming 1040 (NABR)	1964	
Compositae (Asteraceae)	<i>Hymenoxys acaulis</i> var. <i>ivesiana</i>	<i>H. argentea</i> var. <i>ivesiana</i> , <i>Tetraneuris ivesiana</i>	Canyonlands hymenoxys	PerF	Wide	Pres	Com	Belnap 325 (NABR)	1963	
Compositae (Asteraceae)	<i>Lactuca serriola</i>		prickly lettuce	AnnF	Intro	Pres	Com	Welsh & Moore 2473 (BRY)	1963	Native to Europe
Compositae (Asteraceae)	<i>Machaeranthera canescens</i> var. <i>aristata</i>	<i>M. linearis</i> , <i>M. rigida</i> , <i>Dieteria canescens</i> var. <i>aristata</i>	aristate aster	PerF	RegEn	Pres	Unc	Fertig 22610 (NABR)	2006	Type locality is Willow Creek, San Juan Co., UT (Eastwood 45 CAS)
Compositae (Asteraceae)	<i>Machaeranthera canescens</i> var. <i>leucanthemifolia</i>	<i>M. leucanthemifolia</i> , <i>Aster leucanthemifolia</i> , <i>Dieteria canescens</i> var. <i>leucanthemifolia</i>	thickleaf aster	PerF	RegEn	Pres	Com	Welsh & Moore 2371 (BRY)	1963	
Compositae (Asteraceae)	<i>Machaeranthera grindeliooides</i> var. <i>grindeloides</i>	<i>Haplopappus nuttallii</i> , <i>Xanthisma grindeliooides</i> var. <i>grindeloides</i>	gumweed aster	PerF	Wide	Pres	Com	Fleming 1038 (NABR)	1990	
Compositae (Asteraceae)	<i>Malacothrix glabrata</i>	<i>M. californica</i> var. <i>glabrata</i>	filiform desert-dandelion	AnnF	Wide	Pres	Rare	Blackburn s.n. (NABR)	1973	
Compositae (Asteraceae)	<i>Oxytenia acerosa</i>	<i>Iva acerosa</i>	copperweed	Shrub	Wide	Pres	Unc	Fleming 1075 (NABR)	1990	
Compositae (Asteraceae)	<i>Petrorhiza pumila</i> var. <i>pumila</i>	<i>Solidago petradoria</i>	rock-goldenrod	PerF	Wide	Pres	Com	Fleming 1097 (NABR)	1963	NABR plants have narrow leaves similar to var. <i>graminea</i> .

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

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Compositae (Asteraceae)	<i>Prenanthes exigua</i>	<i>Lygodesmia exigua</i>	prenanthes	AnnF	Wide	Rep	?	Schelz et al. (2006)	NA	
Compositae (Asteraceae)	<i>Senecio multilobatus</i>	<i>Packera multilobata</i>	basin groundsel	PerF	Wide	Pres	Com	Vermillion 66 (NABR)	1964	Type locality is Uinta River, Uintah Co., UT (Fremont 549 GH)
Compositae (Asteraceae)	<i>Senecio spartioides</i> var. <i>multicapitatus</i>	<i>S. multicapitatus</i>	many-headed groundsel	PerF	Wide	Rep	?	Schelz et al. (2006)	NA	
Compositae (Asteraceae)	<i>Senecio spartioides</i> var. <i>spartioides</i>		broom groundsel	PerF	Wide	Pres	Unc	Fleming 1102 (NABR)	1990	
Compositae (Asteraceae)	<i>Solidago canadensis</i> var. <i>salebrosa</i>	<i>S. altissima</i> , <i>S. lepida</i> var. <i>salebrosa</i>	Canadian goldenrod	PerF	Wide	Pres	Unc	Fertig 23021 (NABR)	2006	
Compositae (Asteraceae)	<i>Solidago velutina</i>	<i>S. sparsiflora</i> , <i>S. velutina</i> var. <i>sparsiflora</i>	three-nerve goldenrod	PerF	Wide	Pres	Com	Heil & Fleming 5674 (NABR)	1963	
Compositae (Asteraceae)	<i>Sonchus asper</i>		spiny-leaf sow-thistle	AnnF	Intro	Rep	?	Schelz et al. (2006)	1990	Fleming # 1077 has not been relocated for confirmation. Native to Europe
Compositae (Asteraceae)	<i>Sonchus oleraceus</i>		common sow-thistle	AnnF	Intro	Rep	Rare	Dewey & Andersen (2005)	2003	
Compositae (Asteraceae)	<i>Stephanomeria pauciflora</i>		brown-plume wire-lettuce	PerF	Wide	Rep	?	Schelz et al. (2006)	NA	
Compositae (Asteraceae)	<i>Stephanomeria tenuifolia</i> var. <i>tenuifolia</i>	<i>S. minor</i> var. <i>minor</i>	slender wire-lettuce	PerF	Wide	Pres	Unc	Fleming 1119 (NABR)	1990	
Compositae (Asteraceae)	<i>Taraxacum officinale</i>		common dandelion	PerF	Intro	Pres	Unc	Fleming 914 (NABR)	1990	Native to Eurasia
Compositae (Asteraceae)	<i>Townsendia incana</i>		hoary townsendia	PerF	Wide	Pres	Unc	Fleming 940 (NABR)	1933	
Compositae (Asteraceae)	<i>Tragopogon dubius</i>	<i>T. dubius</i> var. <i>major</i>	yellow salsify	PerF	Intro	Pres	Unc	Fertig 22607 (NABR)	2006	Native to Europe

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

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Compositae (Asteraceae)	<i>Verbesina encelioides</i> var. <i>exauriculata</i>	<i>Ximenesia encelioides</i>	golden crownbeard	AnnF	Wide	Pres	Unc	Heil & Fleming 5668 (NABR)	1963	
Compositae (Asteraceae)	<i>Wyethia scabra</i>	<i>Scabrethia scabra</i> ssp. <i>scabra</i>	rough mule's-ears	PerF	Wide	Rep	?	Schelz et al. (2006)	NA	
Compositae (Asteraceae)	<i>Xanthium strumarium</i> var. <i>canadense</i>	<i>X. pensylvanicum</i> , <i>X. saccharatum</i>	rough cocklebur	AnnF	Wide	Pres	Unc	Fleming 1121 (NABR)	1990	
Compositae (Asteraceae)	<i>Xylorhiza venusta</i>	<i>Machaeranthera venusta</i>	Cisco woodyaster	PerF	RegEn	Rep	?	Schelz et al. (2006)	NA	Type locality is Cisco, Grand Co., UT (Jones s.n. POM)
Convolvulaceae	<i>Convolvulus arvensis</i>		field bindweed	PerF	Intro	Rep	?	Schelz et al. (2006)	NA	Utah state noxious weed. Native to Eurasia
Cornaceae	<i>Cornus sericea</i> var. <i>sericea</i>	<i>C. stolonifera</i> , <i>Swida sericea</i>	red-osier dogwood	Shrub	Wide	Pres	Rare	Fleming 1059 (NABR)	1990	Cited by Welsh & Moore (1968) without a voucher.
Crossosomataceae (Celastraceae)	<i>Glossopetalon spinescens</i> var. <i>meionandrum</i>	<i>Forsellesia meionandra</i>	spiny greasebush	Shrub	RegEn	Pres	Unc	Belnap 301 (NABR)	1963	Cited as <i>F. nevadense</i> by Welsh & Moore (1968). NABR material may be var. <i>microphyllum</i> .
Cruciferae (Brassicaceae)	<i>Arabis holboellii</i> var. <i>secunda</i>	<i>A. holboellii</i> var. <i>retrofracta</i> , <i>Boecheira holboellii</i> var. <i>secunda</i> , <i>B. retrofracta</i>	Holboell's rockcress	PerF	Wide	Pres	Unc	Fleming 942 (NABR)	1990	
Cruciferae (Brassicaceae)	<i>Arabis perennans</i> var. <i>perennans</i>	<i>Boecheira perennans</i>	perennial rockcress	PerF	Wide	Pres	Unc	Harrison 5921 (BRY)	1933	
Cruciferae (Brassicaceae)	<i>Arabis pulchra</i> var. <i>pallens</i>	<i>Boecheira pulchra</i> var. <i>pallens</i>	desert rockcress	PerF	Wide	Rep	?	Schelz et al. (2006)	1990	Fleming # 909 has not been relocated for confirmation. Type locality is Westwater, Grand Co., UT (Jones s.n. US)

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

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Cruciferae (Brassicaceae)	<i>Arabis selbyi</i>	<i>Boechera selbyi</i> var. <i>selbyi</i>	Selby's rockcress	PerF	Wide	Pres	Unc	Fleming 943 (NABR)	1990	
Cruciferae (Brassicaceae)	<i>Caulanthus crassicaulis</i> var. <i>glaber</i>		smooth spindlestem	PerF	RegEn	Hist	?	Garrett 2464 (BRY)	1927	Type locality is Sink Valley (near Alton), Kane Co., UT (Jones s.n. POM)
Cruciferae (Brassicaceae)	<i>Descurainia californica</i>		California tansy-mustard	AnnF	Wide	Rep	?	Schelz et al. (2006)	NA	
Cruciferae (Brassicaceae)	<i>Descurainia pinnata</i> var. <i>nelsonii</i>		western tansy-mustard	AnnF	Wide	Pres	Unc	Fertig 27573 (NABR)	2006	
Cruciferae (Brassicaceae)	<i>Descurainia pinnata</i> var. <i>osmiarium</i>	<i>Descurainia pinnata</i> ssp. <i>halictorum</i>	western tansy-mustard	AnnF	Wide	Pres	Unc	Fleming 888 (NABR)	1964	
Cruciferae (Brassicaceae)	<i>Draba cuneifolia</i> var. <i>cuneifolia</i>		wedgeleaf draba	AnnF	Wide	Pres	Unc	Fleming 890 (NABR)	1964	
Cruciferae (Brassicaceae)	<i>Erysimum asperum</i> var. <i>purshii</i>	<i>E. asperum</i> var. <i>arkansanum</i> , included in var. <i>capitatum</i> by some authors	sand dune wallflower	PerF	Wide	Pres	Com	Fleming 887 (NABR)	1990	Type locality is near the Great Salt Lake, Salt Lake Co., UT (Carrington s.n.)
Cruciferae (Brassicaceae)	<i>Erysimum inconspicuum</i>		shy wallflower	PerF	Wide	Pres	Unc	Rydberg & Garrett 9402 (NY)	1911	
Cruciferae (Brassicaceae)	<i>Lepidium alyssoides</i> var. eastwoodiae	<i>L. montanum</i> var. <i>spatulatum</i> , <i>L.</i> eastwoodiae	Eastwood's tall pepperwort	PerF	RegEn	Pres	Unc	Welsh & Moore 2366 (BRY, NABR)	1963	
Cruciferae (Brassicaceae)	<i>Lepidium moabense</i>	Included in <i>L.</i> <i>alyssoides</i> var. eastwoodiae by some authors	Moab pepperplant	PerF	LocEn	Pres	Rare	Schelz s.n. (NABR)	2002	NABR population grows intermingled with <i>L. alyssoides</i> var. <i>eastwoodiae</i> . Type locality is 2 miles NNE of Moab, Grand Co., UT (Welsh 16351 BRY)

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

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Cruciferae (Brassicaceae)	<i>Lepidium montanum</i> var. <i>jonesii</i>		Jones' pepperwort	PerF	Wide	Pres	Com	Fleming 937 (NABR)	1911	Type locality is St. George, Washington Co., UT (Jones 1636 NY)
Cruciferae (Brassicaceae)	<i>Malcolmia africana</i>		African mustard	AnnF	Intro	Pres	Rare	Vermilion 68 (NABR)	1964	Native to Africa
Cruciferae (Brassicaceae)	<i>Physaria acutifolia</i> var. <i>acutifolia</i>	<i>P. australis</i>	sharp-leaf twinpod	PerF	Wide	Pres	Unc	Fertig 22570 (NABR)	2006	
Cruciferae (Brassicaceae)	<i>Physaria ludoviciana</i>	<i>Lesquerella ludoviciana</i>	silver bladderpod	PerF	Wide	Rep	Rare	Coles et al. (2008)	2004	Report from NABR veg mapping team may be based on <i>P. rectipes</i> .
Cruciferae (Brassicaceae)	<i>Physaria newberryi</i>	<i>P. newberryi</i> var. <i>racemosa</i>	Newberry's twinpod	PerF	RegEn	Pres	Com	Fleming 919 (NABR)	1964	Type locality of var. <i>racemosa</i> is Mokiah Pass road S of St. George, Washington Co., UT (Holmgren, Holmgren, & Barneby GH).
Cruciferae (Brassicaceae)	<i>Physaria rectipes</i>	<i>Lesquerella rectipes</i>	Colorado Plateau bladderpod	PerF	RegEn	Pres	Com	Fleming 1048 (NABR)	1963	
Cruciferae (Brassicaceae)	<i>Rorippa islandica</i> var. <i>hispida</i>	<i>R. palustris</i> var. <i>hispida</i>	hairy yellowcress	PerF	Wide	Rep	?	Schelz et al. (2006)	1990	Fleming # 1051 has not been relocated for confirmation.
Cruciferae (Brassicaceae)	<i>Sisymbrium altissimum</i>		tumble mustard	AnnF	Intro	Pres	Unc	Fleming 982 (NABR)	1963	Native to Europe
Cruciferae (Brassicaceae)	<i>Sisymbrium irio</i>		London mustard	AnnF	Intro	Rep	?	Schelz et al. (2006)	NA	Native to Europe
Cruciferae (Brassicaceae)	<i>Stanleya pinnata</i>	<i>S. pinnata</i> var. <i>pinnata</i>	prince's-plume	PerF	Wide	Pres	Rare	Vermilion 55 (NABR)	1963	
Cruciferae (Brassicaceae)	<i>Streptanthella longirostris</i>		long-beak fiddle-mustard	AnnF	Wide	Pres	Unc	Fleming & Etkorn 1157 (NABR)	1991	Type locality is Stansbury Island, Tooele Co., UT (Watson 72 NY)
Cruciferae (Brassicaceae)	<i>Streptanthus cordatus</i>	<i>S. cordatus</i> var. <i>cordatus</i>	heart-leaf jewelflower	PerF	Wide	Pres	Com	Fleming 893 (NABR)	1964	

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

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Cruciferae (Brassicaceae)	<i>Thelypodium integrifolium</i> var. <i>gracilipes</i>		Moab thelypody	PerF	RegEn	Pres	Com	Fleming 1125 (NABR)	1963	Cited as <i>T. rhomboideum</i> in Welsh & Moore (1968).
Cupressaceae	<i>Juniperus osteosperma</i>	<i>Sabina osteosperma</i>	Utah juniper	Tree	Wide	Pres	Abun	Fleming & Etzkorn 1151 (NABR)	1963	
Cupressaceae	<i>Juniperus scopulorum</i>	<i>Sabina scopulorum</i>	Rocky Mountain juniper	Tree	Wide	Pres	Rare	Welsh & Moore 2437 (BRY)	1963	
Cyperaceae	<i>Carex aurea</i>	<i>C. garberi</i>	golden sedge	PerG	Wide	Pres	Unc	Fleming 913 (NABR)	1964	
Cyperaceae	<i>Carex microptera</i>	<i>C. microptera</i> var. <i>microptera</i> , <i>C. festivella</i> , <i>C. macloviana</i> var. <i>microptera</i>	small-wing sedge	PerG	Wide	Pres	Rare	Fleming 1061 (NABR)	1990	
Cyperaceae	<i>Carex praeegracilis</i>		blackcreeper sedge	PerG	Wide	Pres	Unc	Moore 125 (BRY)	1964	
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	Unc	Fleming 898 (NABR)	1990	
Elaeagnaceae	<i>Shepherdia rotundifolia</i>		roundleaf buffaloberry	Shrub	RegEn	Pres	Com	Fleming 992 (NABR)	1933	Type locality is upper valley of the Virgin, Kane Co., UT (Siler s.n. ISC)
Ephedraceae	<i>Ephedra torreyana</i>		Torrey's ephedra	Shrub	Wide	Rep	?	Schelz et al. (2006)	NA	
Ephedraceae	<i>Ephedra viridis</i> var. <i>viridis</i>	<i>E. viridis</i>	green ephedra	Shrub	Wide	Pres	Com	Fleming 1068 (NABR)	1933	
Ephedraceae	<i>Ephedra viridis</i> var. <i>viscida</i>	<i>E. cutleri</i>	Cutler's ephedra	Shrub	RegEn	Rep	?	Schelz et al. (2006)	NA	
Equisetaceae	<i>Equisetum arvense</i>		field horsetail	Fern	Wide	Pres	Unc	Fleming 1046 (NABR)	1963	
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	Pres	Unc	Fleming 1044 (NABR)	1965	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Natural Bridges 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
Equisetaceae	<i>Equisetum laevigatum</i>	<i>Hippochaete laevigata</i> , <i>E. kansanum</i>	smooth scouring-rush	Fern	Wide	Pres	Unc	Welsh & Moore 2353 (BRY)	1963	Fertig 22585 (NABR) shows some influence of hybridization with <i>E. hyemale</i> (persistent teeth)
Ericaceae	<i>Arctostaphylos patula</i>		greenleaf manzanita	Shrub	Wide	Pres	Com	Belnap 290 (NABR)	1933	
Euphorbiaceae	<i>Chamaesyce fendleri</i>	<i>Euphorbia fendleri</i>	Fendler's spurge	PerF	Wide	Pres	Com	Fleming 1079 (NABR)	1963	
Euphorbiaceae	<i>Chamaesyce glyptosperma</i>	<i>Euphorbia glyptosperma</i>	ridge-seeded spurge	AnnF	Wide	Pres	Unc	Fleming 1078 (NABR)	1990	
Euphorbiaceae	<i>Euphorbia brachycera</i>	<i>E. robusta</i> , <i>E. brachycera</i> var. <i>robusta</i> , <i>Tithymalus brachyceras</i>	shorthorn spurge	PerF	Wide	Pres	Unc	Welsh & Moore 2419 (BRY)	1963	
Fagaceae	<i>Quercus gambelii</i> var. <i>gambelii</i>		Gambel oak	Tree	Wide	Pres	Abun	Fleming 1109 (NABR)	1963	
Fagaceae	<i>Quercus welshii</i>	<i>Q. havardii</i> var. <i>tuckeri</i> , <i>Q. undulata</i>	shinnery oak	Shrub	RegEn	Pres	Rare	Fleming 1008 (NABR)	1963	Type locality of <i>Q. havardii</i> var. <i>tuckeri</i> is Low Pass E of Kens Lake, San Juan Co., UT (Welsh & Higgins 23630 BRY)
Fumariaceae	<i>Corydalis aurea</i> var. <i>occidentalis</i>	<i>C. curvisiliqua</i> ssp. <i>occidentalis</i>	golden corydalis	PerF	Wide	Rep	?	Schelz et al. (2006)	NA	
Gentianaceae	<i>Swertia radiata</i>	<i>Frasera speciosa</i>	elkweed	PerF	Wide	Pres	Unc	Belnap 300 (NABR)	1963	
Gentianaceae	<i>Swertia utahensis</i>	<i>Frasera paniculata</i>	Utah swertia	PerF	RegEn	Pres	Rare	Fleming 988 (NABR)	1963	Type locality is Buckskin Mountains, Kaibab Plateau "on the southern edge of Utah", Kane Co., UT (Jones s.n. POM)
Geraniaceae	<i>Erodium cicutarium</i>		stork's-bill	AnnF	Intro	Pres	Unc	Fleming 894 (NABR)	1964	Native to Europe

Appendix A. Confirmed, historical, and reported vascular plant taxa of Natural Bridges 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>Geranium caespitosum</i> var. <i>marginale</i>	<i>G. caespitosum</i> var. <i>atropurpureum</i> , <i>G. atropurpureum</i>	small-leaf geranium	PerF	Wide	Rep	?	Schelz et al. (2006)	NA	Type locality of var. <i>marginale</i> is Aquarius Plateau, head of Poison Creek, Garfield Co., UT (Rydberg & Carlton 7401 NY)
Gramineae (Poaceae)	<i>Agropyron cristatum</i>	<i>A. cristatum</i> var. <i>cristatum</i> , <i>A. cristatum</i> ssp. <i>pectinatum</i> , <i>A. pectinatum</i> , <i>A. sibiricum</i> , <i>A. desertorum</i>	crested wheatgrass	PerG	Intro	Pres	Unc	Belnap 306 (NABR)	1963	Native to Eurasia. NABR includes typical and "desertorum" phases.
Gramineae (Poaceae)	<i>Agrostis exarata</i>		spike bentgrass	PerG	Wide	Pres	Unc	Belnap 304 (NABR)	1987	
Gramineae (Poaceae)	<i>Agrostis stolonifera</i>	<i>A. alba</i> , <i>A. gigantea</i>	redtop	PerG	Intro	Pres	Unc	Fleming 1045 (NABR)	1963	Native to Eurasia and Africa
Gramineae (Poaceae)	<i>Andropogon gerardii</i> var. <i>chrysocomus</i>	<i>A. hallii</i>	Hall's bluestem	PerG	Wide	Pres	Rare	Welsh & Moore 2376 (BRY)	1963	Cited as <i>A. scoparius</i> by Welsh and Moore (1968).
Gramineae (Poaceae)	<i>Andropogon gerardii</i> var. <i>gerardii</i>	<i>A. gerardii</i>	big bluestem	PerG	Wide	Pres	Unc	Fleming 1117 (NABR)	1990	
Gramineae (Poaceae)	<i>Aristida purpurea</i>	<i>A. glauca</i> , <i>A. purpurea</i> var. <i>fendleriana</i> , <i>A. purpurea</i> var. <i>longiseta</i> , <i>A. fendleriana</i>	purple three-awn	PerG	Wide	Pres	Unc	Fleming 1010 (NABR)	1963	
Gramineae (Poaceae)	<i>Avena fatua</i> var. <i>sativa</i>	<i>A. sativa</i>	oats	AnnG	Intro	Rep	?	Schelz et al. (2006)	NA	Variety not cited by Schelz et al. (2006) but assumed to be var. <i>sativa</i> based on range. Native to Eurasia

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

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Gramineae (Poaceae)	<i>Bouteloua curtipendula</i>		sideoats grama	PerG	Wide	Pres	Rare	Welsh & Moore 2451 (BRY)	1963	
Gramineae (Poaceae)	<i>Bouteloua gracilis</i>	<i>Chondrosium gracile</i>	blue grama	PerG	Wide	Pres	Rare	Welsh & Moore 2452 (BRY)	1963	
Gramineae (Poaceae)	<i>Bromus inermis</i> var. <i>inermis</i>	<i>Bromopsis inermis</i>	smooth brome	PerG	Intro	Pres	Unc	Belnap 294 (NABR)	1964	Native to Eurasia
Gramineae (Poaceae)	<i>Bromus japonicus</i>	<i>B. arvensis</i> , includes <i>B. commutatus</i>	Japanese chess	AnnG	Intro	Pres	Unc	Belnap 303 (NABR)	1987	Native to Eurasia. NABR specimens belong to <i>B. commutatus</i> phase.
Gramineae (Poaceae)	<i>Bromus rubens</i>		red brome	AnnG	Intro	Rep	?	Schelz et al. (2006)	NA	Native to Eurasia
Gramineae (Poaceae)	<i>Bromus tectorum</i>	<i>Anisantha tectorum</i>	cheatgrass	AnnG	Intro	Pres	Com	Fleming 944 (NABR)	1964	Native to Eurasia
Gramineae (Poaceae)	<i>Calamagrostis scopulorum</i>		Jones' reedgrass	PerG	Wide	Pres	Com	Fleming 1104 (NABR)	1963	Type locality is Springdale, Washington Co., UT (Jones 6075 POM)
Gramineae (Poaceae)	<i>Dactylis glomerata</i>		orchard grass	PerG	Intro	Rep	?	Schelz et al. (2006)	NA	Native to Eurasia and Africa
Gramineae (Poaceae)	<i>Distichlis spicata</i>	<i>D. spicata</i> var. <i>stricta</i> , <i>D. stricta</i>	desert saltgrass	PerG	Wide	Rep	?	Schelz et al. (2006)	NA	
Gramineae (Poaceae)	<i>Echinochloa crus-galli</i>	Includes <i>E. microstachya</i> , <i>E. muricata</i> var. <i>microstachya</i>	barnyard-grass	AnnG	Intro	Rep	?	Schelz et al. (2006)	NA	Native to Eurasia.
Gramineae (Poaceae)	<i>Elymus canadensis</i>	<i>E. canadensis</i> var. <i>canadensis</i>	Canada wildrye	PerG	Wide	Pres	Unc	Fleming 1082 (NABR)	1963	
Gramineae (Poaceae)	<i>Elymus elymoides</i>	<i>E. elymoides</i> var. <i>elymoides</i> , <i>Sitanion hystrix</i>	squirreltail	PerG	Wide	Pres	Unc	Fleming 1027 (NABR)	1990	
Gramineae (Poaceae)	<i>Elymus salinus</i>	<i>E. salina</i> , <i>Leymus salinus</i> , <i>L. salina</i> , <i>L. ambiguus</i>	Salina wildrye	PerG	Wide	Pres	Unc	Fertig s.n. (NABR)	2006	Type locality is top of Salina Pass, Sevier Co., UT (Jones 5447 POM)

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

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Gramineae (Poaceae)	<i>Elymus smithii</i>	<i>Agropyron smithii</i> , <i>Pascopyrum smithii</i> , includes vars. <i>smithii</i> and <i>palmeri</i>	western wheatgrass	PerG	Wide	Pres	Com	Fleming 1030 (NABR)	1963	
Gramineae (Poaceae)	<i>Elymus trachycaulus</i>	<i>E. 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	Unc	Belnap 292 (NABR)	1963	One collection at NABR herbarium tends towards <i>E. repens</i> .
Gramineae (Poaceae)	<i>Erioneuron pilosum</i>		hairy tridens	PerG	Wide	Pres	Rare	Welsh & Moore 2439 (BRY)	1963	
Gramineae (Poaceae)	<i>Festuca octoflora</i>	Includes vars. <i>glauca</i> , <i>hirtella</i> , & <i>octoflora</i> , <i>Vulpia octoflora</i>	six-weeks fescue	AnnG	Wide	Pres	Com	Fleming 1156 (NABR)	1990	
Gramineae (Poaceae)	<i>Festuca pratensis</i>	<i>Lolium pratense</i> , <i>Schedonorus pratensis</i>	meadow fescue	PerG	Intro	Pres	Unc	Fertig 22592 (NABR)	2006	Native to Eurasia
Gramineae (Poaceae)	<i>Glyceria striata</i>	Includes <i>Glyceria elata</i>	fowl mannagrass	PerG	Wide	Pres	Rare	Fleming 1054 (NABR)	1990	
Gramineae (Poaceae)	<i>Hilaria jamesii</i>	<i>Pleuraphis jamesii</i>	galleta	PerG	Wide	Pres	Unc	Welsh & Moore 2502 (BRY)	1963	
Gramineae (Poaceae)	<i>Hordeum jubatum</i>	<i>Critesion jubatum</i>	foxtail barley	PerG	Wide	Pres	Unc	Fleming 998 (NABR)	1963	
Gramineae (Poaceae)	<i>Muhlenbergia andina</i>		foxtail muhly	PerG	Wide	Pres	Unc	Welsh & Moore 2443 (BRY)	1963	
Gramineae (Poaceae)	<i>Muhlenbergia asperifolia</i>		scratchgrass	PerG	Wide	Pres	Unc	Fleming 1122 (NABR)	1963	
Gramineae (Poaceae)	<i>Muhlenbergia pauciflora</i>	Includes reports of <i>Muhlenbergia arsenei</i>	New Mexican muhly	PerG	Wide	Pres	Rare	Fleming 1120 (NABR)	1963	

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

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Gramineae (Poaceae)	<i>Muhlenbergia pungens</i>		sandhill muhly	PerG	Wide	Pres	Unc	Fertig 23023 (NABR)	2006	
Gramineae (Poaceae)	<i>Muhlenbergia thurberi</i>	Includes <i>M. curtifolia</i>	Thurber's muhly	PerG	Wide	Pres	Rare	Welsh & Moore 2349 (BRY)	1963	Type locality of <i>M. curtifolia</i> is between Kanab & Carmel, Kane Co., UT (Jones 6077; US)
Gramineae (Poaceae)	<i>Oryzopsis micrantha</i>	<i>Piptatherum micranthum</i>	littleseed ricegrass	PerG	Wide	Pres	Rare	Welsh & Moore 2399 (BRY)	1963	
Gramineae (Poaceae)	<i>Panicum acuminatum</i>	<i>P. occidentale</i> , <i>Dichantherium acuminatum</i> ssp. <i>fasciculatum</i> , <i>D. lanuginosum</i> var. <i>fasciculatum</i> , <i>P. tennesseense</i> , <i>P. huachucae</i>	bundle panicgrass	PerG	Wide	Pres	Rare	Fleming 1003 (NABR)	1963	
Gramineae (Poaceae)	<i>Phleum pratense</i>		timothy	PerG	Intro	Pres	Unc	Belnap 310 (NABR)	1963	Native to Eurasia
Gramineae (Poaceae)	<i>Phragmites australis</i>	<i>P. communis</i>	common reed	PerG	Wide	Pres	Unc	Fleming 1118 (NABR)	1963	
Gramineae (Poaceae)	<i>Poa bulbosa</i>		bulbous bluegrass	PerG	Intro	Pres	Rare	Stevens 189 (BRY)	1966	Native to Eurasia and Africa
Gramineae (Poaceae)	<i>Poa compressa</i>		Canada bluegrass	PerG	Intro	Pres	Unc	Moore 64 (BRY)	1964	Native to Eurasia
Gramineae (Poaceae)	<i>Poa fendleriana</i>	<i>P. longiligula</i> , <i>P. fendleriana</i> ssp. <i>longiligula</i> , includes reports of <i>P. cusickii</i> & <i>P. epilis</i>	muttongrass	PerG	Wide	Pres	Com	Belnap 314 (NABR)	1987	
Gramineae (Poaceae)	<i>Poa pratensis</i>	<i>P. agassizensis</i>	Kentucky bluegrass	PerG	Intro	Pres	Unc	Belnap 308 (NABR)	1987	Native to Europe

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

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Gramineae (Poaceae)	<i>Poa secunda</i>	Includes <i>P. gracillima</i> , <i>P. juncifolia</i> , <i>P. sandbergii</i> , <i>P. canbyi</i> , <i>P. scabrella</i> , <i>P. nevadensis</i> , <i>P. ampla</i> and vars. <i>secunda</i> & <i>elongata</i>	Sandberg's bluegrass	PerG	Wide	Rep	?	Schelz et al. (2006)	NA	
Gramineae (Poaceae)	<i>Polypogon monspeliensis</i>		rabbitfoot-grass	AnnG	Intro	Pres	Rare	Fleming 1022 (NABR)	1963	Native to Eurasia and Africa
Gramineae (Poaceae)	<i>Polypogon semiverticillatus</i>	<i>Agrostis semiverticillata</i> , <i>P. viridis</i>	water polypogon	PerG	Intro	Pres	Unc	Fleming 1106 (NABR)	1990	Native to Eurasia and Africa
Gramineae (Poaceae)	<i>Sporobolus airoides</i> var. <i>airoides</i>	<i>S. airoides</i>	alkali sacaton	PerG	Wide	Rep	?	Schelz et al. (2006)	NA	
Gramineae (Poaceae)	<i>Sporobolus cryptandrus</i>		sand dropseed	PerG	Wide	Pres	Com	Fleming 1111 (NABR)	1963	
Gramineae (Poaceae)	<i>Stipa comata</i> var. <i>comata</i>	<i>Hesperostipa comata</i> var. <i>comata</i>	needle-and-thread	PerG	Wide	Pres	Unc	Fleming 1069 (NABR)	1963	Cited by Welsh & Moore (1968) without a voucher.
Gramineae (Poaceae)	<i>Stipa coronata</i> var. <i>parishii</i>	<i>Achnatherum coronatum</i> , <i>A. parishii</i> ssp. <i>parishii</i> , <i>S. parishii</i>	crested needlegrass	PerG	Wide	Pres	Unc	Fleming & Heil 1039 (NABR)	1990	
Gramineae (Poaceae)	<i>Stipa hymenoides</i>	<i>Oryzopsis hymenoides</i> , <i>Achnatherum hymenoides</i>	Indian ricegrass	PerG	Wide	Pres	Com	Fertig 22575 (NABR)	2006	
Gramineae (Poaceae)	<i>Stipa lettermanii</i>	<i>Achnatherum lettermanii</i>	Letterman's needlegrass	PerG	Wide	Pres	Rare	Moore 105 (BRY)	1964	
Gramineae (Poaceae)	<i>Stipa speciosa</i>	<i>Achnatherum speciosum</i> , <i>Jarava speciosa</i>	desert needlegrass	PerG	Wide	Pres	Unc	Moore 130 (BRY)	1964	
Gramineae (Poaceae)	<i>Tridens muticus</i>	<i>T. muticus</i> var. <i>elongatus</i>	slim tridens	PerG	Wide	Rep	?	Schelz et al. (2006)	NA	
Hydrophyllaceae	<i>Phacelia crenulata</i> var. <i>corrugata</i>	Vars. not recognized by some authors	corrugate phacelia	AnnF	Wide	Rep	?	Schelz et al. (2006)	NA	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Natural Bridges 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
Hydrophyllaceae	<i>Phacelia heterophylla</i>	Includes ssp. <i>heterophylla</i> and var. <i>virgata</i>	wand phacelia	PerF	Wide	Rep	?	Schelz et al. (2006)	NA	
Hydrophyllaceae	<i>Phacelia ivesiana</i>		Ives' phacelia	AnnF	Wide	Pres	Unc	Fleming 1019 (NABR)	1990	
Juncaceae	<i>Juncus arcticus</i>	<i>J. balticus</i> var. <i>montanus</i> , includes ssp. <i>ater</i> , var. <i>mexicanus</i> , & var. <i>balticus</i>	Baltic rush	PerG	Wide	Pres	Com	Fowler & May 1111 (NABR)	1963	
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	Fleming 1024 (NABR)	1990	
Juncaceae	<i>Juncus ensifolius</i> var. <i>brunnescens</i>	<i>J. saximontanus</i> forma <i>brunnescens</i> . Included in <i>J. ensifolius</i> var. <i>montanus</i> by some authors.	Tracy's rush	PerG	Wide	Pres	Unc	Belnap 323 (NABR)	1963	
Juncaceae	<i>Juncus ensifolius</i> var. <i>montanus</i>	<i>J. saximontanus</i> , includes <i>J. tracyi</i> & <i>J. xiphooides</i>	mountain rush	PerG	Wide	Pres	Unc	Fleming 1065 (NABR)	1990	
Juncaceae	<i>Juncus longistylis</i>		longstyle rush	PerG	Wide	Pres	Unc	Fleming 1002 (NABR)	1963	
Juncaceae	<i>Juncus torreyi</i>		Torrey's rush	PerG	Wide	Pres	Rare	Welsh & Moore 2521 (BRY)	1963	
Lamiaceae (Labiatae)	<i>Hedeoma drummondii</i>		mock pennyroyal	PerF	Wide	Pres	Rare	Welsh & Moore 2440 (BRY)	1963	
Lamiaceae (Labiatae)	<i>Marrubium vulgare</i>		common horehound	PerF	Intro	Pres	Unc	Belnap 322 (NABR)	1987	Native to Eurasia

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

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Leguminosae (Fabaceae)	<i>Astragalus amphioxys</i> var. <i>vespertinus</i>		Sheldon's milkvetch	PerF	RegEn	Pres	Unc	Hanson 123 (NY)	1961	Welsh 1508 (BRY) cited in Welsh & Moore (1968) may also be var. <i>vespertinus</i> .
Leguminosae (Fabaceae)	<i>Astragalus ceramicus</i> var. <i>ceramicus</i>		painted milkvetch	PerF	Wide	Pres	Unc	Heil 6613 (NABR)	1964	
Leguminosae (Fabaceae)	<i>Astragalus coltonii</i> var. <i>moabensis</i>		Moab milkvetch	PerF	RegEn	Pres	Unc	Heil 6624 (NABR)	1991	Type locality is near Monticello, San Juan Co., UT (Eastwood 9 POM)
Leguminosae (Fabaceae)	<i>Astragalus cottamii</i>	<i>A. monumentalis</i> var. <i>cottamii</i>	Cottam's milkvetch	PerF	RegEn	Pres	Com	Fleming 938 (NABR)	1966	Type locality is E of Clay Hills Divide, San Juan Co., UT (Welsh 5207 BRY). Former USFWS 3C candidate
Leguminosae (Fabaceae)	<i>Astragalus moencoppensis</i>		Moenkopi milkvetch	PerF	RegEn	Rep	?	Schelz et al. (2006)	1991	Heil # 6627 has not been relocated for confirmation.
Leguminosae (Fabaceae)	<i>Astragalus mollissimus</i> var. <i>thompsoniae</i>		woolly milkvetch	PerF	Wide	Pres	Com	Heil 6612 (NABR)	1963	Type locality is Kanab, Kane Co., UT (Thompson s.n. GH)
Leguminosae (Fabaceae)	<i>Astragalus nidularius</i>		birds-nest milkvetch	PerF	LocEn	Pres	Unc	Welsh 1507 (BRY)	1955	Type locality is White Canyon, 2 miles below Kachina Bridge, San Juan Co., UT (Barneby 12778 CAS). Former USFWS 3C candidate
Leguminosae (Fabaceae)	<i>Astragalus scopolorum</i>	Includes reports of <i>A. adanus</i> for UT	Rocky Mountain milkvetch	PerF	Wide	Pres	Rare	Welsh & Atwood 8950 (NY)	1969	
Leguminosae (Fabaceae)	<i>Astragalus wingatanus</i>		Fort Wingate milkvetch	PerF	RegEn	Pres	Com	Moore 49 (BRY)	1964	

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

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Leguminosae (Fabaceae)	<i>Dalea flavescens</i> var. <i>flavescens</i>	<i>Petalostemon flavescens</i>	Kanab prairie-clover	PerF	RegEn	Pres	Rare	Moore 66 (BRY)	1964	Type locality is "Kanab" (but probably from farther east (Thompson s.n. GH)
Leguminosae (Fabaceae)	<i>Dalea oligophylla</i>	<i>Petalostemon candidum</i> , <i>P. occidentale</i> , <i>D. candida</i> var. <i>oligophylla</i>	white prairie-clover	PerF	Wide	Pres	Rare	Welsh & Moore 2420 (BRY)	1963	
Leguminosae (Fabaceae)	<i>Lathyrus brachycalyx</i> var. <i>zionis</i>		Zion sweetpea	PerF	RegEn	Pres	Unc	Welsh & Moore 7159 (BRY)	1968	Type locality is 10 miles E of Zion NP, Kane Co., UT (Hitchcock 19013 isotype NY)
Leguminosae (Fabaceae)	<i>Lupinus argenteus</i> var. <i>moabensis</i>		Moab lupine	PerF	RegEn	Pres	Unc	Blackburn s.n. (NABR)	1973	Type locality is Professor Valley Ranch, Grand Co., UT (Welsh & Taylor 14632 BRY)
Leguminosae (Fabaceae)	<i>Lupinus caudatus</i> var. <i>utahensis</i>	<i>L. argenteus</i> var. <i>utahensis</i>	Utah lupine	PerF	Wide	Rep	?	Schelz et al. (2006)	NA	Variety not reported by Schelz et al. (2006), but most likely to be var. <i>utahensis</i> based on range given by Barneby (1989). Type locality is Wasatch Mountains or Antelope Island, Salt Lake Co., UT (Watson s.n. GH)
Leguminosae (Fabaceae)	<i>Lupinus kingii</i> var. <i>kingii</i>		King's lupine	AnnF	Wide	Rep	?	Schelz et al. (2006)	NA	Type locality is Heber Valley, Wasatch Co., UT (Watson 234 GH)

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

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Leguminosae (Fabaceae)	<i>Lupinus polyphyllus</i> var. <i>ammophilus</i>	<i>L. ammophilus</i>	sand lupine	PerF	RegEn	Pres	Unc	Welsh 1500 (BRY)	1961	
Leguminosae (Fabaceae)	<i>Lupinus pusillus</i> var. <i>pusillus</i>		dwarf lupine	AnnF	Wide	Rep	?	Schelz et al. (2006)	NA	
Leguminosae (Fabaceae)	<i>Medicago lupulina</i>		black medick	AnnF	Intro	Rep	Rare	Coles et al. (2008)	2004	Native to Europe
Leguminosae (Fabaceae)	<i>Medicago sativa</i>	<i>M. sativa</i> var. <i>sativa</i>	alfalfa	PerF	Intro	Pres	Rare	Belnap 326 (NABR)	1964	Native to Europe
Leguminosae (Fabaceae)	<i>Melilotus alba</i>	<i>M. albus</i> . Included in <i>M. officinalis</i> by some authors	white sweet-clover	AnnF	Intro	Pres	Unc	Fleming 1016 (NABR)	1963	Native to Europe
Leguminosae (Fabaceae)	<i>Melilotus officinalis</i>		yellow sweet-clover	PerF	Intro	Pres	Unc	Fleming 1015 (NABR)	1963	Native to Europe
Leguminosae (Fabaceae)	<i>Pediomelum aromaticum</i> var. <i>aromaticum</i>	<i>Psoralea aromatica</i>	aromatic breadroot	PerF	LocEn	Pres	Rare	Fertig 22601 (NABR)	2006	
Leguminosae (Fabaceae)	<i>Psoralidium lanceolatum</i> var. <i>stenophyllum</i>	Vars. not recognized by some authors.	slenderleaf scurfpea	PerF	RegEn	Rep	?	Schelz et al. (2006)	NA	Variety not reported by Schelz et al. (2006) but most likely to be var. <i>stenophyllum</i> based on range. Reports of vars. <i>lanceolatum</i> & <i>stenostachys</i> are in error. Type locality is near Wilson Mesa, Grand Co., UT (Rydberg & Garrett 8367 NY)
Leguminosae (Fabaceae)	<i>Psoralea thompsoniae</i> var. <i>thompsoniae</i>		Thompson's indigo-bush	Shrub	LocEn	Pres	Rare	Schwartz 254 (NY)	1982	Type locality in N AZ, near Kanab, or along the Colorado River in SE UT or AZ (Thompson s.n. US). Former USFWS 3C candidate

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

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Leguminosae (Fabaceae)	<i>Thermopsis montana</i>	<i>T. pinetorum</i> , <i>T. rhombifolia</i> var. <i>montana</i> , includes var. <i>ovata</i>	montane golden pea	PerF	Wide	Pres	Rare	Fleming 932 (NABR)	1990	
Leguminosae (Fabaceae)	<i>Trifolium longipes</i> var. <i>rusbyi</i>	<i>T. longipes</i> ssp. <i>pygmaeum</i>	Rusby's clover	PerF	Wide	Pres	Unc	Welsh & Moore 7150 (BRY)	1968	
Liliaceae (Alliaceae)	<i>Allium macropetalum</i>		San Juan onion	PerF	Wide	Pres	Unc	Blackburn s.n. (NABR)	1973	
Liliaceae (Alliaceae or Themidaceae)	<i>Androstaphium breviflorum</i>		pink funnel-lily	PerF	Wide	Pres	Rare	Blackburn s.n. (NABR)	1973	Type locality is near Kanab, Kane Co., UT (Thompson s.n.)
Liliaceae (Calochortaceae)	<i>Calochortus flexuosus</i>		sinuous mariposa	PerF	Wide	Rep	?	Schelz et al. (2006)	NA	Type locality is near Kanab, Kane Co., UT (Thompson s.n. GH)
Liliaceae (Calochortaceae)	<i>Calochortus nuttallii</i>		sego-lily	PerF	Wide	Pres	Unc	Moore 45 (BRY)	1964	State flower of Utah.
Liliaceae (Alliaceae or Anthericaceae)	<i>Eremocrinum albomarginatum</i>		sand lily	PerF	RegEn	Rep	?	Schelz et al. (2006)	NA	Type locality is near Green River, Emery Co., UT (Jones s.n. POM)
Liliaceae (Convallariaceae or Ruscaceae)	<i>Smilacina stellata</i>	<i>Maianthemum stellatum</i>	starry false Solomon's-seal	PerF	Wide	Pres	Unc	Fleming 926 (NABR)	1963	
Liliaceae (Melanthiaceae)	<i>Zigadenus elegans</i>	<i>Anticlea elegans</i>	mountain death camas	PerF	Wide	Rep	?	Schelz et al. (2006)	NA	Report may be based on <i>Z. vaginatus</i> .
Liliaceae (Melanthiaceae)	<i>Zigadenus vaginatus</i>	<i>Anticlea vaginatus</i> . Included in <i>Z. elegans</i> by some authors.	alcove death camas	PerF	LocEn	Pres	Unc	Heil & Fleming 5669 (NABR)	1911	Type locality is Natural Bridges NM, San Juan Co., UT (Rydberg & Garrett 9407 NY). Former USFWS 3C candidate
Liliaceae (Melanthiaceae)	<i>Zigadenus venenosus</i>	<i>Z. venenosus</i> var. <i>venenosus</i> , <i>Toxicoscordion venenosum</i>	meadow death camas	PerF	Wide	Pres	Rare	Blackburn s.n. (NABR)	1973	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Natural Bridges 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
Linaceae	<i>Linum aristatum</i>	<i>Mesynium aristatum</i>	broom-flax	AnnF	Wide	Pres	Unc	Welsh & Moore 2477 (BRY)	1963	
Linaceae	<i>Linum perenne</i> ssp. <i>lewisii</i>	<i>L. lewisii</i> var. <i>lewisii</i> , <i>Adenolinum lewisii</i>	blue flax	PerF	Wide	Pres	Unc	Welsh & Moore 2391 (BRY)	1963	
Linaceae	<i>Linum subteres</i>		Utah yellow-flax	PerF	RegEn	Pres	Com	Fleming 1005 (NABR)	1990	Type locality is Willow Creek, San Juan Co., UT (Eastwood s.n.)
Loasaceae	<i>Mentzelia marginata</i>	<i>M. marginata</i> var. <i>cronquistii</i> , <i>M. cronquistii</i>	Colorado stickleaf	PerF	RegEn	Pres	Rare	Welsh & Moore 2406 (NY)	1963	Type locality is 75 miles W of Blanding and 10 miles E of Hite, San Juan Co., UT (Cronquist 9030 NY)
Loasaceae	<i>Mentzelia multiflora</i>	<i>Nuttallia multiflora</i>	desert stickleaf	PerF	Wide	Pres	Unc	Moore 154 (BRY)	1964	
Malvaceae	<i>Sphaeralcea coccinea</i>	Includes spp. <i>coccinea</i> , <i>elata</i> , & <i>dissecta</i>	scarlet globe-mallow	PerF	Wide	Rep	Unc	Coles et al. (2008)		
Malvaceae	<i>Sphaeralcea parvifolia</i>		small-leaf globemallow	PerF	Wide	Pres	Unc	Moore 111 (BRY)	1964	
Nyctaginaceae	<i>Abronia fragrans</i>	<i>A. elliptica</i> , <i>A. fragrans</i> var. <i>elliptica</i> , <i>A. nana</i> var. <i>harrisii</i>	fragrant sand-verbena	PerF	Wide	Pres	Unc	Fertig 22609 (NABR)	2006	
Nyctaginaceae	<i>Mirabilis linearis</i> var. <i>linearis</i>	<i>Oxybaphus linearis</i> , <i>O. decumbens</i>	narrow-leaf four-o'clock	PerF	Wide	Pres	Rare	Welsh & Moore 2510 (NY)	1963	
Nyctaginaceae	<i>Mirabilis multiflora</i>	Includes vars. <i>multiflora</i> , <i>pubescens</i> , & <i>glandulosa</i>	showy four-o'clock	PerF	Wide	Pres	Unc	Vermilion 76 (NABR)	1991	
Nyctaginaceae	<i>Mirabilis oxybaphoides</i>		spreading four-o'clock	PerF	Wide	Pres	Rare	Welsh & Moore 2429 (BRY)	1963	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Natural Bridges 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
Oleaceae	<i>Fraxinus anomala</i>		singleleaf ash	Shrub	Wide	Pres	Com	Fleming 896 (NABR)	1963	Type locality is Labyrinth Canyon, San Juan Co., UT (Newberry s.n. NY)
Onagraceae	<i>Calylophus lavandulifolius</i>	<i>C. hartwegii</i> ssp. <i>lavandulifolius</i>	lavender-leaf sundrops	PerF	Wide	Pres	Com	Vermilion 9 (NABR)	1963	
Onagraceae	<i>Oenothera albicaulis</i>		white-stem evening-primrose	AnnF	Wide	Rep	?	Schelz et al. (2006)	NA	
Onagraceae	<i>Oenothera caespitosa</i> var. <i>caespitosa</i>	<i>O. caespitosa</i> var. <i>caespitosa</i>	tufted evening-primrose	PerF	Wide	Rep	Unc	Welsh & Moore (1968)	1963	Cited in Welsh & Moore (1968) without a voucher and without citing a variety.
Onagraceae	<i>Oenothera elata</i>	<i>O. elata</i> ssp. <i>hirsutissima</i>	western evening-primrose	PerF	Wide	Pres	Unc	Fertig 23026 (NABR)	2006	
Onagraceae	<i>Oenothera flava</i> var. <i>flava</i>	<i>O. flava</i>	yellow evening-primrose	PerF	Wide	Pres	Rare	Moore 88 (BRY)	1964	
Onagraceae	<i>Oenothera longissima</i>		Bridges evening-primrose	PerF	RegEn	Pres	Com	Fleming 1123 (NABR)	1911	Type locality is Armstrong & White canyons (Natural Bridges NM), San Juan Co., UT (Rydberg & Garrett 9410 NY)
Onagraceae	<i>Oenothera pallida</i> var. <i>pallida</i>	Includes var. <i>runcinata</i>	pale evening-primrose	PerF	Wide	Pres	Unc	Fleming 1124 (NABR)	1963	
Orchidaceae	<i>Epipactis gigantea</i>		giant helleborine	PerF	Wide	Pres	Rare	Fowler & May 1176 (NABR)	1963	
Orchidaceae	<i>Habenaria zothecina</i>	<i>Platanthera zothecina</i> , <i>Limnorchis zothecina</i>	alcove bog-orchid	PerF	RegEn	Pres	Rare	Welsh & Moore 2410 (BRY)	1963	Type locality is ca 1 mile N of Moab, Grand Co., UT (Welsh & Higgins 23269 BRY). UT BLM Sensitive. Former USFWS C2 candidate

Appendix A. Confirmed, historical, and reported vascular plant taxa of Natural Bridges 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
Orobanchaceae	<i>Orobanche ludoviciana</i> var. <i>cooperi</i>	<i>O. cooperi</i> . Includes reports of <i>O. multiflora</i> . Vars. not recognized by some authors	Cooper's broomrape	PerF	Wide	Pres	Unc	Fertig 22598 (NABR)	2006	
Pinaceae	<i>Abies lasiocarpa</i>	<i>A. bifolia</i>	subalpine fir	Tree	Wide	Pres	Rare	Fowler & May 1253 (RM)	1993	
Pinaceae	<i>Pinus edulis</i>		two-needle pinyon	Tree	Wide	Pres	Abun	Fleming & Etzkorn 1152 (NABR)	1933	
Pinaceae	<i>Pinus ponderosa</i> var. <i>scopulorum</i>		ponderosa pine	Tree	Wide	Pres	Rare	Fleming 1062 (NABR)	1963	
Pinaceae	<i>Pseudotsuga menziesii</i> var. <i>glauca</i>		Douglas-fir	Tree	Wide	Pres	Unc	Fleming 987 (NABR)	1933	
Plantaginaceae	<i>Plantago patagonica</i>	Includes vars. <i>gnaphaloides</i> , <i>spinulosa</i> , & <i>breviscapa</i>	woolly plantain	AnnF	Wide	Pres	Unc	Fleming & Etzkorn 1160 (NABR)	1991	
Polemoniaceae	<i>Gilia imperialis</i>	<i>G. latifolia</i> var. <i>imperialis</i> , <i>Aliciella latifolia</i> ssp. <i>imperialis</i>	Cataract gilia	AnnF	LocEn	Pres	Unc	Moore 42 (BRY)	1964	Type locality is Cataract Canyon N of Imperial Canyon, San Juan Co., UT (Welsh 22507 BRY). UT BLM Sensitive
Polemoniaceae	<i>Gilia inconspicua</i>	Includes var. <i>inconspicua</i> & <i>sinuata</i> . <i>G. ophthalmoides</i> , <i>G. sinuata</i> , <i>G. clokeyi</i>	shy gilia	AnnF	Wide	Pres	Com	Fleming 916 (NABR)	1990	NABR material is var. <i>inconspicua</i> .
Polemoniaceae	<i>Gilia leptomeria</i> var. <i>leptomeria</i>	<i>Aliciella leptomeria</i>	common gilia	AnnF	Wide	Pres	Unc	Moore 120 (BRY)	1964	
Polemoniaceae	<i>Gilia subnuda</i>	<i>Aliciella subnuda</i>	carmine gilia	PerF	RegEn	Pres	Com	Belnap 296 (NABR)	1963	
Polemoniaceae	<i>Ipomopsis aggregata</i> var. <i>aggregata</i>	<i>Gilia aggregata</i> var. <i>aggregata</i>	scarlet gilia	PerF	Wide	Pres	Unc	Fleming 930 (NABR)	1963	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Natural Bridges 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>Ipomopsis congesta</i> var. <i>frutescens</i>	<i>Gilia congesta</i> var. <i>frutescens</i>	shrubby <i>gilia</i>	PerF	RegEn	Pres	Unc	Moore 114 (BRY)	1964	Confirmation needed – could be <i>Ipomopsis roseata</i> . Type locality is Springdale, Washington Co., UT (Jones 5247 NY)
Polemoniaceae	<i>Ipomopsis gunnisonii</i>	<i>Gilia gunnisonii</i>	Gunnison's <i>gilia</i>	AnnF	RegEn	Rep	?	Schelz et al. (2006)	NA	Type locality is "sand banks of the Green River", UT (Cruetzfeldt s.n. NY)
Polemoniaceae	<i>Ipomopsis roseata</i>	<i>Gilia roseata</i>	San Rafael <i>gilia</i>	PerF	RegEn	Pres	Com	Vermillion 2 (NABR)	1991	
Polemoniaceae	<i>Leptodactylon pungens</i>	<i>Linanthus pungens</i>	prickly-phlox	Shrub	Wide	Pres	Unc	Heil 6621 (NABR)	1991	Cited by Welsh & Moore (1968) without a voucher.
Polemoniaceae	<i>Phlox hoodii</i> var. <i>canescens</i>	Includes spp. <i>glabrata</i> , <i>hoodii</i> , & <i>viscidula</i>	carpet phlox	PerF	Wide	Rep	?	Schelz et al. (2006)	NA	Type locality of var. <i>canescens</i> is S of Great Salt Lake, Tooele Co., UT (Beckwith 4 GH)
Polemoniaceae	<i>Phlox longifolia</i>	Includes vars. <i>longifolia</i> & <i>stansburyi</i>	long-leaf phlox	PerF	Wide	Pres	Unc	Blackburn s.n. (NABR)	1968	
Polygonaceae	<i>Eriogonum alatum</i>	<i>E. alatum</i> var. <i>alatum</i> , <i>Pterogonum alatum</i>	winged wild buckwheat	PerF	Wide	Pres	Unc	Topp ST061104002 (NABR)	2004	
Polygonaceae	<i>Eriogonum cernuum</i> var. <i>cernuum</i>		nodding wild buckwheat	AnnF	Wide	Pres	Unc	Welsh & Moore 2467 (BRY)	1963	
Polygonaceae	<i>Eriogonum corymbosum</i> var. <i>corymbosum</i>	Includes var. <i>velutinum</i> and <i>E. lancifolium</i> .	crisp-leaf wild buckwheat	Shrub	Wide	Rep	?	Schelz et al. (2006)	NA	
Polygonaceae	<i>Eriogonum corymbosum</i> var. <i>orbiculatum</i>		rimrock wild buckwheat	Shrub	RegEn	Pres	Rare	Welsh & Moore 2522 (BRY)	1963	Type locality is Green River, Emery Co., UT (Jones s.n. POM)

Appendix A. Confirmed, historical, and reported vascular plant taxa of Natural Bridges 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 deflexum</i>	<i>E. deflexum</i> var. <i>deflexum</i>	skeletonweed wild buckwheat	AnnF	Wide	Rep	?	Schelz et al. (2006)	NA	
Polygonaceae	<i>Eriogonum inflatum</i> var. <i>fusiforme</i>	<i>E. fusiforme</i>	Grand Valley desert trumpet	AnnF	RegEn	Rep	?	Schelz et al. (2006)	NA	
Polygonaceae	<i>Eriogonum microthecum</i> var. <i>simpsonii</i>	<i>E. microthecum</i> var. <i>foliosum</i>	slender wild buckwheat	Shrub	Wide	Pres	Unc	Heil & Fleming 5672 (NABR)	1911	
Polygonaceae	<i>Eriogonum ovalifolium</i>	Includes vars. <i>ovalifolium</i> & <i>purpureum</i>	cushion wild buckwheat	PerF	Wide	Rep	?	Schelz et al. (2006)	NA	
Polygonaceae	<i>Eriogonum racemosum</i> var. <i>racemosum</i>	<i>E. racemosum</i>	redroot wild buckwheat	PerF	Wide	Rep	?	Schelz et al. (2006)	NA	
Polygonaceae	<i>Eriogonum umbellatum</i> var. <i>subaridum</i>		arid wild buckwheat	PerF	Wide	Rep	?	Schelz et al. (2006)	NA	
Polygonaceae	<i>Eriogonum wetherillii</i>		Wetherill's wild buckwheat	AnnF	RegEn	Rep	?	Schelz et al. (2006)	NA	Type locality is along the San Juan River, San Juan Co., UT (Eastwood 124 CAS)
Polygonaceae	<i>Polygonum aviculare</i>	<i>P. arenastrum</i> , includes spp. <i>aviculare</i> , <i>buxiforme</i> , <i>depressum</i> , & <i>neglectum</i>	yard knotweed	AnnF	Intro	Pres	Unc	Fleming 1020 (NABR)	1963	Native to Eurasia.
Polygonaceae	<i>Rumex hymenosepalus</i>		canaigre dock	PerF	Wide	Pres	Unc	Fleming & Etzkorn 1154 (NABR)	1991	
Polyodiaceae (Adiantaceae)	<i>Adiantum capillus-veneris</i>		southern maidenhair fern	Fern	Wide	Pres	Unc	Vermilion 36 (NABR)	1963	
Polyodiaceae (Adiantaceae or Sinopteridaceae)	<i>Cheilanthes feei</i>		slender lip-fern	Fern	Wide	Pres	Unc	Belnap 318 (NABR)	1933	

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

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Polypodiaceae (Adiantaceae or Sinopteridaceae)	<i>Pellaea glabella</i> var. <i>occidentalis</i>	<i>P. occidentalis</i>	western cliffbrake	Fern	Periph	Pres	Unc	Fleming 1076 (NABR)	1990	
Polypodiaceae (Adiantaceae or Sinopteridaceae)	<i>Pellaea limitanea</i>	<i>Argyrochosma</i> <i>limitanea</i> , <i>Notholanea</i> <i>limitanea</i>	border cloak- fern	Fern	Periph	Pres	Rare	Schelz s.n. (NABR)	2002	
Portulacaceae	<i>Portulaca oleracea</i>		common purslane	AnnF	Intro	Pres	Unc	Fleming 1073 (NABR)	1990	Native to E North America
Portulacaceae	<i>Talinum</i> <i>brevifolium</i>	<i>Phemeranthus</i> <i>brevifolius</i>	sausageleaf talinum	PerF	Wide	Rep	?	Schelz et al. (2006)	NA	
Ranunculaceae (Helleboraceae)	<i>Aquilegia</i> <i>flavescens</i>	Includes vars. <i>flavescens</i> & <i>miniata</i>	yellow columbine	PerF	Wide	Rep	?	Schelz et al. (2006)	NA	Report may be based on <i>A.</i> <i>micrantha</i> . Type locality is Wasatch Mountains, Salt Lake Co., UT (Watson 35 YU)
Ranunculaceae (Helleboraceae)	<i>Aquilegia</i> <i>micrantha</i>		alcove columbine	PerF	RegEn	Pres	Unc	Fowler & May 1141 (NABR)	1963	Type locality is Bluff, San Juan Co., UT (Wetherill s.n. CAS)
Ranunculaceae	<i>Clematis</i> <i>columbiana</i>	<i>C. pseudoalpina</i> , <i>Atragene</i> <i>columbiana</i>	Columbian virgin's-bower	PerF	Wide	Pres	Unc	Fleming 921 (NABR)	1963	
Ranunculaceae	<i>Clematis</i> <i>hirsutissima</i>	<i>C. hirsutissima</i> var. <i>hirsutissima</i> , <i>Coriflra</i> <i>hirsutissima</i>	sugar-bowls	PerF	Wide	Rep	?	Schelz et al. (2006)	NA	
Ranunculaceae	<i>Clematis</i> <i>ligusticifolia</i>		white virgin's- bower	PerF	Wide	Pres	Abun	Fleming 1033 (NABR)	1963	
Ranunculaceae (Helleboraceae)	<i>Delphinium</i> <i>andersonii</i> var. <i>scaposum</i>	<i>D. scaposum</i>	pale larkspur	PerF	Wide	Rep	?	Schelz et al. (2006)	NA	
Ranunculaceae (Helleboraceae)	<i>Delphinium</i> <i>nuttallianum</i>	<i>D. nelsonii</i>	Nuttall's larkspur	PerF	Wide	Pres	Unc	Welsh & Moore 7145 (BRY)	1968	
Ranunculaceae	<i>Ranunculus</i> <i>cymbalaria</i>	<i>Halerpestes</i> <i>cymbalaria</i>	marsh buttercup	PerF	Wide	Pres	Unc	Fleming 1021 (NABR)	1963	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Natural Bridges 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 testiculatus</i>	<i>Ceratocephala orthoceras</i> , <i>C. testiculata</i>	bur buttercup	AnnF	Intro	Rep	?	Schelz et al. (2006)	NA	Native to Eurasia
Rhamnaceae	<i>Rhamnus betulifolia</i>	<i>Frangula betulifolia</i>	birchleaf buckthorn	Shrub	Wide	Pres	Unc	Fowler & May 1183 (NABR)	1963	
Rosaceae	<i>Amelanchier utahensis</i>	Includes vars. <i>utahensis</i> & <i>cusickii</i>	Utah serviceberry	Shrub	Wide	Pres	Com	Fleming 900 (NABR)	1963	Type locality is Toquerville, Washington Co., UT (Jones 1716 GH)
Rosaceae	<i>Cercocarpus intricatus</i>	<i>C. ledifolius</i> var. <i>intricatus</i>	dwarf mountain mahogany	Shrub	Wide	Pres	Abun	Fleming 991 (NABR)	1911	Type locality is American Fork Canyon, Utah Co., UT (Watson 314 US)
Rosaceae	<i>Cercocarpus ledifolius</i> var. <i>intermontanus</i>	<i>C. ledifolius</i> var. <i>intercedens</i>	curl-leaf mountain mahogany	Shrub	Wide	Rep	?	Schelz et al. (2006)	NA	Type locality is ca 10 km E of Oak City, Millard Co., UT (Holmgren & Holmgren 11298 NY)
Rosaceae	<i>Cercocarpus montanus</i>		alder-leaf mountain mahogany	Shrub	Wide	Pres	Com	Fleming 904 (NABR)	1963	
Rosaceae	<i>Coleogyne ramosissima</i>		blackbrush	Shrub	Wide	Rep	?	Schelz et al. (2006)	NA	
Rosaceae	<i>Holodiscus dumosus</i>	<i>H. discolor</i>	bush oceanspray	Shrub	Wide	Pres	Unc	Fleming 985 (NABR)	1963	
Rosaceae	<i>Peraphyllum ramosissimum</i>		squaw-apple	Shrub	Wide	Pres	Unc	Fleming 935 (NABR)	1990	
Rosaceae	<i>Petrophyton caespitosum</i>	<i>Spiraea caespitosa</i>	rock spiraea	PerF	Wide	Pres	Unc	Fleming 1132 (NABR)	1963	
Rosaceae	<i>Physocarpus alternans</i>		dwarf ninebark	Shrub	Wide	Pres	Unc	Fleming 1011 (NABR)	1968	
Rosaceae	<i>Prunus virginiana</i> var. <i>melanocarpa</i>	<i>Padus virginiana</i> ssp. <i>melanocarpa</i>	western chokecherry	Shrub	Wide	Pres	Unc	Fleming 1058 (NABR)	1990	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Natural Bridges 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>Purshia mexicana</i> var. <i>stansburyana</i>	<i>P. stansburiana</i> , <i>Cowania mexicana</i>	cliff-rose	Shrub	Wide	Pres	Unc	Welsh & Moore 2453 (BRY)	1963	Type locality of var. <i>stansburyana</i> is Great Salt Lake, Davis Co., UT (Stansbury s.n. NY)
Rosaceae	<i>Rosa woodsii</i>	<i>R. woodsii</i> var. <i>ultramontana</i>	Woods' rose	Shrub	Wide	Pres	Unc	Welsh & Moore 2426 (BRY)	1963	
Rubiaceae	<i>Galium aparine</i> var. <i>echinospermon</i>	<i>G. spurium</i>	cleavers	AnnF	Wide	Rep	?	Schelz et al. (2006)	NA	
Rubiaceae	<i>Galium multiflorum</i> var. <i>coloradoense</i>	<i>G. coloradoense</i>	Colorado bedstraw	PerF	RegEn	Pres	Unc	Belnap 316 (NABR)	1963	
Rubiaceae	<i>Galium multiflorum</i> var. <i>multiflorum</i>	<i>G. multiflorum</i>	shrubby bedstraw	PerF	Wide	Pres	Unc	Fertig 22583 (NABR)	2006	
Salicaceae	<i>Populus alba</i>		white poplar	Tree	Intro	Rep	?	Schelz et al. (2006)	NA	Native to Eurasia. Cultivated?
Salicaceae	<i>Populus angustifolia</i>		narrow-leaved cottonwood	Tree	Wide	Pres	Unc	Fleming 1072 (NABR)	1963	
Salicaceae	<i>Populus fremontii</i> var. <i>fremontii</i>	<i>P. deltoides</i> var. <i>fremontii</i>	Fremont cottonwood	Tree	Wide	Pres	Abun	Fleming 986 (NABR)	1963	
Salicaceae	<i>Populus x intercurrentens</i>	<i>P. acuminata</i> , <i>P. x acuminata</i>	lance-leaf cottonwood	Tree	Wide	Pres	Com	Heil 6611 (NABR)	1963	Type locality is Jesse Ewing Canyon, Daggett Co., UT (Goodrich 24441 BRY)
Salicaceae	<i>Salix amygdaloides</i>		peach-leaf willow	Tree	Wide	Rep	NA	Heil 6615 (NABR)	1990	Heil specimen from NABR is on loan and has not been verified
Salicaceae	<i>Salix eriocephala</i> var. <i>watsonii</i>	<i>S. lutea</i> , <i>S. rigida</i> var. <i>watsonii</i>	yellow willow	Shrub	Wide	Pres	Unc	Fleming 923 (NABR)	1990	One NABR specimen approaches var. <i>ligulifolia</i> .
Salicaceae	<i>Salix exigua</i> var. <i>stenophylla</i>	<i>S. exigua</i> var. <i>exigua</i>	coyote willow	Shrub	Wide	Pres	Unc	Heil 6614 (NABR)	1963	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Natural Bridges 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 lucida</i> ssp. <i>caudata</i>	<i>S. lasiandra</i> var. <i>caudata</i>	whiplash willow	Shrub	Wide	Pres	Com	Welsh & Moore 2415 (BRY)	1963	
Santalaceae	<i>Comandra umbellata</i> var. <i>pallida</i>		bastard toadflax	PerF	Wide	Pres	Com	Fleming 910 (NABR)	1933	
Scrophulariaceae	<i>Castilleja chromosa</i>	<i>C. angustifolia</i> var. <i>dubia</i> , <i>C. applegatei</i> ssp. <i>martinii</i>	desert paintbrush	PerF	Wide	Pres	Com	Harrison 5917 (BRY)	1933	Confirmation needed – could be <i>C. scabrida</i> var. <i>scabrida</i>
Scrophulariaceae	<i>Castilleja linariifolia</i>	<i>C. linariaefolia</i>	Wyoming paintbrush	PerF	Wide	Pres	Com	Fleming 1034 (NABR)	1963	
Scrophulariaceae	<i>Castilleja scabrida</i> var. <i>scabrida</i>		Eastwood's paintbrush	PerF	RegEn	Pres	Unc	Fleming 901 (NABR)	1990	
Scrophulariaceae	<i>Cordylanthus kingii</i> var. <i>kingii</i>		King's bird's-beak	AnnF	RegEn	Rep	?	Schelz et al. (2006)	NA	
Scrophulariaceae	<i>Cordylanthus wrightii</i>		Wright's bird's-beak	AnnF	Wide	Pres	Unc	Belnap 486 (NABR)	1963	
Scrophulariaceae	<i>Linaria dalmatica</i>	<i>L. genistifolia</i> var. <i>dalmatica</i>	Dalmatian toadflax	PerF	Intro	Rep	Rare	Dewey & Andersen (2005)	2003	
Scrophulariaceae	<i>Mimulus eastwoodiae</i>		Eastwood's monkeyflower	PerF	RegEn	Pres	Unc	Fleming 1071 (NABR)	1990	Type locality is San Juan River near Bluff, San Juan Co., UT (Rydberg 9883 NY)
Scrophulariaceae	<i>Mimulus guttatus</i>		yellow monkeyflower	PerF	Wide	Rep	?	Schelz et al. (2006)	NA	
Scrophulariaceae	<i>Mimulus rubellus</i>		reddish monkeyflower	AnnF	Wide	Rep	?	Schelz et al. (2006)	NA	
Scrophulariaceae	<i>Pedicularis centranthera</i>		dwarf lousewort	PerF	Wide	Pres	Unc	Fleming 897 (NABR)	1964	
Scrophulariaceae	<i>Penstemon barbatus</i> var. <i>barbatus</i>	Includes var. <i>torreyi</i>	beardlip penstemon	PerF	Wide	Rep	?	Schelz et al. (2006)	NA	

Appendix A. Confirmed, historical, and reported vascular plant taxa of Natural Bridges 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>Penstemon comarrhenus</i>		dusty penstemon	PerF	RegEn	Pres	Unc	Belnap 295 (NABR)	1964	Type locality is Aquarius Plateau, Garfield Co., UT (Ward 462 GH)
Scrophulariaceae	<i>Penstemon cyanocaulis</i>		bluestem penstemon	PerF	RegEn	Pres	Unc	Moore 113 (BRY)	1964	
Scrophulariaceae	<i>Penstemon eatonii</i> var. <i>eatonii</i>		Eaton's firecracker	PerF	Wide	Pres	Unc	Moore 129 (BRY)	1964	Type locality is lower Provo Canyon, Utah Co., UT (Watson 776 GH)
Scrophulariaceae	<i>Penstemon lentus</i> var. <i>albiflorus</i>		whiteflower penstemon	PerF	LocEn	Pres	Rare	Welsh & Moore 7136 (BRY)	1963	Type locality is 8 miles W of Blanding, San Juan Co., UT Porter 1801 RM)
Scrophulariaceae	<i>Penstemon palmeri</i> var. <i>palmeri</i>		Palmer's penstemon	PerF	Wide	Pres	Unc	Fertig 22611 (NABR)	2006	NABR population may be cultivated.
Scrophulariaceae	<i>Penstemon rostriflorus</i>	<i>P. bridgesii</i>	beaked penstemon	PerF	Wide	Rep	?	Schelz et al. (2006)	1990	Fleming # 1056 has not been relocated for confirmation.
Scrophulariaceae	<i>Penstemon strictiformis</i>		Natural Bridges penstemon	PerF	RegEn	Pres	Unc	Belnap 324 (NABR)	1987	Type locality is Mancos, Montezuma Co., CO (Baker, Earle, & Tracy 76 NY)
Scrophulariaceae	<i>Penstemon strictus</i>		Rocky Mountain penstemon	PerF	Wide	Pres	Unc	Moore 166 (BRY)	1964	
Scrophulariaceae	<i>Penstemon utahensis</i>		Utah penstemon	PerF	Wide	Rep	?	Heil 6603 (NABR)	1990	Label data from Heil collection are vague and contradictory – specimen may be from outside NABR. Type locality is between Hatch's Wash & Monticello, San Juan Co., UT (Eastwood s.n. CAS)

Appendix A. Confirmed, historical, and reported vascular plant taxa of Natural Bridges 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>Veronica americana</i>		American brooklime	PerF	Wide	Pres	Unc	Fleming 1081 (NABR)	1990	
Scrophulariaceae	<i>Veronica anagallis-aquatica</i>		water speedwell	PerF	Intro	Pres	Unc	Fleming 1043 (NABR)	1990	Native to Europe
Solanaceae	<i>Datura wrightii</i>	<i>D. meteloides</i>	angel's trumpet	AnnF	Wide	Rep	?	Schelz et al. (2006)	NA	
Solanaceae	<i>Lycium andersonii</i>		Anderson's wolfberry	Shrub	Wide	Rep	?	Schelz et al. (2006)	NA	
Solanaceae	<i>Lycium pallidum</i>		pale wolfberry	Shrub	Wide	Pres	Unc	Blackburn s.n. (NABR)	1963	
Solanaceae	<i>Nicotiana attenuata</i>		coyote tobacco	AnnF	Wide	Pres	Unc	Fleming 1095 (NABR)	1963	
Solanaceae	<i>Solanum triflorum</i>		cut-leaf nightshade	AnnF	Wide	Pres	Unc	Fleming 1086 (NABR)	1990	
Tamaricaceae	<i>Tamarix chinensis</i>	<i>T. pentandra</i> , <i>T. ramosissima</i>	five-stamen tamarisk	Shrub	Intro	Pres	Unc	Fleming 1035 (NABR)	1963	Native to Eurasia
Typhaceae	<i>Typha latifolia</i>		broad-leaved cattail	PerG	Wide	Pres	Rare	Welsh & Moore 2478 (BRY)	1963	
Ulmaceae (Celtidaceae)	<i>Celtis reticulata</i>	<i>C. laevigata</i> var. <i>reticulata</i>	netleaf hackberry	Tree	Wide	Pres	Rare	Welsh & Moore 2448 (NY)	1963	
Umbelliferae (Apiaceae)	<i>Aletes maddougallii</i> var. <i>breviradiatus</i>	<i>Cymopterus maddougallii</i> var. <i>breviradiatus</i>	canyonland spring-parsley	PerF	RegEn	Pres	Unc	Fowler & May 1219 (NABR)	1933	
Umbelliferae (Apiaceae)	<i>Cymopterus acaulis</i> var. <i>fendleri</i>	<i>C. fendleri</i> , <i>C. glomeratus</i>	Fendler's cymopterus	PerF	Wide	Pres	Unc	Fleming & Etkorn 1155 (NABR)	1991	
Umbelliferae (Apiaceae)	<i>Cymopterus hendersonii</i>	<i>C. longilobus</i> , <i>Pteryxia hendersonii</i>	mountain spring-parsley	PerF	Wide	Pres	Rare	Blackburn s.n. (NABR)	1973	Type locality of <i>C. longilobus</i> is Abajo Mountains, San Juan Co., UT (Rydberg & Garrett 9761 NY)
Umbelliferae (Apiaceae)	<i>Cymopterus purpurascens</i>		basin white-cup spring-parsley	PerF	Wide	Pres	Rare	Blackburn s.n. (NABR)	1973	

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

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Pop. size	Source	Year doc.	Comments
Umbelliferae (Apiaceae)	<i>Cymopterus purpureus</i> var. <i>purpureus</i>	<i>C. purpureus</i>	Colorado Plateau spring-parsley	PerF	RegEn	Pres	Unc	Fleming & Etzkorn 1150 (NABR)	1991	
Umbelliferae (Apiaceae)	<i>Cymopterus terebinthinus</i> var. <i>petraeus</i>	<i>C. petraeus</i> , <i>Aletes petraeus</i> , <i>Pteryxia petraea</i>	rock spring-parsley	PerF	Wide	Pres	Unc	Fleming 927 (NABR)	1990	
Umbelliferae (Apiaceae)	<i>Lomatium parryi</i>		Parry's lomatium	PerF	Wide	Pres	Unc	Fleming 895 (NABR)	1964	Type locality is "Southern Utah" (Parry 85)
Verbenaceae	<i>Verbena bracteata</i>		prostrate vervain	PerF	Wide	Pres	Unc	Belnap 320 (NABR)	1987	
Viscaceae	<i>Arceuthobium divaricatum</i>		pinyon dwarf-mistletoe	PerF	Wide	Pres	Com	Fleming 1127 (NABR)	1963	Typically parasitic on <i>Pinus edulis</i> and <i>P. monophylla</i>
Viscaceae	<i>Phoradendron juniperinum</i>		juniper mistletoe	PerF	Wide	Pres	Com	Fleming 1141 (NABR)	1963	Typically parasitic on <i>Juniperus osteosperma</i>
Zygophyllaceae	<i>Tribulus terrestris</i>		puncture vine	AnnF	Intro	Rep	?	Schelz et al. (2006)	NA	Native to Eurasia

Appendix B. Potential (unconfirmed) vascular plant taxa of Natural Bridges National Monument.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Comments
Apocynaceae	<i>Amsonia jonesii</i>		Jones' amsonia	PerF	RegEn	
Asclepiadaceae	<i>Asclepias labriformis</i>		Circle Cliffs milkweed	PerF	RegEn	Type locality is Capitol Wash, Wayne Co., UT (Jones 5650 POM)
Asclepiadaceae	<i>Asclepias latifolia</i>		broadleaf milkweed	PerF	Wide	
Asclepiadaceae	<i>Asclepias macrosperma</i>	Included in <i>A. involucreata</i> by some authors	bigseed milkweed	PerF	RegEn	
Boraginaceae	<i>Cryptantha capitata</i>		head cryptanth	PerF	RegEn	
Boraginaceae	<i>Cryptantha cinerea</i> var. <i>jamesii</i>	<i>C. jamesii</i> , <i>Oreocarya suffruticosa</i>	James' cryptanth	PerF	Wide	
Boraginaceae	<i>Cryptantha cinerea</i> var. <i>pustulosa</i>	<i>C. pustulosa</i>	San Juan cryptanth	PerF	RegEn	Type locality is Elk Mts, San Juan Co., UT (Rydberg & Garrett 9320 NY)
Boraginaceae	<i>Cryptantha circumscissa</i>		cushion cryptanth	AnnF	Wide	
Boraginaceae	<i>Cryptantha osterhoutii</i>	<i>Oreocarya osterhoutii</i>	Osterhout's cryptanth	PerF	RegEn	Type locality is Monument Park (Colorado National Monument), near Grand Junction, Mesa Co., CO (Osterhout 6138 RM)
Boraginaceae	<i>Cryptantha pterocarya</i> var. <i>pterocarya</i>		wing-nut cryptanth	AnnF	Wide	
Boraginaceae	<i>Pectocarya heterocarpa</i>		mixed-nut combseed	AnnF	Periph	
Cactaceae	<i>Echinocereus engelmannii</i> var. <i>variegatus</i>	<i>E. engelmannii</i> var. <i>decumbens</i> . Vars. not recognized by some authors.	Glen Canyon hedgehog cactus	PerF	RegEn	
Cactaceae	<i>Opuntia macrorhiza</i> var. <i>macrorhiza</i>	<i>O. macrorhiza</i>	twist-spine pricklypear	PerF	Wide	
Cactaceae	<i>Opuntia polyacantha</i> var. <i>rufispina</i>	Included with <i>O. polyacantha</i> var. <i>polyacantha</i> by some authors	rufous-spine pricklypear	PerF	Wide	
Cactaceae	<i>Opuntia polyacantha</i> var. <i>trichophora</i>	Included with <i>O. polyacantha</i> var. <i>polyacantha</i> by some authors	slenderspine pricklypear	PerF	Periph	
Caprifoliaceae (Adoxaceae)	<i>Sambucus caerulea</i>	<i>S. nigra</i> ssp. <i>caerulea</i> , <i>S. caerulea</i>	blue elderberry	Shrub	Wide	

Appendix B. Potential (unconfirmed) vascular plant taxa of Natural Bridges National Monument, cont.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Comments
Chenopodiaceae	<i>Atriplex garrettii</i> var. <i>garrettii</i>		Garrett's saltbush	Shrub	LocEn	Type locality is vicinity of Moab, Grand Co., UT (Rydberg & Garrett 8465 NY)
Chenopodiaceae	<i>Atriplex obovata</i>		New Mexico saltbush	Shrub	Periph	
Chenopodiaceae	<i>Atriplex prostrata</i>	<i>A. patula</i> var. <i>triangularis</i>	thinleaf orach	AnnF	Wide	
Chenopodiaceae	<i>Chenopodium album</i> var. <i>berlandieri</i>	<i>C. berlandieri</i> var. <i>zschackei</i>	pitseed goosefoot	AnnF	Wide	
Chenopodiaceae	<i>Chenopodium atrovirens</i>	<i>C. fremontii</i> var. <i>atrovirens</i>	mountain goosefoot	AnnF	Wide	
Chenopodiaceae	<i>Chenopodium fremontii</i> var. <i>incanum</i>	<i>C. incanum</i> var. <i>incanum</i> , <i>C. incanum</i> var. <i>occidentale</i>	silvery goosefoot	AnnF	Wide	
Chenopodiaceae	<i>Cycloloma atriplicifolia</i>	<i>C. atriplicifolium</i>	winged pigweed	AnnF	Wide	
Chenopodiaceae	<i>Halogeton glomeratus</i>		halogeton	AnnF	Intro	Native to Eurasia
Chenopodiaceae	<i>Monolepis nuttalliana</i>		Nuttall's poverty-weed	AnnF	Wide	
Chenopodiaceae	<i>Suaeda torreyana</i> var. <i>torreyana</i>	<i>S. moquinii</i> , <i>S. nigra</i>	Torrey's seepweed	AnnF	Wide	
Commelinaceae	<i>Tradescantia occidentalis</i>	<i>T. occidentalis</i> var. <i>occidentalis</i>	western spiderwort	PerF	Wide	
Compositae (Asteraceae)	<i>Agoseris aurantiaca</i> var. <i>purpurea</i>		purplish agoseris	PerF	Wide	
Compositae (Asteraceae)	<i>Ambrosia artemisiifolia</i>	<i>A. artemisiifolia</i> var. <i>elatior</i>	common ragweed	AnnF	Wide	
Compositae (Asteraceae)	<i>Arctium minus</i>		burdock	PerF	Intro	Native to Eurasia
Compositae (Asteraceae)	<i>Artemisia filifolia</i>	<i>Oligosporus filifolius</i>	sand sagebrush	Shrub	Wide	
Compositae (Asteraceae)	<i>Artemisia ludoviciana</i> var. <i>albula</i>		Louisiana wormwood	PerF	Wide	
Compositae (Asteraceae)	<i>Artemisia nova</i> var. <i>nova</i>	<i>A. arbuscula</i> var. <i>nova</i> , <i>Seriphidium novum</i>	black sagebrush	Shrub	Wide	
Compositae (Asteraceae)	<i>Aster frondosus</i>	<i>Symphyotrichum frondosum</i> , <i>Brachyactis frondosa</i>	leafy aster	AnnF	Wide	
Compositae (Asteraceae)	<i>Bahia dissecta</i>		cutleaf	PerF	Wide	

Appendix B. Potential (unconfirmed) vascular plant taxa of Natural Bridges National Monument, cont.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Comments
Compositae (Asteraceae)	<i>Bidens cernua</i>		nodding bur-marigold	PerF	Wide	
Compositae (Asteraceae)	<i>Brickellia atractyloides</i>		spiny brickellbush	Shrub	Wide	Type locality is "Rio Colorado, UT" (Palmer s.n. GH), but is probably from NV or AZ (<i>Utah Flora</i> 2003)
Compositae (Asteraceae)	<i>Brickellia oblongifolia</i> var. <i>linifolia</i>		Mohave brickellbush	Shrub	Wide	Type locality of var. <i>linifolia</i> is American Fork, Jordan Valley, Utah Co., UT (Watson 493 YU)
Compositae (Asteraceae)	<i>Centaurea maculosa</i>	<i>C. biebersteinii</i> , <i>Acosta maculosa</i>	spotted knapweed	PerF	Intro	Utah state noxious weed. Native to Europe
Compositae (Asteraceae)	<i>Centaurea repens</i>	<i>Acroptilon repens</i>	Russian knapweed	PerF	Intro	UT state noxious weed. Native to Eurasia
Compositae (Asteraceae)	<i>Chrysothamnus pulchellus</i> var. <i>baileyi</i>	<i>Ericameria pulchella</i>	pretty rabbitbrush	Shrub	Periph	
Compositae (Asteraceae)	<i>Chrysothamnus vaseyi</i>		Vasey's rabbitbrush	Shrub	Wide	
Compositae (Asteraceae)	<i>Cichorium intybus</i>		chicory	PerF	Intro	Native to Eurasia
Compositae (Asteraceae)	<i>Cirsium arizonicum</i>	Includes vars. <i>arizonicum</i> & <i>nidulum</i>	Arizona thistle	PerF	Wide	Type locality of var. <i>nidulum</i> is Paria, Kane Co., UT (Jones 5290a POM).
Compositae (Asteraceae)	<i>Cirsium neomexicanum</i> var. <i>neomexicanum</i>		New Mexico thistle	PerF	Wide	
Compositae (Asteraceae)	<i>Cirsium undulatum</i> var. <i>tracyi</i>	<i>C. tracyi</i>	Tracy's thistle	PerF	RegEn	Type locality is Mancos, Colorado (Baker, Earle, & Tracy 90)
Compositae (Asteraceae)	<i>Dicoria brandegei</i>	<i>D. canescens</i> ssp. <i>brandegei</i> . Includes var. <i>wetherillii</i>	Brandegee's sandplant	AnnF	RegEn	
Compositae (Asteraceae)	<i>Erigeron bellidiastrum</i>	<i>E. bellidiastrum</i> var. <i>bellidiastrum</i>	pretty daisy	AnnF	Wide	
Compositae (Asteraceae)	<i>Euthamia occidentalis</i>	<i>Solidago occidentalis</i>	western goldenrod	PerF	Wide	
Compositae (Asteraceae)	<i>Flaveria campestris</i>		marshweed	AnnF	Sparse	
Compositae (Asteraceae)	<i>Gaillardia pinnatifida</i>		Hopi blanketflower	PerF	Wide	

Appendix B. Potential (unconfirmed) vascular plant taxa of Natural Bridges National Monument, cont.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Comments
Compositae (Asteraceae)	<i>Gaillardia spathulata</i>		basin blanketflower	PerF	RegEn	Type locality is Rabbit Valley, Wayne Co., UT (Ward 401 GH)
Compositae (Asteraceae)	<i>Gnaphalium palustre</i>		lowland cudweed	AnnF	Wide	
Compositae (Asteraceae)	<i>Helianthus anomalus</i>	Includes <i>H. deserticola</i>	sand sunflower	AnnF	RegEn	Type locality of <i>H. anomalus</i> is desert S of Hanksville, Wayne Co., UT (Stanton 328 US). Type locality of <i>H. deserticola</i> is 3.3 miles W of Hurricane, Washington Co., UT (Stoutamire 2574 US)
Compositae (Asteraceae)	<i>Lactuca tatarica</i> var. <i>pulchella</i>	<i>L. pulchella</i> , <i>L. oblongifolia</i>	blue lettuce	PerF	Wide	
Compositae (Asteraceae)	<i>Machaeranthera tanacetifolia</i>		tansyleaf aster	AnnF	Wide	
Compositae (Asteraceae)	<i>Psathyrotes pilifera</i>		piliferous turtleback	AnnF	RegEn	Type locality is near Kanab, Kane Co., UT (Thompson s.n. GH)
Compositae (Asteraceae)	<i>Ratibida columnifera</i>		prairie coneflower	PerF	Sparse	
Compositae (Asteraceae)	<i>Senecio douglasii</i> var. <i>longilobus</i>	<i>S. longilobus</i> , <i>S. flaccidus</i> var. <i>douglasii</i>	Douglas' groundsel	PerF	Wide	
Compositae (Asteraceae)	<i>Stephanomeria exigua</i>		white-plume wire-lettuce	AnnF	Wide	
Compositae (Asteraceae)	<i>Tetradymia canescens</i>		spineless horsebrush	Shrub	Wide	
Compositae (Asteraceae)	<i>Thelesperma subnudum</i> var. <i>subnudum</i>		scapose greenthread	PerF	Wide	Type locality is "Southern Utah" (Parry 109 GH)
Compositae (Asteraceae)	<i>Thymophylla acerosa</i>	<i>Dyssodia acerosa</i>	dogweed	PerF	Wide	
Compositae (Asteraceae)	<i>Thymophylla pentachaeta</i> var. <i>belenidium</i>	<i>Dyssodia pentachaeta</i> var. <i>belenidium</i>	scale glandweed	PerF	Wide	
Compositae (Asteraceae)	<i>Townsendia annua</i>		annual townsendia	AnnF	Wide	Type locality is Cottonwood Wash, 1 1/2 miles N of Bluff, San Juan Co., UT (Maguire 13509 GH)
Compositae (Asteraceae)	<i>Vanceleva stylosa</i>		resinbush	Shrub	RegEn	Type locality is near Epsom Creek (between Bluff and Mexican Hat), San Juan Co., UT (Eastwood 36 CAS)

Appendix B. Potential (unconfirmed) vascular plant taxa of Natural Bridges National Monument, cont.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Comments
Compositae (Asteraceae)	<i>Xylorhiza tortifolia</i> var. <i>imberbis</i>	<i>Machaeranthera tortifolia</i> var. <i>imberbis</i>	hurtleaf woodyaster	PerF	RegEn	Type locality is E bank of Green River W of Moab (Cronquist 8994 NY)
Cruciferae (Brassicaceae)	<i>Arabis demissa</i>	<i>Boecheira demissa</i> var. <i>languida</i> , <i>B. demissa</i> var. <i>demissa</i> , <i>B. oxyllobula</i>	nodding rock cress	PerF	Wide	Type locality of var. <i>russeola</i> is 18 miles N of Vernal, Uintah Co., UT (Rollins 1757 GH). Former USFWS 3C candidate
Cruciferae (Brassicaceae)	<i>Arabis holboellii</i> var. <i>fendleri</i>	<i>A. holboellii</i> var. <i>fendleri</i> , <i>Boecheira fendleri</i> var. <i>spatifolia</i>	Fendler's rockcress	PerF	Wide	
Cruciferae (Brassicaceae)	<i>Capsella bursa-pastoris</i>		shepherd's-purse	AnnF	Intro	Native to Europe
Cruciferae (Brassicaceae)	<i>Chorispora tenella</i>		blue mustard	AnnF	Intro	Native to Asia
Cruciferae (Brassicaceae)	<i>Conringia orientalis</i>		hare's-ear mustard	AnnF	Intro	Native to Europe
Cruciferae (Brassicaceae)	<i>Descurainia pinnata</i> var. <i>filipes</i>	<i>D. incisa</i> var. <i>filipes</i>	western tansy-mustard	AnnF	Wide	
Cruciferae (Brassicaceae)	<i>Descurainia pinnata</i> var. <i>intermedia</i>	Included in <i>D. pinnata</i> var. <i>osmiarum</i> by some authors	western tansy-mustard	AnnF	Wide	
Cruciferae (Brassicaceae)	<i>Hutchinsia procumbens</i>	<i>Hornungia procumbens</i> , <i>Hymenolobus</i> <i>procumbens</i>	ovalpurse	AnnF	Wide	
Cruciferae (Brassicaceae)	<i>Lepidium densiflorum</i> var. <i>densiflorum</i>	Includes var. <i>macrocarpum</i> according to some authors	prairie pepperwort	AnnF	Wide	
Cruciferae (Brassicaceae)	<i>Lepidium densiflorum</i> var. <i>ramosum</i>		prairie pepperwort	AnnF	Wide	
Cruciferae (Brassicaceae)	<i>Lepidium perfoliatum</i>		clasping pepperwort	AnnF	Intro	Native to Europe
Cruciferae (Brassicaceae)	<i>Schoenocrambe linifolia</i>	<i>Sisymbrium linifolium</i>	flax-leaved plainsmustard	PerF	Wide	
Cruciferae (Brassicaceae)	<i>Stanleya integrifolia</i>	<i>S. pinnata</i> var. <i>integrifolia</i>	smoothleaf prince's-plume	PerF	Wide	
Cyperaceae	<i>Carex nebrascensis</i>		Nebraska sedge	PerG	Wide	

Appendix B. Potential (unconfirmed) vascular plant taxa of Natural Bridges National Monument, cont.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Comments
Cyperaceae	<i>Eleocharis palustris</i>	Includes <i>E. macrostachya</i> , <i>E. erythropoda</i> , & <i>E.</i> <i>uniglumis</i>	common spikerush	PerG	Wide	
Gentianaceae	<i>Centaureium calycosum</i>	<i>C. arizonicum</i>	Buckley's centaury	AnnF	Periph	
Gentianaceae	<i>Gentianella heterosepala</i>	<i>G. amarella</i> var. <i>heterosepala</i>	Engelmann's gentian	PerF	Wide	
Gramineae (Poaceae)	<i>Elymus hispidus</i>	<i>Elymus hispidus</i> var. <i>hispidus</i> , <i>Agropyron</i> <i>intermedium</i> , <i>Elytrigia</i> <i>intermedia</i> , <i>Thinopyrum</i> <i>intermedium</i>	intermediate wheatgrass	PerG	Intro	Native to Eurasia
Gramineae (Poaceae)	<i>Elymus lanceolatus</i>	<i>E. lanceolatus</i> var. <i>lanceolatus</i> , <i>Agropyron</i> <i>dasytachyum</i> var. <i>dasytachyum</i> , <i>A.</i> <i>dasytachyum</i> var. <i>riparium</i> , <i>A. albicans</i> var. <i>albicans</i> , <i>A. albicans</i> var. <i>griffithsii</i>	thickspike wheatgrass	PerG	Wide	
Gramineae (Poaceae)	<i>Munroa squarrosa</i>	<i>Monroa squarrosa</i>	false buffalograss	AnnG	Wide	
Gramineae (Poaceae)	<i>Panicum obtusum</i>		vine mesquite	PerG	Wide	
Gramineae (Poaceae)	<i>Stipa neomexicana</i>	<i>Hesperostipa</i> <i>neomexicana</i>	New Mexico feathergrass	PerG	Wide	
Leguminosae (Fabaceae)	<i>Astragalus amphioxys</i> var. <i>amphioxys</i>		crescent milkvetch	PerF	Wide	
Leguminosae (Fabaceae)	<i>Astragalus bisulcatus</i> var. <i>haydenianus</i>	<i>A. haydenianus</i>	Hayden's milkvetch	PerF	Wide	
Leguminosae (Fabaceae)	<i>Astragalus calycosus</i> var. <i>calycosus</i>		Torrey's milkvetch	PerF	Wide	
Leguminosae (Fabaceae)	<i>Astragalus drummondii</i>		Drummond's milkvetch	PerF	Wide	Reported by Welsh et al. (2003) from vicinity of monument.
Leguminosae (Fabaceae)	<i>Astragalus praelongus</i> var. <i>lonchopus</i>		longstipe milkvetch	PerF	RegEn	
Leguminosae (Fabaceae)	<i>Glycyrrhiza lepidota</i>	<i>G. lepidota</i> var. <i>lepidota</i>	Nuttall's licorice	PerF	Wide	

Appendix B. Potential (unconfirmed) vascular plant taxa of Natural Bridges National Monument, cont.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Comments
Leguminosae (Fabaceae)	<i>Hedysarum boreale</i> var. <i>boreale</i>	Welsh et al. (2003) includes var. <i>pabulare</i>	northern sweetvetch	PerF	Wide	
Leguminosae (Fabaceae)	<i>Oxytropis lambertii</i> var. <i>bigelovii</i>	Includes var. <i>lambertii</i>	Lambert's locoweed	PerF	Wide	
Leguminosae (Fabaceae)	<i>Pediomelum megalanthum</i>	<i>Psoralea megalantha</i> , <i>Pediomelum megalanthum</i> var. <i>megalanthum</i>	large-flowered breadroot	PerF	RegEn	
Linaceae	<i>Linum australe</i>	<i>Mesynium australe</i>	small yellow flax	AnnF	Sparse	
Linaceae	<i>Linum puberulum</i>	<i>Mesynium puberulum</i>	downy flax	AnnF	Wide	
Loasaceae	<i>Mentzelia albicaulis</i>	<i>Acrolasia albicaulis</i> , <i>A. gracilis</i> , <i>M. obscura</i>	white-stem blazingstar	AnnF	Wide	
Malvaceae	<i>Sphaeralcea grossulariifolia</i>	<i>S. grossulariifolia</i> var. <i>grossulariifolia</i>	gooseberry-leaf globemallow	PerF	Wide	
Malvaceae	<i>Sphaeralcea leptophylla</i>		slenderleaf globemallow	PerF	Wide	
Onagraceae	<i>Epilobium ciliatum</i>	<i>E. ciliatum</i> var. <i>ciliatum</i> , <i>E. watsonii</i> , <i>E. adenocaulon</i>	northern willow-herb	PerF	Wide	
Onagraceae	<i>Oenothera caespitosa</i> var. <i>marginata</i>	<i>O. caespitosa</i> var. <i>marginata</i>	long-tube evening-primrose	PerF	Wide	
Onagraceae	<i>Oenothera caespitosa</i> var. <i>navajoensis</i>		Paria evening-primrose	PerF	RegEn	Type locality is Paria River, Kane Co., UT (Cronquist 10202 MO)
Orobanchaceae	<i>Orobancha fasciculata</i>	<i>Aphyllon fasciculatum</i>	clustered broomrape	PerF	Wide	
Polygalaceae	<i>Polygala subspinosa</i>		cushion milkwort	PerF	Wide	
Polygonaceae	<i>Eriogonum salsuginosum</i>	<i>Stenogonum salsuginosum</i>	smooth wild buckwheat	AnnF	Wide	
Polygonaceae	<i>Polygonum lapathifolium</i>	<i>Persicaria lapathifolia</i>	willow-weed	AnnF	Intro	Native to Eurasia
Polypodiaceae (Aspleniaceae)	<i>Cystopteris fragilis</i>	Includes <i>C. utahensis</i> , <i>C. reevesiana</i> , & <i>C. tenuis</i>	brittle bladder fern	Fern	Wide	Type locality of <i>C. utahensis</i> is Negro Bill Canyon, Grand Co., UT (Windham & Windham 90-282)
Polypodiaceae (Adiantaceae or Sinopteridaceae)	<i>Pellaea truncata</i>		spiny cliff-brake	Fern	Wide	
Primulaceae	<i>Androsace septentrionalis</i>	Includes spp. <i>puberulenta</i> , <i>subumbellata</i> , & var. <i>subulifera</i>	pygmy-flower rock-jasmine	AnnF	Wide	

Appendix B. Potential (unconfirmed) vascular plant taxa of Natural Bridges National Monument, cont.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Comments
Primulaceae	<i>Primula specuicola</i>		cave primrose	Perf	RegEn	Type locality is along San Juan River near Bluff, San Juan Co., UT (Rydberg 9882 NY). Former USFWS 3C candidate
Rhamnaceae	<i>Ceanothus fendleri</i>		Fendler's mountain-lilac	Shrub	Wide	
Rosaceae	<i>Purshia tridentata</i>		antelope bitterbrush	Shrub	Wide	
Salicaceae	<i>Salix gooddingii</i>	<i>S. nigra</i> var. <i>vallicola</i>	Goodding's black willow	Tree	Wide	
Salicaceae	<i>Salix laevigata</i>		red willow	Shrub	Wide	
Saxifragaceae	<i>Lithophragma tenellum</i>	<i>L. tenella</i>	slender woodlandstar	Perf	Wide	
Saxifragaceae (Hydrangeaceae)	<i>Philadelphus microphyllus</i>	<i>P. microphyllus</i> var. <i>occidentalis</i> , <i>P. occidentalis</i> var. <i>occidentalis</i>	littleleaf mock-orange	Shrub	Wide	
Scrophulariaceae	<i>Penstemon eatonii</i> var. <i>undulosus</i>		undulate penstemon	Perf	Wide	
Scrophulariaceae	<i>Penstemon lentus</i> var. <i>lentus</i>		Abajo penstemon	Perf	RegEn	
Scrophulariaceae	<i>Penstemon palmeri</i> var. <i>eglandulosus</i>		Palmer's penstemon	Perf	RegEn	Type locality is 2.5 miles N of Kanab, Kane Co., UT (Maguire, Maguire, & Piranian 12279 UTC)
Scrophulariaceae	<i>Verbascum thapsus</i>		woolly mullein	Perf	Intro	Native to Eurasia
Selaginellaceae	<i>Selaginella mutica</i>	<i>S. mutica</i> var. <i>mutica</i>	blunt-leaf spike-moss	Fern	Wide	
Solanaceae	<i>Physalis longifolia</i>	<i>P. virginiana</i> var. <i>sonorae</i>	long-leaf ground-cherry	Perf	Wide	
Vitaceae	<i>Parthenocissus vitacea</i>		thicket-creeper	Shrub	Wide	

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

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

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Comments
Boraginaceae	<i>Cryptantha ambigua</i>		obscure cryptanth	AnnF	Sparse	Ques?	Reported by Schelz et al. (2006), but NABR is well outside its expected range.
Boraginaceae	<i>Heliotropium curassavicum</i> var. <i>obovatum</i>		salt heliotrope	PerF	Wide	Ques?	Reported by Schelz et al. (2006), but NABR is well outside its expected range.
Cactaceae	<i>Echinocereus fendleri</i>		pinkflower hedgehog cactus	PerF	Wide	FalsRep	Report from NABR herbarium based on misidentified specimen of <i>E. triglochidiatus</i> var. <i>melanacanthus</i> .
Cactaceae	<i>Opuntia covillei</i>	<i>Opuntia</i> x <i>vaseyi</i>	Vasey's coastal pricklypear	PerF	RegEn	FalsRep	Report from Welsh & Moore (1968) based on misidentified specimen of <i>O. phaeacantha</i> var. <i>discata</i> . Native to California and Arizona, falsely reported for Utah.
Cactaceae	<i>Opuntia erinacea</i> var. <i>erinacea</i>	<i>O. polyacantha</i> var. <i>erinacea</i>	common pricklypear	PerF	Wide	Ques?	Reported by Schelz et al. (2006), but NABR is outside its expected range. Reports probably based on <i>O. polyacantha</i> var. <i>polyacantha</i> .
Cactaceae	<i>Opuntia fragilis</i>	<i>O. fragilis</i> var. <i>brachyartha</i>	brittle pricklypear	PerF	Wide	Ques?	Reported by NABR veg mapping team (without a voucher), but NABR is outside its expected range. Report may be based on immature <i>Opuntia polyacantha</i> .
Caryophyllaceae (Asteraceae)	<i>Arenaria macradenia</i>	<i>Eremogone macradenia</i> var. <i>macradenia</i>	shrubby sandwort	PerF	Periph	Ques?	Reported by Schelz et al. (2006), but NABR is well outside its expected range. Reports probably based on <i>A. fendleri</i> var. <i>eastwoodiae</i> .
Chenopodiaceae	<i>Krascheninnikovia lanata</i> var. <i>ruinina</i>	<i>Ceratoides lanata</i> var. <i>ruinina</i>	Ruin Park winterfat	Shrub	LocEn	Ques?	Reported by Schelz et al. (2006), but NABR is outside its expected range. Reports probably based on <i>K. lanata</i> var. <i>lanata</i> . Type locality is Ruin Park, Beef Basin, San Juan Co., UT (Welsh & Welsh 22377 BRY).
Compositae (Asteraceae)	<i>Artemisia ludoviciana</i> var. <i>latiloba</i>	<i>A. ludoviciana</i> ssp. <i>candicans</i>	Louisiana wormwood	PerF	Sparse	Ques?	Reported by Schelz et al. (2006), but NABR is well outside its expected range.

Appendix C. Rejected (falsely reported or questionable) vascular plant taxa of Natural Bridges National Monument, cont.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Comments
Compositae (Asteraceae)	<i>Chrysothamnus nauseosus</i> var. <i>graveolens</i>	<i>Ericameria nauseosa</i> var. <i>graveolens</i> , <i>E. nauseosa</i> var. <i>glabrata</i> . Some authors include <i>C. nauseosus</i> var. <i>oreophilus</i>	glabrate rabbitbrush	Shrub	Wide	FalsRep	Report from Schelz et al. (2006) based on misidentified specimens of <i>C. nauseosus</i> var. <i>consimilis</i>
Compositae (Asteraceae)	<i>Chrysothamnus viscidiflorus</i> var. <i>lancoolatus</i>		lanceleaf rabbitbrush	PerG	Wide	FalsRep	Report from Schelz et al. (2006) based on misidentified specimens of <i>C. viscidiflorus</i> var. <i>viscidiflorus</i> .
Compositae (Asteraceae)	<i>Erigeron utahensis</i> var. <i>utahensis</i>		Utah daisy	PerF	RegEn	FalsRep	Report from BRY herbarium based on a misidentified specimen of <i>E. utahensis</i> var. <i>sparsifolius</i> . Type locality is Kanab, Kane Co., UT (Thompson s.n. GH)
Compositae (Asteraceae)	<i>Haplopappus clementis</i>	<i>Pyrrocoma clementis</i> var. <i>clementis</i>	Clement's goldenweed	PerF	Wide	Ques?	Reported by Schelz et al. (2006), but NABR is well outside its expected range.
Compositae (Asteraceae)	<i>Hymenoxys acaulis</i> var. <i>arizonica</i>	<i>Tetranneuris acaulis</i> var. <i>arizonica</i>	Arizona hymenoxys	PerF	Wide	FalsRep	Report from Schelz et al. (2006) based on misidentified specimen of <i>H. acaulis</i> var. <i>ivesiana</i> .
Compositae (Asteraceae)	<i>Hymenoxys richardsonii</i> var. <i>floribunda</i>	<i>Picardenia richardsonii</i> var. <i>floribunda</i>	Colorado rubber-plant	PerF	Wide	FalsRep	Report from Schelz et al. (2006) based on misidentified specimen of <i>H. acaulis</i> var. <i>ivesiana</i> .
Compositae (Asteraceae)	<i>Machaeranthera canescens</i> var. <i>canescens</i>	<i>Aster canescens</i>	hoary aster	PerF	Wide	Ques?	Reported by Schelz et al. (2006), but NABR is well outside its expected range. Reports probably based on <i>M. canescens</i> var. <i>leucanthemifolia</i> or var. <i>aristata</i> .
Compositae (Asteraceae)	<i>Senecio integerrimus</i> var. <i>exaltatus</i>		western groundsel	PerF	Wide	Ques?	Reported by NABR veg mapping team (without a voucher), but NABR is outside its expected range and habitat.
Compositae (Asteraceae)	<i>Townsendia exscapa</i>		stemless townsendia	PerF	Wide	FalsRep	Report from Schelz et al. (2006) based on a misidentified specimen of <i>T. incana</i> .
Compositae (Asteraceae)	<i>Townsendia scapigera</i>		Eaton's townsendia	PerF	Periph	Ques?	Reported by Schelz et al. (2006), but NABR is well outside the expected range of this taxon. Reports probably based on <i>T. incana</i> .

Appendix C. Rejected (falsely reported or questionable) vascular plant taxa of Natural Bridges National Monument, cont.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Comments
Crossosomataceae (Celastraceae)	<i>Glossopetalon spinescens</i> var. <i>aridum</i>	<i>Forsellesia nevadensis</i>	Nevada greasebush	PerG	Periph	FalsRep	Report from Welsh & Moore (1968) based on a misidentified specimen of <i>G. spinescens</i> var. <i>meionandrum</i> .
Cruciferae (Brassicaceae)	<i>Lepidium fremontii</i>		Fremont's pepperwort	PerF	Periph	Ques?	Reported by Schelz et al. (2006), but NABR is well outside its expected range. Reports probably based on <i>L. montanum</i> var. <i>jonesii</i> .
Cruciferae (Brassicaceae)	<i>Lepidium latifolium</i>	<i>Cardaria latifolia</i>	broad-leaf pepperwort	PerF	Intro	FalsRep	Report from NABR herbarium based on a misidentified specimen of <i>Lepidium alyssoides</i> var. <i>eastwoodiae</i> .
Cruciferae (Brassicaceae)	<i>Nasturtium officinale</i>	<i>Rorippa nasturtium- aquaticum</i>	watercress	PerF	Intro	FalsRep	Report from Schelz et al. (2006) based on misidentified specimens of <i>Ranunculus cymbalaria</i> . Native to Europe.
Cruciferae (Brassicaceae)	<i>Physaria chambersii</i> var. <i>chambersii</i>		Chambers' twinpod	PerF	Wide	Ques?	Reported by Schelz et al. (2006), but NABR is well outside its expected range. Reports probably based on <i>P. newberryi</i> or <i>P. acutifolia</i> .
Cruciferae (Brassicaceae)	<i>Thelypodium integrifolium</i> var. <i>affine</i>		cousin thelypody	PerF	Wide	FalsRep	Report from Welsh & Moore 1968 (cited as <i>T. rhomboideum</i>) based on misidentified specimen of <i>T. integrifolium</i> var. <i>gracilipes</i> .
Cruciferae (Brassicaceae)	<i>Thelypodium laxiflorum</i>	<i>T. wrightii</i> var. <i>tenellum</i>	slate thelypody	PerF	Wide	Ques?	Reported by NABR veg mapping team (without a voucher), but NABR is outside its expected range. USFWS: 3C
Cyperaceae	<i>Carex disperma</i>		soft-leaved sedge	PerG	Wide	FalsRep	Report from Schelz et al. (2006) based on a misidentified specimen of <i>C. aurea</i> .
Cyperaceae	<i>Carex geophila</i>		White Mountain sedge	PerG	Sparse	FalsRep	Report from Schelz et al. (2006) based on misidentified specimens of <i>C. rossii</i> .
Cyperaceae	<i>Carex specuicola</i>	Included in <i>C. parryana</i> by some authors.	Navajo sedge	PerG	RegEn	FalsRep	Reports from Welsh & Moore (1968) based on misidentified specimens of <i>C. aurea</i> .
Gramineae (Poaceae)	<i>Elymus spicatus</i>	<i>Agropyron spicatum</i> , <i>Pseudoroegneria spicata</i>	bluebunch wheatgrass	PerG	Wide	Ques?	Reported by NABR veg mapping team (without a voucher), but NABR is outside its expected range.

Appendix C. Rejected (falsely reported or questionable) vascular plant taxa of Natural Bridges National Monument, cont.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Comments
Gramineae (Poaceae)	<i>Festuca ovina</i>	<i>F. idahoensis</i>	Idaho fescue	PerG	Wide	FalsRep	Report from Schelz et al. (2006) based on misidentified specimen of <i>F. octoflora</i> . Also reported by NABR veg mapping team (without a voucher).
Gramineae (Poaceae)	<i>Muhlenbergia montana</i>	Includes <i>M. filiculmis</i>	mountain muhly	PerG	Wide	FalsRep	Report from NABR herbarium based on misidentified specimen of <i>M. pauciflora</i> .
Gramineae (Poaceae)	<i>Poa glauca</i> var. <i>glauca</i>	<i>P. nemoralis</i> ssp. <i>interior</i> ; <i>P. interior</i>	interior bluegrass	PerG	Wide	FalsRep	Report from Schelz et al. (2006) based on misidentified specimens of <i>P. pratensis</i> .
Gramineae (Poaceae)	<i>Schizachyrium scoparium</i>	<i>Andropogon scoparius</i> ; <i>S. scoparium</i> var. <i>neomexicanum</i>	little bluestem	PerG	Wide	FalsRep	Report from Schelz et al. (2006) based on a misidentified specimen of <i>Andropogon gerardii</i> var. <i>chrysocomus</i> . Also reported by NABR veg mapping team (without a voucher).
Hydrophyllaceae	<i>Phacelia crenulata</i> var. <i>crenulata</i>		crenulate phacelia	AnnF	Wide	Ques?	Reported by Schelz et al. (2006), but NABR is well outside the expected range of this taxon. Reports probably based on var. <i>corrugata</i> .
Leguminosae (Fabaceae)	<i>Astragalus beckwithii</i> var. <i>beckwithii</i>		Beckwith's milkvetch	PerF	RegEn	Ques?	Reported by Schelz et al. (2006), but NABR is well outside its expected range. Type locality is Cedar Mountains west of Lone Rock, Tooele Co., UT (Beckwith s.n. GH)
Leguminosae (Fabaceae)	<i>Astragalus fucatus</i>		Hopi milkvetch	PerF	RegEn	FalsRep	Report from Schelz et al. (2006) based on misidentified specimen of <i>A. ceramicus</i> var. <i>ceramicus</i> .
Leguminosae (Fabaceae)	<i>Astragalus monumentalis</i>	<i>A. monumentalis</i> var. <i>monumentalis</i>	Monument milkvetch	PerF	LocEn	FalsRep	Report from Welsh & Moore (1968) based on misidentified specimens of <i>A. cottamii</i> . Type locality is White Canyon, San Juan Co., UT (Harrison 11595 US). Former USFWS 3C candidate.
Leguminosae (Fabaceae)	<i>Vicia americana</i> var. <i>americana</i>		American vetch	PerF	Wide	FalsRep	Report from Welsh & Moore (1968) is based on a misidentified specimen of <i>Lathyrus brachycalyx</i> var. <i>zionis</i>
Liliaceae (Alliaceae)	<i>Allium acuminatum</i>		taper-tip onion	PerF	Wide	FalsRep	Report from Schelz et al. (2006) based on a misidentified specimen of <i>A. macropetalum</i> .
Liliaceae (Alliaceae)	<i>Allium brandegei</i>	<i>A. brandegeei</i>	Brandegee's onion	PerF	Wide	FalsRep	Reported by Schelz et al. (2006) based on a misidentified specimen of <i>Androstephium breviflorum</i> .

Appendix C. Rejected (falsely reported or questionable) vascular plant taxa of Natural Bridges National Monument, cont.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Comments
Liliaceae (Melanthiaceae)	<i>Zigadenus paniculatus</i>	<i>Toxicoscordion paniculatum</i>	foothills death camas	PerF	Wide	FalsRep	Report from Schelz et al. (2006) based on misidentified specimen of <i>Z. venenosus</i> .
Loasaceae	<i>Mentzelia pumila</i> var. <i>lagarosa</i>	Included in <i>M. multiflora</i> by some authors	lax stickleaf	PerF	RegEn	FalsRep	Report from Schelz et al. (2006) (without variety) based on misidentified specimen of <i>M. marginata</i> . Type locality is near Watson, Uintah Co., UT (Goodrich & Atwood 14664 BRY)
Malvaceae	<i>Sphaeralcea munroana</i>	Includes spp. <i>munroana</i> & <i>subrhomboidea</i>	white-stem globe-mallow	PerF	Wide	Ques?	Reported by Schelz et al. (2006), but NABR is well outside its expected range.
Orchidaceae	<i>Habenaria sparsiflora</i> var. <i>sparsiflora</i>	<i>Platanthera sparsiflora</i>	slender bog orchid	PerF	Wide	FalsRep	Report from Schelz et al. (2006) based on misidentified specimen of <i>H. zothecina</i> .
Polemoniaceae	<i>Ipomopsis aggregata</i> var. <i>maculata</i>	<i>Gilia aggregata</i> var. <i>maculata</i> , <i>I. aggregata</i> ssp. <i>formosissima</i>	scarlet gilia	PerF	Wide	FalsRep	Report from NPSpecies dataset based on a misidentified specimen of var. <i>aggregata</i>
Polemoniaceae	<i>Phlox gladiiformis</i>		daggerleaf phlox	PerF	RegEn	Ques?	Reported as 'doubtful' and without a supporting voucher by Schelz et al. (2006). NABR is well outside its known range. Type locality is Cedar Canyon, Iron Co., UT (Jones 5208c POM). Former USFWS 3C candidate.
Polemoniaceae	<i>Phlox pulvinata</i>	<i>P. sibirica</i> ssp. <i>pulvinata</i> , <i>P. caespitosa</i>	cushion phlox	PerF	Wide	Ques?	Reported by NABR veg mapping team (without a voucher), but NABR is well outside the expected range of this species.
Polygonaceae	<i>Eriogonum corymbosum</i> var. <i>smithii</i>	<i>E. smithii</i>	flat top wild buckwheat	Shrub	LocEn	Ques?	Reported by Schelz et al. (2006), but NABR is well outside its expected range. Type locality is The Big Flat Top, Emery Co., UT (Holmgren & Reveal 3012 UTC). UT BLM Sensitive. Former USFWS C2 candidate.
Polygonaceae	<i>Eriogonum inflatum</i> var. <i>inflatum</i>	<i>E. inflatum</i>	desert trumpet	PerF	Wide	FalsRep	Mistakenly reported for NABR in NPSpecies dataset based on report of <i>E. inflatum</i> (without var.) in Schelz et al. (2006)
Polygonaceae	<i>Eriogonum microthecum</i> var. <i>laxiflorum</i>		slender wild buckwheat	PerG	Wide	FalsRep	Report from Schelz et al. (2006) based on misidentified specimen of <i>E. microthecum</i> var. <i>simpsonii</i> .

Appendix C. Rejected (falsely reported or questionable) vascular plant taxa of Natural Bridges National Monument, cont.

Family	Species name	Synonyms/ Taxonomic notes	Common name	Life form	Range	Park status	Comments
Polypodiaceae (Adiantaceae)	<i>Pellaea breweri</i>		Brewer's cliff-brake	Fern	Wide	Ques?	Reported by Schelz et al. (2006), but NABR is well outside its expected range (probably based on <i>P. glabella</i> var. <i>occidentalis</i>).
Salicaceae	<i>Salix melanopsis</i>	<i>S. exigua</i> var. <i>melanopsis</i> , <i>S. fluvialis</i>	dusky willow	Shrub	Periph	Ques?	Reported by Schelz et al. (2006), but NABR is well outside its expected range (probably based on <i>S. exigua</i> var. <i>stenophylla</i>).
Scrophulariaceae	<i>Penstemon angustifolius</i> var. <i>venosus</i>		veined penstemon	PerF	RegEn	FalsRep	Report from Schelz et al. (2006) based on a misidentified specimen of <i>Penstemon lentus</i> var. <i>albiflorus</i> .
Scrophulariaceae	<i>Penstemon pachyphyllus</i> var. <i>congestus</i>		Rockville penstemon	PerF	Wide	Ques?	Reported by Schelz et al. (2006), but NABR is well outside its expected range. Type locality is near Canaan Ranch, Rockville, Washington Co., UT (Jones 5262 POM)
Solanaceae	<i>Nicotiana trigonophylla</i>	<i>N. obtusifolia</i> , <i>N. trigonophylla</i> var. <i>palmeri</i>	desert tobacco	AnnF	Wide	Ques?	Reported by Schelz et al. (2006), but NABR is outside its expected range.
Umbelliferae (Apiaceae)	<i>Lomatium graveolens</i> var. <i>alpinum</i>	<i>L. kingii</i>	King's lomatium	PerF	RegEn	Ques?	Reported by Schelz et al. (2006), but NABR is well outside its expected range.
Umbelliferae (Apiaceae)	<i>Lomatium nuttallii</i>	<i>Aletes nuttallii</i>	Nuttall's biscuitroot	PerF	Wide	FalsRep	Report from Welsh & Moore (1968) based on a misidentified specimen of <i>Cymopterus hendersonii</i> . Not native to Utah.
Umbelliferae (Apiaceae)	<i>Lomatium triternatum</i> ssp. <i>platycarpum</i>	<i>L. simplex</i>	flat-seed lomatium	PerF	Wide	FalsRep	Report from Schelz et al. (2006) based on misidentified specimens of <i>L. parryi</i> . Type locality is Great Salt Lake (Stansbury s.n. NY)
Umbelliferae (Apiaceae)	<i>Oreoxis trotteri</i>	<i>Cymopterus trotteri</i>	Trotter's spring-parsley	PerF	LocEn	FalsRep	Report from NABR herbarium based on a misidentified specimen of <i>Aletes maccougallii</i> var. <i>breviradiatus</i> . Type locality is 20 km NW of Moab, Grand Co., UT (Welsh & Trotter 22729 BRY). UT BLM Sensitive. Former USFWS C2 candidate.
Viscaceae	<i>Arceuthobium cyanocarpum</i>	<i>A. campylopodium</i> var. <i>cyanocarpum</i>	limber pine dwarf-mistletoe	PerF	Sparse	Ques?	Reported by Schelz et al. (2006), but NABR is well outside its expected range.

The vascular plant species listed here have been reported for Natural Bridges National Monument from published and unpublished literature (Schelz et al. 2006, Welsh & Moore 1968) or from herbarium specimens, but are now believed to be erroneous because of misidentifications (False Reports or FalsRep) or because the monument is well outside the known or expected range of the species (Questionable or Ques?).

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

Family	Species name	Common name	Nativity	Park status	Flower time	Pin-Jun	PonP-DF	Wet	Comments
Trees									
Aceraceae	<i>Acer negundo</i>	box elder	Native	Pres	Apr–Jun			X	
Cupressaceae	<i>Juniperus osteosperma</i>	Utah juniper	Native	Pres	NA	X	X	X	
Cupressaceae	<i>Juniperus scopulorum</i>	Rocky Mountain juniper	Native	Pres	NA	X	X	X	
Fagaceae	<i>Quercus gambelii</i> var. <i>gambelii</i>	Gambel oak	Native	Pres	Apr–Jun	X	X	X	
Pinaceae	<i>Abies lasiocarpa</i>	subalpine fir	Native	Pres	NA		X		
Pinaceae	<i>Pinus edulis</i>	two-needle pinyon	Native	Pres	NA	X			
Pinaceae	<i>Pinus ponderosa</i> var. <i>scopulorum</i>	ponderosa pine	Native	Pres	NA		X		
Pinaceae	<i>Pseudotsuga menziesii</i> var. <i>glauca</i>	Douglas-fir	Native	Pres	NA		X		
Salicaceae	<i>Populus alba</i>	white poplar	Intro	Rep	Mar–Jun				Disturbed areas
Salicaceae	<i>Populus angustifolia</i>	narrow-leaved cottonwood	Native	Pres	Apr–Jun			X	
Salicaceae	<i>Populus fremontii</i> var. <i>fremontii</i>	Fremont cottonwood	Native	Pres	Mar–Jun			X	
Salicaceae	<i>Populus x intercurrents</i>	lance-leaf cottonwood	Native	Pres	Apr–Jun			X	
Salicaceae	<i>Salix amygdaloides</i>	peach-leaf willow	Native	Rep	Apr–Jun			X	
Ulmaceae (Celtidaceae)	<i>Celtis reticulata</i>	netleaf hackberry	Native	Pres	Apr–May		X		
Shrubs									
Aceraceae	<i>Acer glabrum</i> var. <i>glabrum</i>	Rocky Mountain maple	Native	Pres	Apr–Jun	X	X		
Agavaceae	<i>Yucca angustissima</i>	narrowleaved yucca	Native	Pres	May–Jul	X	X		Sandy soils
Agavaceae	<i>Yucca baccata</i>	datil yucca	Native	Pres	Apr–Jun	X	X		
Agavaceae	<i>Yucca baileyi</i>	Bailey's yucca	Native	Rep	Apr–Jun	X	X		
Agavaceae	<i>Yucca harrimaniae</i> var. <i>harrimaniae</i>	Harriman's yucca	Native	Rep	Apr–May	X			
Anacardiaceae	<i>Rhus aromatica</i> var. <i>simplicifolia</i>	squawbush	Native	Pres	May–Jul		X		
Anacardiaceae	<i>Rhus aromatica</i> var. <i>trilobata</i>	squawbush	Native	Pres	May–Jul			X	
Anacardiaceae	<i>Toxicodendron rydbergii</i>	western poison ivy	Native	Rep	May–Jun			X	
Berberidaceae	<i>Mahonia fremontii</i>	Fremont's mahonia	Native	Pres	Apr–Jul	X	X		

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

Family	Species name	Common name	Nativity	Park status	Flower time	Pin-Jun	PonP-DF	Wet	Comments
<i>Shrubs, cont.</i>									
Berberidaceae	<i>Mahonia repens</i>	Oregon-grape	Native	Pres	Apr–Jun	X	X	X	
Cactaceae	<i>Opuntia whipplei</i>	Whipple's cholla	Native	Rep	May–Jul	X			
Caprifoliaceae	<i>Symphoricarpos longiflorus</i>	long-flower snowberry	Native	Pres	May–Jul	X	X	X	
Caprifoliaceae	<i>Symphoricarpos oreophilus</i> var. <i>utahensis</i>	mountain snowberry	Native	Pres	Jun–Aug		X		
Celastraceae	<i>Pachystima 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	X		Sandy soils
Chenopodiaceae	<i>Atriplex confertifolia</i>	shadscale	Native	Pres	May–Sep	X			Clayey to gravelly soils
Chenopodiaceae	<i>Atriplex gardneri</i> var. <i>cuneata</i>	Castle Valley saltbush	Native	Rep	May–Sep	X			Saline clays
Chenopodiaceae	<i>Krascheninnikovia lanata</i> var. <i>lanata</i>	winterfat	Native	Pres	May–Jul	X			
Chenopodiaceae (Sarcobataceae)	<i>Sarcobatus vermiculatus</i>	greasewood	Native	Pres	May–Aug				
Chenopodiaceae	<i>Zuckia brandegei</i> var. <i>brandegei</i>	Brandegee's siltbush	Native	Rep	Jun–Aug				Saline or seleniferous soils
Compositae (Asteraceae)	<i>Artemisia bigelovii</i>	Bigelow's sagebrush	Native	Pres	Aug–Oct	X			Rocky areas
Compositae (Asteraceae)	<i>Artemisia frigida</i>	fringed sagebrush	Native	Pres	Jul–Sep	X	X		
Compositae (Asteraceae)	<i>Artemisia spinescens</i>	budsage	Native	Rep	Apr–Jun	X			Saline soils
Compositae (Asteraceae)	<i>Artemisia tridentata</i> var. <i>tridentata</i>	basin big sagebrush	Native	Pres	Jul–Sep	X			
Compositae (Asteraceae)	<i>Artemisia tridentata</i> var. <i>wyomingensis</i>	Wyoming big sagebrush	Native	Rep	Jul–Sep	X			
Compositae (Asteraceae)	<i>Baccharis salicina</i>	Rio Grande seepwillow	Native	Rep	May–Nov			X	
Compositae (Asteraceae)	<i>Brickellia californica</i>	California brickellbush	Native	Rep	Aug–Sep	X			Rock crevices
Compositae (Asteraceae)	<i>Brickellia longifolia</i>	longleaf brickellbush	Native	Pres	Aug–Sep			X	

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

Family	Species name	Common name	Nativity	Park status	Flower time	Pin-Jun	PonP-DF	Wet	Comments
<i>Shrubs, cont.</i>									
Compositae (Asteraceae)	<i>Brickellia microphylla</i> var. <i>scabra</i>	rough brickellbush	Native	Pres	Aug–Oct	X			Sandstone
Compositae (Asteraceae)	<i>Chrysothamnus linifolius</i>	spear-leaf rabbitbrush	Native	Pres	Jul–Sep			X	Sandy to saline soils
Compositae (Asteraceae)	<i>Chrysothamnus nauseosus</i> var. <i>bigelovii</i>	Bigelow's rabbitbrush	Native	Pres	Aug–Oct		X		Rocky areas
Compositae (Asteraceae)	<i>Chrysothamnus nauseosus</i> var. <i>consimilis</i>	greenish rabbitbrush	Native	Pres	Aug–Oct	X	X	X	
Compositae (Asteraceae)	<i>Chrysothamnus nauseosus</i> var. <i>gnaphalodes</i>	graystem rabbitbrush	Native	Pres	Aug–Oct	X			
Compositae (Asteraceae)	<i>Chrysothamnus nauseosus</i> var. <i>junceus</i>	rush rabbitbrush	Native	Rep	Aug–Oct	X			
Compositae (Asteraceae)	<i>Chrysothamnus nauseosus</i> var. <i>leiospermus</i>	smoothseed rabbitbrush	Native	Pres	Aug–Oct	X	X		
Compositae (Asteraceae)	<i>Chrysothamnus viscidiflorus</i> var. <i>stenophyllus</i>	slenderleaf rabbitbrush	Native	Rep	Jul–Sep	X			
Compositae (Asteraceae)	<i>Chrysothamnus viscidiflorus</i> var. <i>viscidiflorus</i>	green rabbitbrush	Native	Pres	Jul–Sep	X	X		
Compositae (Asteraceae)	<i>Gutierrezia microcephala</i>	thread snakeweed	Native	Pres	Jul–Oct	X			
Compositae (Asteraceae)	<i>Gutierrezia sarothrae</i>	broom snakeweed	Native	Pres	Jul–Oct	X	X		
Compositae (Asteraceae)	<i>Haplopappus rusbyi</i>	Rusby's goldenbush	Native	Pres	Aug–Sep			X	
Compositae (Asteraceae)	<i>Haplopappus scopulorum</i> var. <i>hirtellus</i>	spindly goldenbush	Native	Pres	Aug–Sep	X	X		Cedar Mesa Sandstone
Compositae (Asteraceae)	<i>Oxytenia acerosa</i>	copperweed	Native	Pres	Jun–Oct			X	Saline soils
Cornaceae	<i>Cornus sericea</i> var. <i>sericea</i>	red-osier dogwood	Native	Pres	May–Jul			X	
Crossosomataceae (Celastraceae)	<i>Glossopetalon spinescens</i> var. <i>meionandrum</i>	spiny greasebush	Native	Pres	Mar–Jun	X			
Elaeagnaceae	<i>Shepherdia rotundifolia</i>	roundleaf buffaloberry	Native	Pres	Mar–May	X	X		
Ephedraceae	<i>Ephedra torreyana</i>	Torrey's ephedra	Native	Rep	NA	X			
Ephedraceae	<i>Ephedra viridis</i> var. <i>viridis</i>	green ephedra	Native	Pres	NA	X	X		
Ephedraceae	<i>Ephedra viridis</i> var. <i>viscida</i>	Cutler's ephedra	Native	Rep	NA	X			Sandy soil

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

Family	Species name	Common name	Nativity	Park status	Flower time	Pin-Jun	PonP-DF	Wet	Comments
<i>Shrubs, cont.</i>									
Ericaceae	<i>Arctostaphylos patula</i>	greenleaf manzanita	Native	Pres	Mar-Jul	X	X		
Fagaceae	<i>Quercus welshii</i>	shinnery oak	Native	Pres	Apr-Jun	X			Sandy soil
Leguminosae (Fabaceae)	<i>Psoralemmun thompsoniae</i> var. <i>thompsoniae</i>	Thompson's indigo-bush	Native	Pres	May-Aug	X			Sandy soil
Oleaceae	<i>Fraxinus anomala</i>	singleleaf ash	Native	Pres	Apr-May	X	X		
Polemoniaceae	<i>Leptodactylon pungens</i>	prickly-phlox	Native	Pres	May-Jul	X	X		
Polygonaceae	<i>Eriogonum corymbosum</i> var. <i>corymbosum</i>	crisp-leaf wild buckwheat	Native	Rep	Jul-Oct	X			
Polygonaceae	<i>Eriogonum corymbosum</i> var. <i>orbiculatum</i>	rimrock wild buckwheat	Native	Pres	Aug-Oct	X			Sandstone
Polygonaceae	<i>Eriogonum microthecum</i> var. <i>simpsonii</i>	slender wild buckwheat	Native	Pres	Jun-Oct	X	X		
Rhamnaceae	<i>Rhamnus betulifolia</i>	birchleaf buckthorn	Native	Pres	May-Jun			X	Rock crevices
Rosaceae	<i>Amelanchier utahensis</i>	Utah serviceberry	Native	Pres	Apr-Jun	X	X	X	
Rosaceae	<i>Cercocarpus intricatus</i>	dwarf mountain mahogany	Native	Pres	Apr-Jun	X	X		Rock crevices
Rosaceae	<i>Cercocarpus ledifolius</i> var. <i>intermontanus</i>	curl-leaf mountain mahogany	Native	Rep	May-Jun	X	X		Rocky sites
Rosaceae	<i>Cercocarpus montanus</i>	alder-leaf mountain mahogany	Native	Pres	May-Jun	X	X		
Rosaceae	<i>Coleogyne ramosissima</i>	blackbrush	Native	Rep	Apr-Jun	X			Shallow soil
Rosaceae	<i>Holodiscus dumosus</i>	bush oceanspray	Native	Pres	Jun-Aug	X	X		Rock crevices
Rosaceae	<i>Peraphyllum ramosissimum</i>	squaw-apple	Native	Pres	May-Jun	X	X		
Rosaceae	<i>Physocarpus alternans</i>	dwarf ninebark	Native	Pres	May-Aug	X	X		Rock crevices
Rosaceae	<i>Prunus virginiana</i> var. <i>melanocarpa</i>	western chokecherry	Native	Pres	May-Jul	X	X		
Rosaceae	<i>Purshia mexicana</i> var. <i>stansburyana</i>	cliff-rose	Native	Pres	May-Jun	X	X		
Rosaceae	<i>Rosa woodsii</i>	Woods' rose	Native	Pres	May-Jul		X	X	
Salicaceae	<i>Salix eriocephala</i> var. <i>watsonii</i>	yellow willow	Native	Pres	Apr-Jun			X	
Salicaceae	<i>Salix exigua</i> var. <i>stenophylla</i>	coyote willow	Native	Pres	Apr-Aug			X	
Salicaceae	<i>Salix lucida</i> ssp. <i>caudata</i>	whiplash willow	Native	Pres	Apr-Jun			X	
Solanaceae	<i>Lycium andersonii</i>	Anderson's wolfberry	Native	Rep	Feb-May	X			

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

Family	Species name	Common name	Nativity	Park status	Flower time	Pin-Jun	PonP-DF	Wet	Comments
<i>Shrubs, cont.</i>									
Solanaceae	<i>Lycium pallidum</i>	pale wolfberry	Native	Pres	Mar–May	X			
Tamaricaceae	<i>Tamarix chinensis</i>	five-stamen tamarisk	Intro	Pres	Apr–Sep			X	
Perennial Forbs									
Apocynaceae	<i>Amsonia tomentosa</i> var. <i>stenophylla</i>	tomentose amsonia	Native	Rep	Apr–May				
Apocynaceae	<i>Apocynum cannabinum</i>	common dogbane	Native	Pres	Jun–Aug			X	
Asclepiadaceae	<i>Asclepias asperula</i> var. <i>asperula</i>	spider milkweed	Native	Rep	May–Jul	X	X		
Asclepiadaceae	<i>Asclepias cryptoceras</i> var. <i>cryptoceras</i>	pallid milkweed	Native	Rep	Apr–Jun	X			
Asclepiadaceae	<i>Asclepias speciosa</i>	showy milkweed	Native	Pres	May–Aug			X	
Boraginaceae	<i>Cryptantha bakeri</i>	Baker's cryptanth	Native	Pres	May–Jun	X	X		
Boraginaceae	<i>Cryptantha confertiflora</i>	basin yellow cryptanth	Native	Pres	Apr–Jun	X	X		
Boraginaceae	<i>Cryptantha flava</i>	plateau yellow cryptanth	Native	Pres	Apr–Jun	X			
Boraginaceae	<i>Cryptantha flavoculata</i>	yellow-eye cryptanth	Native	Pres	Apr–Jun	X	X		
Boraginaceae	<i>Cryptantha fulvocanescens</i>	plateau cryptanth	Native	Pres	May–Jun	X			Mancos Shale
Boraginaceae	<i>Cryptantha tenuis</i>	slender cryptanth	Native	Pres	May–Jun	X	X		
Boraginaceae	<i>Lithospermum incisum</i>	showy stoneseed	Native	Pres	Apr–Jul	X	X		
Boraginaceae [Ehretiaceae]	<i>Tiquilia latior</i>	matted tiquilia	Native	Rep	May–Aug	X			
Cactaceae	<i>Echinocereus triglochidiatus</i> var. <i>melanacanthus</i>	claretcup	Native	Pres	Apr–Jun	X			
Cactaceae	<i>Opuntia erinacea</i> var. <i>utahensis</i>	Utah pricklypear	Native	Rep	May–Jun	X	X		
Cactaceae	<i>Opuntia phaeacantha</i> var. <i>discata</i>	frying pan pricklypear	Native	Pres	Apr–Jul	X			
Cactaceae	<i>Opuntia phaeacantha</i> var. <i>major</i>	large pricklypear	Native	Pres	Apr–Jul	X			
Cactaceae	<i>Opuntia polyacantha</i> var. <i>polyacantha</i>	plains pricklypear	Native	Pres	May–Jun	X	X		
Cactaceae	<i>Sclerocactus whipplei</i> var. <i>roseus</i>	small-flower fishhook cactus	Native	Pres	Apr–May	X	X		
Caryophyllaceae	<i>Arenaria fendleri</i> var. <i>eastwoodiae</i>	Eastwood's sandwort	Native	Pres	May–Sep	X	X		

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

Family	Species name	Common name	Nativity	Park status	Flower time	Pin-Jun	PonP-DF	Wet	Comments
<i>Perennial Forbs, cont.</i>									
Chenopodiaceae	<i>Bassia americana</i>	greenmolly	Native	Rep	Aug-Oct	X			
Compositae (Asteraceae)	<i>Achillea millefolium</i> ssp. <i>lanulosa</i>	common yarrow	Native	Pres	May-Sep	X	X	X	
Compositae (Asteraceae)	<i>Antennaria marginata</i>	sandstone pussytoes	Native	Pres	May-Jul	X	X		
Compositae (Asteraceae)	<i>Artemisia campestris</i> var. <i>scouleriana</i>	sand wormwood	Native	Rep	Jul-Sep	X	X		Sandy soils
Compositae (Asteraceae)	<i>Artemisia dracunculus</i> ssp. <i>glauca</i>	tarragon	Native	Pres	Jul-Oct	X	X	X	
Compositae (Asteraceae)	<i>Artemisia ludoviciana</i> var. <i>ludoviciana</i>	Louisiana wormwood	Native	Rep	Jul-Oct	X	X		
Compositae (Asteraceae)	<i>Artemisia ludoviciana</i> var. <i>mexicana</i>	Louisiana wormwood	Native	Pres	Jul-Oct	X	X	X	
Compositae (Asteraceae)	<i>Aster ascendens</i>	Pacific aster	Native	Pres	Jul-Oct	X	X	X	
Compositae (Asteraceae)	<i>Aster glaucodes</i>	blueleaf aster	Native	Pres	Jul-Sep	X	X	X	
Compositae (Asteraceae)	<i>Aster hesperius</i>	Siskiyou aster	Native	Pres	Jul-Sep			X	
Compositae (Asteraceae)	<i>Aster pansus</i>	white heath aster	Native	Rep	Aug-Oct			X	
Compositae (Asteraceae)	<i>Chaenactis douglasii</i>	hoary dusty-maiden	Native	Rep	May-Sep	X	X		
Compositae (Asteraceae)	<i>Chaetopappa ericoides</i>	rose-heath	Native	Pres	May-Sep	X	X		
Compositae (Asteraceae)	<i>Chrysopsis villosa</i> var. <i>minor</i>	hispid golden-aster	Native	Pres	May-Sep	X	X		
Compositae (Asteraceae)	<i>Chrysopsis villosa</i> var. <i>villosa</i>	hairy goldenaster	Native	Rep	May-Sep	X	X		
Compositae (Asteraceae)	<i>Cirsium arvense</i>	Canada thistle	Intro	Pres	Jul-Sep			X	
Compositae (Asteraceae)	<i>Cirsium calcareum</i> var. <i>bipinnatum</i>	wingless thistle	Native	Pres	Jun-Sep		X	X	
Compositae (Asteraceae)	<i>Cirsium calcareum</i> var. <i>calcareum</i>	Caineville thistle	Native	Rep	Jun-Sep			X	

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

Family	Species name	Common name	Nativity	Park status	Flower time	Pin-Jun	PonP-DF	Wet	Comments
<i>Perennial Forbs, cont.</i>									
Compositae (Asteraceae)	<i>Cirsium calcareum</i> var. <i>pulchellum</i>	pretty thistle	Native	Pres	Jun-Sep	X			
Compositae (Asteraceae)	<i>Cirsium neomexicanum</i> var. <i>utahense</i>	Utah thistle	Native	Rep	May-Jun	X	X		
Compositae (Asteraceae)	<i>Cirsium rothrockii</i>	Rothrock's thistle	Native	Rep	Jun-Aug		X		
Compositae (Asteraceae)	<i>Cirsium rydbergii</i>	Rydberg's thistle	Native	Pres	May-Aug			X	
Compositae (Asteraceae)	<i>Cirsium undulatum</i> var. <i>undulatum</i>	wavy-leaved thistle	Native	Pres	Jun-Sep	X	X		
Compositae (Asteraceae)	<i>Erigeron aphanactis</i> var. <i>aphanactis</i>	hairy daisy	Native	Pres	May-Jul	X	X		
Compositae (Asteraceae)	<i>Erigeron argentatus</i>	silver daisy	Native	Rep	May-Jun	X	X		
Compositae (Asteraceae)	<i>Erigeron divergens</i> var. <i>divergens</i>	spreading daisy	Native	Pres	May-Sep	X	X	X	
Compositae (Asteraceae)	<i>Erigeron engelmannii</i>	Engelmann's daisy	Native	Pres	May-Jul	X			
Compositae (Asteraceae)	<i>Erigeron flagellaris</i>	trailing daisy	Native	Rep	May-Aug	X	X		
Compositae (Asteraceae)	<i>Erigeron kachinensis</i>	Kachina daisy	Native	Pres	May-Aug			X	Cedar Mesa Sandstone
Compositae (Asteraceae)	<i>Erigeron pumilus</i> var. <i>concinus</i>	Navajo fleabane	Native	Pres	May-Aug	X	X		
Compositae (Asteraceae)	<i>Erigeron utahensis</i> var. <i>sparsifolius</i>	slenderleaf daisy	Native	Pres	Jun-Sep	X			Sandstone
Compositae (Asteraceae)	<i>Haplopappus armerioides</i> var. <i>armerioides</i>	thrift goldenweed	Native	Pres	May-Jun	X	X		
Compositae (Asteraceae)	<i>Helianthella microcephala</i>	purpledisk sunflower	Native	Pres	Jul-Sep	X	X		
Compositae (Asteraceae)	<i>Hymenopappus filifolius</i> var. <i>cinereus</i>	common hyalineherb	Native	Pres	May-Oct	X	X		
Compositae (Asteraceae)	<i>Hymenoxys acaulis</i> var. <i>ivesiana</i>	Canyonlands hymenoxys	Native	Pres	Apr-Jun	X	X		

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

Family	Species name	Common name	Nativity	Park status	Flower time	Pin-Jun	PonP-DF	Wet	Comments
<i>Perennial Forbs, cont.</i>									
Compositae (Asteraceae)	<i>Machaeranthera canescens</i> var. <i>aristata</i>	aristate aster	Native	Pres	Jul-Oct	X			
Compositae (Asteraceae)	<i>Machaeranthera canescens</i> var. <i>leucanthemifolia</i>	thickleaf aster	Native	Pres	May-Sep	X	X		
Compositae (Asteraceae)	<i>Machaeranthera grindelioides</i> var. <i>grindeloides</i>	gumweed aster	Native	Pres	May-Jul	X	X		
Compositae (Asteraceae)	<i>Petradoria pumila</i> var. <i>pumila</i>	rock-goldenrod	Native	Pres	Jul-Sep	X	X		
Compositae (Asteraceae)	<i>Senecio multilobatus</i>	basin groundsel	Native	Pres	Apr-Aug	X	X		
Compositae (Asteraceae)	<i>Senecio spartioides</i> var. <i>multicapitatus</i>	many-headed groundsel	Native	Rep	Jun-Oct	X		X	Saline soils
Compositae (Asteraceae)	<i>Senecio spartioides</i> var. <i>spartioides</i>	broom groundsel	Native	Pres	Jun-Oct	X	X		Sandy soils
Compositae (Asteraceae)	<i>Solidago canadensis</i> var. <i>salebrosa</i>	Canadian goldenrod	Native	Pres	Aug-Oct			X	
Compositae (Asteraceae)	<i>Solidago velutina</i>	three-nerve goldenrod	Native	Pres	Aug-Oct	X	X		
Compositae (Asteraceae)	<i>Stephanomeria pauciflora</i>	brown-plume wire-lettuce	Native	Rep	May-Oct	X			Sandy soils
Compositae (Asteraceae)	<i>Stephanomeria tenuifolia</i> var. <i>tenuifolia</i>	slender wire-lettuce	Native	Pres	Jun-Sep	X	X	X	
Compositae (Asteraceae)	<i>Taraxacum officinale</i>	common dandelion	Intro	Pres	Apr-Dec	X	X	X	
Compositae (Asteraceae)	<i>Townsendia incana</i>	hoary townsendia	Native	Pres	Apr-Jul	X			
Compositae (Asteraceae)	<i>Tragopogon dubius</i>	yellow salsify	Intro	Pres	May-Jul			X	
Compositae (Asteraceae)	<i>Wyethia scabra</i>	rough mule's-ears	Native	Rep	May-Aug	X	X		Sandy soils
Compositae (Asteraceae)	<i>Xylorhiza venusta</i>	Cisco woodyaster	Native	Rep	Apr-Jun	X			Saline & seleniferous soils
Convolvulaceae	<i>Convolvulus arvensis</i>	field bindweed	Intro	Rep	Jun-Aug				Disturbed areas

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

Family	Species name	Common name	Nativity	Park status	Flower time	Pin-Jun	PonP-DF	Wet	Comments
<i>Perennial Forbs, cont.</i>									
Cruciferae (Brassicaceae)	<i>Arabis holboellii</i> var. <i>secunda</i>	Holboell's rockcress	Native	Pres	May-Jul	X	X		
Cruciferae (Brassicaceae)	<i>Arabis perennans</i> var. <i>perennans</i>	perennial rockcress	Native	Pres	Mar-Jul	X	X		
Cruciferae (Brassicaceae)	<i>Arabis pulchra</i> var. <i>pallens</i>	desert rockcress	Native	Rep	Mar-Jun	X			
Cruciferae (Brassicaceae)	<i>Arabis selbyi</i>	Selby's rockcress	Native	Pres	May-Aug	X	X		
Cruciferae (Brassicaceae)	<i>Caulanthus crassicaulis</i> var. <i>glaber</i>	smooth spindlestem	Native	Hist	May-Jul	X	X		
Cruciferae (Brassicaceae)	<i>Erysimum asperum</i> var. <i>purshii</i>	sand dune wallflower	Native	Pres	Apr-Aug	X	X		
Cruciferae (Brassicaceae)	<i>Erysimum inconspicuum</i>	shy wallflower	Native	Pres	Apr-Jul		X		
Cruciferae (Brassicaceae)	<i>Lepidium alysooides</i> var. <i>eastwoodiae</i>	Eastwood's tall pepperwort	Native	Pres	Jul-Oct	X		X	
Cruciferae (Brassicaceae)	<i>Lepidium moabense</i>	Moab pepperplant	Native	Pres	Aug-Oct			X	
Cruciferae (Brassicaceae)	<i>Lepidium montanum</i> var. <i>jonesii</i>	Jones' pepperwort	Native	Pres	Apr-Sep	X			
Cruciferae (Brassicaceae)	<i>Physaria acutifolia</i> var. <i>acutifolia</i>	sharp-leaf twinpod	Native	Pres	May-Jul	X	X		
Cruciferae (Brassicaceae)	<i>Physaria ludoviciana</i>	silver bladderpod	Native	Rep	May-Jun	X	X		
Cruciferae (Brassicaceae)	<i>Physaria newberryi</i>	Newberry's twinpod	Native	Pres	Mar-Jun	X	X		
Cruciferae (Brassicaceae)	<i>Physaria rectipes</i>	Colorado Plateau bladderpod	Native	Pres	Apr-Aug	X	X		
Cruciferae (Brassicaceae)	<i>Rorippa islandica</i> var. <i>hispida</i>	hairy yellowcress	Native	Rep	Jun-Sep			X	
Cruciferae (Brassicaceae)	<i>Stanleya pinnata</i>	prince's-plume	Native	Pres	Apr-Sep	X	X		Often on seleniferous soils
Cruciferae (Brassicaceae)	<i>Streptanthus cordatus</i>	heart-leaf jewelflower	Native	Pres	Apr-Jul	X	X		

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

Family	Species name	Common name	Nativity	Park status	Flower time	Pin-Jun	PonP-DF	Wet	Comments
<i>Perennial Forbs, cont.</i>									
Cruciferae (Brassicaceae)	<i>Thelypodium integrifolium</i> var. <i>gracilipes</i>	Moab thelypody	Native	Pres	Jun-Sep			X	
Euphorbiaceae	<i>Chamaesyce fendleri</i>	Fendler's spurge	Native	Pres	May-Sep	X	X		
Euphorbiaceae	<i>Euphorbia brachycera</i>	shorthorn spurge	Native	Pres	May-Jun	X		X	
Fumariaceae	<i>Corydalis aurea</i> var. <i>occidentalis</i>	golden corydalis	Native	Rep	Apr-Sep	X	X		
Gentianaceae	<i>Swertia radiata</i>	elkweed	Native	Pres	Jun-Aug		X		
Gentianaceae	<i>Swertia utahensis</i>	Utah swertia	Native	Pres	Jun-Jul	X			Sandy soils
Geraniaceae	<i>Geranium caespitosum</i> var. <i>marginale</i>	small-leaf geranium	Native	Rep	Jun-Aug	X	X		
Hydrophyllaceae	<i>Phacelia heterophylla</i>	wand phacelia	Native	Rep	Jun-Aug		X		
Labiatae (Lamiaceae)	<i>Hedeoma drummondii</i>	mock pennyroyal	Native	Pres	May-Aug	X	X		
Labiatae (Lamiaceae)	<i>Marrubium vulgare</i>	common horehound	Intro	Pres	May-Oct				Disturbed areas
Leguminosae (Fabaceae)	<i>Astragalus amphioxys</i> var. <i>vespertinus</i>	Sheldon's milkvetch	Native	Pres	Mar-Jun	X			
Leguminosae (Fabaceae)	<i>Astragalus ceramicus</i> var. <i>ceramicus</i>	painted milkvetch	Native	Pres	Apr-Jun	X		X	Sandy soils
Leguminosae (Fabaceae)	<i>Astragalus coltonii</i> var. <i>moabensis</i>	Moab milkvetch	Native	Pres	Apr-Jun	X			
Leguminosae (Fabaceae)	<i>Astragalus cottamii</i>	Cottam's milkvetch	Native	Pres	Apr-Jun	X			Cedar Mesa Sandstone
Leguminosae (Fabaceae)	<i>Astragalus moencoppensis</i>	Moenkopi milkvetch	Native	Rep	May-Jul	X			
Leguminosae (Fabaceae)	<i>Astragalus mollissimus</i> var. <i>thompsoniae</i>	woolly milkvetch	Native	Pres	Feb-Jun	X			
Leguminosae (Fabaceae)	<i>Astragalus nidularius</i>	birds-nest milkvetch	Native	Pres	Apr-Jun	X			
Leguminosae (Fabaceae)	<i>Astragalus scopulorum</i>	Rocky Mountain milkvetch	Native	Pres	May-Aug	X	X		
Leguminosae (Fabaceae)	<i>Astragalus wingatanus</i>	Fort Wingate milkvetch	Native	Pres	Apr-Jul	X			
Leguminosae (Fabaceae)	<i>Dalea flavescens</i> var. <i>flavescens</i>	Kanab prairie-clover	Native	Pres	May-Jul	X			Sandy soils

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

Family	Species name	Common name	Nativity	Park status	Flower time	Pin-Jun	PonP-DF	Wet	Comments
<i>Perennial Forbs, cont.</i>									
Leguminosae (Fabaceae)	<i>Dalea oligophylla</i>	white prairie-clover	Native	Pres	May-Sep	X			Sandy soils
Leguminosae (Fabaceae)	<i>Lathyrus brachycalyx</i> var. <i>zionis</i>	Zion sweetpea	Native	Pres	Apr-Jun	X	X		Sandy soils
Leguminosae (Fabaceae)	<i>Lupinus argenteus</i> var. <i>moabensis</i>	Moab lupine	Native	Pres	May-Aug	X			
Leguminosae (Fabaceae)	<i>Lupinus caudatus</i> var. <i>utahensis</i>	Utah lupine	Native	Rep	May-Aug	X	X		
Leguminosae (Fabaceae)	<i>Lupinus polyphyllus</i> var. <i>ammophilus</i>	sand lupine	Native	Pres	Jun-Aug	X	X		Sandy soils
Leguminosae (Fabaceae)	<i>Medicago sativa</i>	alfalfa	Intro	Pres	May-Sep				Disturbed areas
Leguminosae (Fabaceae)	<i>Melilotus officinalis</i>	yellow sweet-clover	Intro	Pres	May-Oct				Disturbed areas
Leguminosae (Fabaceae)	<i>Pediemelum aromaticum</i> var. <i>aromaticum</i>	aromatic breadroot	Native	Pres	May-Jun	X			Cutler & Moenkopi F.
Leguminosae (Fabaceae)	<i>Psoraleidium lanceolatum</i> var. <i>stenophyllum</i>	slenderleaf scurfpea	Native	Rep	Apr-Aug	X			Sandy soils
Leguminosae (Fabaceae)	<i>Thermopsis montana</i>	montane golden pea	Native	Pres	May-Aug		X	X	
Leguminosae (Fabaceae)	<i>Trifolium longipes</i> var. <i>rusbyi</i>	Rusby's clover	Native	Pres	May-Aug		X	X	
Liliaceae (Alliaceae)	<i>Allium macropetalum</i>	San Juan onion	Native	Pres	May-Jun	X			
Liliaceae (Alliaceae or Themidaceae)	<i>Androstegium breviflorum</i>	pink funnel-lily	Native	Pres	Apr-May	X			Saline to seleniferous soils
Liliaceae (Calochortaceae)	<i>Calochortus flexuosus</i>	sinuous mariposa	Native	Rep	Apr-Jun	X			
Liliaceae (Calochortaceae)	<i>Calochortus nuttallii</i>	sego-lily	Native	Pres	Jun-Jul	X	X		
Liliaceae (Alliaceae or Anthericaceae)	<i>Eremocrinum albomarginatum</i>	sand lily	Native	Rep	Apr-Jun	X			
Liliaceae (Convallariaceae or Ruscaceae)	<i>Smilacina stellata</i>	starry false Solomon's-seal	Native	Pres	Apr-Jun	X	X	X	

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

Family	Species name	Common name	Nativity	Park status	Flower time	Pin-Jun	PonP-DF	Wet	Comments
<i>Perennial Forbs, cont.</i>									
Liliaceae (Melanthiaceae)	<i>Zigadenus elegans</i>	mountain death camas	Native	Rep	Jun-Aug		X	X	
Liliaceae (Melanthiaceae)	<i>Zigadenus vaginatus</i>	alcove death camas	Native	Pres	Jul-Aug			X	
Liliaceae (Melanthiaceae)	<i>Zigadenus venenosus</i>	meadow death camas	Native	Pres	Apr-Jul	X	X	X	
Linaceae	<i>Linum perenne</i> ssp. <i>lewisii</i>	blue flax	Native	Pres	Apr-Aug	X	X		
Linaceae	<i>Linum subteres</i>	Utah yellow-flax	Native	Pres	May-Aug	X	X		Sandy soils
Loasaceae	<i>Mentzelia marginata</i>	Colorado stickleaf	Native	Pres	Apr-Oct	X			
Loasaceae	<i>Mentzelia multiflora</i>	desert stickleaf	Native	Pres	Apr-Sep	X			
Malvaceae	<i>Sphaeralcea coccinea</i>	scarlet globemallow	Native	Rep	Apr-Oct	X	X		
Malvaceae	<i>Sphaeralcea parvifolia</i>	small-leaf globemallow	Native	Pres	Mar-Oct	X	X		
Nyctaginaceae	<i>Abronia fragrans</i>	fragrant sand-verbena	Native	Pres	Apr-Sep	X	X		
Nyctaginaceae	<i>Mirabilis linearis</i> var. <i>linearis</i>	narrow-leaf four-o'clock	Native	Pres	May-Aug	X	X	X	
Nyctaginaceae	<i>Mirabilis multiflora</i>	showy four-o'clock	Native	Pres	Apr-Jul	X			
Nyctaginaceae	<i>Mirabilis oxybaphoides</i>	spreading four-o'clock	Native	Pres	May-Sep	X	X	X	
Onagraceae	<i>Calylophus lavandulifolius</i>	lavender-leaf sundrops	Native	Pres	May-Aug	X	X		
Onagraceae	<i>Oenothera caespitosa</i> var. <i>caespitosa</i>	tufted evening-primrose	Native	Rep	Apr-Jun	X	X		
Onagraceae	<i>Oenothera elata</i>	western evening-primrose	Native	Pres	Jun-Aug	X	X	X	
Onagraceae	<i>Oenothera flava</i> var. <i>flava</i>	yellow evening-primrose	Native	Pres	Jun-Jul		X	X	
Onagraceae	<i>Oenothera longissima</i>	Bridges evening-primrose	Native	Pres	Jun-Sep			X	
Onagraceae	<i>Oenothera pallida</i> var. <i>pallida</i>	pale evening-primrose	Native	Pres	May-Jul	X	X		
Orchidaceae	<i>Epipactis gigantea</i>	giant helleborine	Native	Pres	Apr-Aug			X	
Orchidaceae	<i>Habenaria zothecina</i>	alcove bog-orchid	Native	Pres	Jul-Aug			X	
Orobanchaceae	<i>Orobanche ludoviciana</i> var. <i>cooperi</i>	Cooper's broomrape	Native	Pres	May-Jul	X	X		
Polemoniaceae	<i>Gilia subnuda</i>	carmine gilia	Native	Pres	May-Jun	X	X		
Polemoniaceae	<i>Ipomopsis aggregata</i> var. <i>aggregata</i>	scarlet gilia	Native	Pres	May-Aug	X	X	X	

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

Family	Species name	Common name	Nativity	Park status	Flower time	Pin-Jun	PonP-DF	Wet	Comments
<i>Perennial Forbs, cont.</i>									
Polemoniaceae	<i>Ipomopsis congesta</i> var. <i>frutescens</i>	shrubby gilia	Native	Pres	Jun-Sep	X	X		Sandy soil
Polemoniaceae	<i>Ipomopsis roseata</i>	San Rafael gilia	Native	Pres	May-Jun	X	X		
Polemoniaceae	<i>Phlox hoodii</i> var. <i>canescens</i>	carpet phlox	Native	Rep	Apr-Jun	X	X		
Polemoniaceae	<i>Phlox longifolia</i>	long-leaf phlox	Native	Pres	Apr-Jul	X	X		
Polygonaceae	<i>Eriogonum alatum</i>	winged wild buckwheat	Native	Pres	Jun-Oct	X	X		Sandy soils
Polygonaceae	<i>Eriogonum ovalifolium</i>	cushion wild buckwheat	Native	Rep	Apr-Aug	X			
Polygonaceae	<i>Eriogonum racemosum</i> var. <i>racemosum</i>	redroot wild buckwheat	Native	Rep	Jun-Oct	X	X		
Polygonaceae	<i>Eriogonum umbellatum</i> var. <i>subaridum</i>	arid wild buckwheat	Native	Rep	Jun-Oct	X	X		
Polygonaceae	<i>Rumex hymenosepalus</i>	canaigre dock	Native	Pres	Apr-Jun	X			
Portulacaceae	<i>Talinum brevifolium</i>	sausageleaf talinum	Native	Rep	Jun-Oct	X			Cedar Mesa Sandstone
Ranunculaceae (Helleboraceae)	<i>Aquilegia flavescens</i>	yellow columbine	Native	Rep	Jun-Aug			X	
Ranunculaceae (Helleboraceae)	<i>Aquilegia micrantha</i>	alcove columbine	Native	Pres	May-Jun			X	
Ranunculaceae	<i>Clematis columbiana</i>	Columbian virgin's-bower	Native	Pres	May-Sep		X		
Ranunculaceae	<i>Clematis hirsutissima</i>	sugar-bowls	Native	Rep	May-Aug		X		
Ranunculaceae	<i>Clematis ligusticifolia</i>	white virgin's-bower	Native	Pres	Jul-Aug			X	
Ranunculaceae (Helleboraceae)	<i>Delphinium andersonii</i> var. <i>scaposum</i>	pale larkspur	Native	Rep	Apr-Jun	X			
Ranunculaceae (Helleboraceae)	<i>Delphinium nuttallianum</i>	Nuttall's larkspur	Native	Pres	Apr-Jul	X	X		
Ranunculaceae	<i>Ranunculus cymbalaria</i>	marsh buttercup	Native	Pres	May-Sep			X	
Rosaceae	<i>Petrophyton caespitosum</i>	rock spiraea	Native	Pres	Aug-Sep	X	X		Rock crevices
Rubiaceae	<i>Galium multiflorum</i> var. <i>coloradoense</i>	Colorado bedstraw	Native	Pres	May-Aug	X	X		
Rubiaceae	<i>Galium multiflorum</i> var. <i>multiflorum</i>	shrubby bedstraw	Native	Pres	May-Aug	X	X		
Santalaceae	<i>Comandra umbellata</i> var. <i>pallida</i>	bastard toadflax	Native	Pres	Apr-Aug	X	X		
Scrophulariaceae	<i>Castilleja chromosa</i>	desert paintbrush	Native	Pres	Apr-Jun	X			

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

Family	Species name	Common name	Nativity	Park status	Flower time	Pin-Jun	PonP-DF	Wet	Comments
<i>Perennial Forbs, cont.</i>									
Scrophulariaceae	<i>Castilleja linariifolia</i>	Wyoming paintbrush	Native	Pres	Jul-Aug	X	X		
Scrophulariaceae	<i>Castilleja scabrida</i> var. <i>scabrida</i>	Eastwood's paintbrush	Native	Pres	May-Jul	X	X		Sandstone
Scrophulariaceae	<i>Linaria dalmatica</i>	Dalmatian toadflax	Intro	Rep	Jul-Aug				Disturbed areas
Scrophulariaceae	<i>Mimulus eastwoodiae</i>	Eastwood's monkey-flower	Native	Pres	May-Sep			X	Sandstone
Scrophulariaceae	<i>Mimulus guttatus</i>	yellow monkeyflower	Native	Rep	Jun-Aug			X	
Scrophulariaceae	<i>Pedicularis centranthera</i>	dwarf lousewort	Native	Pres	Apr-Jun	X	X		
Scrophulariaceae	<i>Penstemon barbatus</i> var. <i>barbatus</i>	beardlip penstemon	Native	Rep	Jun-Jul			X	Sandy soils
Scrophulariaceae	<i>Penstemon comarrhenus</i>	dusty penstemon	Native	Pres	Jun-Aug	X	X		
Scrophulariaceae	<i>Penstemon cyanocaulis</i>	bluestem penstemon	Native	Pres	May-Jun	X	X		Sandy soils
Scrophulariaceae	<i>Penstemon eatonii</i> var. <i>eatonii</i>	Eaton's firecracker	Native	Pres	May-Jul	X	X		
Scrophulariaceae	<i>Penstemon lentus</i> var. <i>albiflorus</i>	whiteflower penstemon	Native	Pres	May-Jun	X	X		
Scrophulariaceae	<i>Penstemon palmeri</i> var. <i>palmeri</i>	Palmer's penstemon	Native	Pres	May-Aug	X	X		
Scrophulariaceae	<i>Penstemon rostriflorus</i>	beaked penstemon	Native	Rep	Jun-Aug	X	X		X
Scrophulariaceae	<i>Penstemon strictiformis</i>	Natural Bridges penstemon	Native	Pres	May-Jul	X			
Scrophulariaceae	<i>Penstemon strictus</i>	Rocky Mountain penstemon	Native	Pres	Jun-Aug	X	X		
Scrophulariaceae	<i>Penstemon utahensis</i>	Utah penstemon	Native	Rep	Apr-Jun	X			
Scrophulariaceae	<i>Veronica americana</i>	American brooklime	Native	Pres	Jul-Aug			X	
Scrophulariaceae	<i>Veronica anagallis-aquatica</i>	water speedwell	Intro	Pres	Jun-Aug			X	
Umbelliferae (Apiaceae)	<i>Aletes macdougalii</i> var. <i>breviradiatus</i>	canyonland spring-parsley	Native	Pres	Feb-May	X	X		Rock crevices & sandy areas
Umbelliferae (Apiaceae)	<i>Cymopterus acaulis</i> var. <i>fendleri</i>	Fendler's cymopterus	Native	Pres	Apr-May	X			Sandy soils
Umbelliferae (Apiaceae)	<i>Cymopterus hendersonii</i>	mountain spring-parsley	Native	Pres	Jun-Jul			X	Rock crevices
Umbelliferae (Apiaceae)	<i>Cymopterus purpurascens</i>	basin white-cup spring-parsley	Native	Pres	Mar-May	X	X		
Umbelliferae (Apiaceae)	<i>Cymopterus purpureus</i> var. <i>purpureus</i>	Colorado Plateau spring-parsley	Native	Pres	Apr-Jun	X	X		

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

Family	Species name	Common name	Nativity	Park status	Flower time	Pin-Jun	PonP-DF	Wet	Comments
<i>Perennial Forbs, cont.</i>									
Umbelliferae (Apiaceae)	<i>Cymopterus terebinthinus</i> var. <i>petraeus</i>	rock spring-parsley	Native	Pres	Apr–May	X			
Umbelliferae (Apiaceae)	<i>Lomatium parryi</i>	Parry's lomatium	Native	Pres	Apr–Jun	X	X		
Verbenaceae	<i>Verbena bracteata</i>	prostrate vervain	Native	Pres	May–Sep	X	X		
Viscaceae	<i>Arceuthobium divaricatum</i>	pinyon dwarf-mistletoe	Native	Pres	Aug–Sep	X			
Viscaceae	<i>Phoradendron juniperinum</i>	juniper mistletoe	Native	Pres	Jul–Sep	X			
Annual Forbs									
Amaranthaceae	<i>Amaranthus albus</i>	tumble pigweed	Intro	Rep	Jun–Oct				Disturbed areas
Amaranthaceae	<i>Amaranthus blitoides</i>	prostrate pigweed	Native	Pres	Jun–Sep				Disturbed areas
Amaranthaceae	<i>Amaranthus retroflexus</i>	redroot pigweed	Intro	Pres	Jun–Sep				Disturbed areas
Boraginaceae	<i>Cryptantha crassispala</i> var. <i>elachantha</i>	thick-sealed cryptanth	Native	Rep	Apr–Jun	X			
Boraginaceae	<i>Cryptantha gracilis</i>	slender cryptanth	Native	Rep	Apr–Jul	X	X		
Boraginaceae	<i>Heliotropium convolvulaceum</i>	bindweed heliotrope	Native	Rep	May–Sep	X			Sandy soils
Boraginaceae	<i>Lappula occidentalis</i> var. <i>cupulata</i>	cupseed stickseed	Native	Pres	Apr–Jun	X	X		
Boraginaceae	<i>Lappula occidentalis</i> var. <i>occidentalis</i>	western stickseed	Native	Pres	Apr–Jun	X	X		
Capparaceae (Cleomaceae)	<i>Cleome lutea</i>	yellow beepiant	Native	Pres	Apr–Sep	X	X		
Capparaceae (Cleomaceae)	<i>Cleome serrulata</i>	Rocky Mountain beepiant	Native	Pres	May–Oct			X	
Caryophyllaceae	<i>Silena antirrhina</i>	sleepy catchfly	Native	Rep	May–Aug	X	X		
Chenopodiaceae	<i>Bassia hyssopifolia</i>	five-horn smotherweed	Intro	Rep	Aug–Oct			X	Saline soils
Chenopodiaceae	<i>Chenopodium album</i> var. <i>album</i>	lambquarter	Intro	Rep	Jun–Sep				Disturbed areas
Chenopodiaceae	<i>Chenopodium desiccatum</i>	desert goosefoot	Native	Pres	Jun–Sep	X		X	
Chenopodiaceae	<i>Chenopodium fremontii</i> var. <i>fremontii</i>	Fremont's goosefoot	Native	Pres	Aug–Oct	X	X		
Chenopodiaceae	<i>Chenopodium leptophyllum</i>	narrow-leaf goosefoot	Native	Pres	Jul–Sep		X	X	
Chenopodiaceae	<i>Corispermum americanum</i>	American bugseed	Native	Pres	Aug–Oct	X			Sandy soils

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

Family	Species name	Common name	Nativity	Park status	Flower time	Pin-Jun	PonP-DF	Wet	Comments
<i>Annual Forbs, cont.</i>									
Chenopodiaceae	<i>Salsola tragus</i>	Russian thistle	Intro	Pres	Jun-Sep				Disturbed areas
Compositae (Asteraceae)	<i>Ambrosia acanthicarpa</i>	bur ragweed	Native	Pres	Jul-Oct	X		X	Sandy soils
Compositae (Asteraceae)	<i>Chaenactis stevioides</i>	stevia dusty-maiden	Native	Rep	Apr-Jul	X			
Compositae (Asteraceae)	<i>Conyza canadensis</i> var. <i>glabrata</i>	Canadian horseweed	Native	Pres	Jul-Sep			X	
Compositae (Asteraceae)	<i>Dyssodia papposa</i>	pappose glandweed	Intro*	Pres	Aug-Sep				Sandy areas
Compositae (Asteraceae)	<i>Helianthus annuus</i> var. <i>lenticularis</i>	common sunflower	Native	Rep	Jun-Sep	X	X		
Compositae (Asteraceae)	<i>Helianthus petiolaris</i> ssp. <i>fallax</i>	prairie sunflower	Native	Pres	Jun-Sep	X		X	
Compositae (Asteraceae)	<i>Lactuca serriola</i>	prickly lettuce	Intro	Pres	Jul-Sep	X		X	
Compositae (Asteraceae)	<i>Malacothrix glabrata</i>	filiform desert-dandelion	Native	Pres	Apr-Jul	X			
Compositae (Asteraceae)	<i>Prenanthes exigua</i>	prenanthella	Native	Rep	May-Jun	X			
Compositae (Asteraceae)	<i>Sonchus asper</i>	spiny-leaf sow-thistle	Intro	Rep	Jul-Oct			X	
Compositae (Asteraceae)	<i>Sonchus oleraceus</i>	common sow-thistle	Intro	Rep	Jul-Oct			X	Disturbed areas
Compositae (Asteraceae)	<i>Verbena encelioides</i> var. <i>exauriculata</i>	golden crownbeard	Native	Pres	May-Oct	X	X		
Compositae (Asteraceae)	<i>Xanthium strumarium</i> var. <i>canadense</i>	rough cocklebur	Native	Pres	Apr-Oct			X	
Cruciferae (Brassicaceae)	<i>Descurainia californica</i>	California tansy-mustard	Native	Rep	Jun-Sep	X	X		
Cruciferae (Brassicaceae)	<i>Descurainia pinnata</i> var. <i>nelsonii</i>	western tansy-mustard	Native	Pres	Mar-Aug	X	X		
Cruciferae (Brassicaceae)	<i>Descurainia pinnata</i> var. <i>osmiarum</i>	western tansy-mustard	Native	Pres	Mar-Aug	X	X		
Cruciferae (Brassicaceae)	<i>Draba cuneifolia</i> var. <i>cuneifolia</i>	wedgeleaf draba	Native	Pres	Feb-Jul	X	X		

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

Family	Species name	Common name	Nativity	Park status	Flower time	Pin-Jun	PonP-DF	Wet	Comments
<i>Annual Forbs, cont.</i>									
Cruciferae (Brassicaceae)	<i>Malcolmia africana</i>	African mustard	Intro	Pres	Apr–Jul				Disturbed areas
Cruciferae (Brassicaceae)	<i>Sisymbrium altissimum</i>	tumble mustard	Intro	Pres	May–Aug				Disturbed areas
Cruciferae (Brassicaceae)	<i>Sisymbrium irio</i>	London mustard	Intro	Rep	Apr–May				Disturbed areas
Cruciferae (Brassicaceae)	<i>Streptanthella longirostris</i>	long-beak fiddle-mustard	Native	Pres	Mar–Jun	X			
Euphorbiaceae	<i>Chamaesyce glyptosperma</i>	ridge-seeded spurge	Native	Pres	Jun–Aug	X	X		
Geraniaceae	<i>Erodium cicutarium</i>	stork's-bill	Intro	Pres	Feb–Oct	X			
Hydrophyllaceae	<i>Phacelia crenulata</i> var. <i>corrugata</i>	corrugate phacelia	Native	Rep	May–Jun	X			
Hydrophyllaceae	<i>Phacelia ivesiana</i>	ives' phacelia	Native	Pres	Apr–Jun	X			
Leguminosae (Fabaceae)	<i>Lupinus kingii</i> var. <i>kingii</i>	King's lupine	Native	Rep	May–Aug	X	X		
Leguminosae (Fabaceae)	<i>Lupinus pusillus</i> var. <i>pusillus</i>	dwarf lupine	Native	Rep	Apr–Jul	X			Sandy soils
Leguminosae (Fabaceae)	<i>Medicago lupulina</i>	black medick	Intro	Rep	May–Oct			X	
Leguminosae (Fabaceae)	<i>Melilotus alba</i>	white sweet-clover	Intro	Pres	May–Oct			X	
Linaceae	<i>Linum aristatum</i>	broom-flax	Native	Pres	Apr–Jun	X	X		Sandy soils
Onagraceae	<i>Oenothera albicaulis</i>	white-stem evening-primrose	Native	Rep	Mar–Jun	X			
Plantaginaceae	<i>Plantago patagonica</i>	woolly plantain	Native	Pres	Apr–Jul	X			
Polemoniaceae	<i>Gilia imperialis</i>	Cataract gilia	Native	Pres	Mar–May	X			
Polemoniaceae	<i>Gilia inconspicua</i>	shy gilia	Native	Pres	Apr–Jul	X	X		
Polemoniaceae	<i>Gilia leptomeria</i> var. <i>leptomeria</i>	common gilia	Native	Pres	May–Jun	X	X		
Polemoniaceae	<i>Ipomopsis gunnisonii</i>	Gunnison's gilia	Native	Rep	May–Jun	X	X		Sandy soils
Polygonaceae	<i>Eriogonum cernuum</i> var. <i>cernuum</i>	nodding wild buckwheat	Native	Pres	Apr–Oct	X	X		
Polygonaceae	<i>Eriogonum deflexum</i>	skeletonweed wild buckwheat	Native	Rep	Apr–Oct	X			

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

Family	Species name	Common name	Nativity	Park status	Flower time	Pin-Jun	PonP-DF	Wet	Comments
<i>Annual Forbs, cont.</i>									
Polygonaceae	<i>Eriogonum inflatum</i> var. <i>fusiforme</i>	Grand Valley desert trumpet	Native	Rep	Apr-Jul	X			Clay soils
Polygonaceae	<i>Eriogonum wetherillii</i>	Wetherill's wild buckwheat	Native	Rep	Apr-Oct	X			
Polygonaceae	<i>Polygonum aviculare</i>	yard knotweed	Intro	Pres	May-Oct				
Portulacaceae	<i>Portulaca oleracea</i>	common purslane	Intro	Pres	Jun-Sep				
Ranunculaceae	<i>Ranunculus testiculatus</i>	bur buttercup	Intro	Rep	Feb-May	X			
Rubiaceae	<i>Galium aparine</i> var. <i>echinospermon</i>	cleavers	Native	Rep	Apr-Jun	X	X	X	
Scrophulariaceae	<i>Cordylanthus kingii</i> var. <i>kingii</i>	King's bird's-beak	Native	Rep	Jun-Sep	X	X		
Scrophulariaceae	<i>Cordylanthus wrightii</i>	Wright's bird's-beak	Native	Pres	Jul-Sep	X	X		Sandy soils
Scrophulariaceae	<i>Mimulus rubellus</i>	reddish monkeyflower	Native	Rep	Apr-Jun	X	X		
Solanaceae	<i>Datura wrightii</i>	angel's trumpet	Native	Rep	Apr-Oct	X			
Solanaceae	<i>Nicotiana attenuata</i>	coyote tobacco	Native	Pres	Jun-Sep	X			
Solanaceae	<i>Solanum triflorum</i>	cut-leaf nightshade	Native	Pres	May-Sep	X			
Zygophyllaceae	<i>Tribulus terrestris</i>	puncture vine	Intro	Rep	May-Sep				
Perennial Graminoids									
Cyperaceae	<i>Carex aurea</i>	golden sedge	Native	Pres	Apr-Aug			X	
Cyperaceae	<i>Carex microptera</i>	small-wing sedge	Native	Pres	Jun-Aug			X	
Cyperaceae	<i>Carex praegracilis</i>	blackcreeper sedge	Native	Pres	May-Aug			X	
Cyperaceae	<i>Carex rossii</i>	Ross' sedge	Native	Pres	May-Aug	X	X		
Gramineae (Poaceae)	<i>Agropyron cristatum</i>	crested wheatgrass	Intro	Pres	Jun-Aug	X	X		
Gramineae (Poaceae)	<i>Agrostis exarata</i>	spike bentgrass	Native	Pres	Jul-Aug			X	
Gramineae (Poaceae)	<i>Agrostis stolonifera</i>	redtop	Intro	Pres	Jun-Sep			X	
Gramineae (Poaceae)	<i>Andropogon gerardii</i> var. <i>chrysocomus</i>	Hall's bluestem	Native	Pres	Jul-Sep	X	X	X	
Gramineae (Poaceae)	<i>Andropogon gerardii</i> var. <i>gerardii</i>	big bluestem	Native	Pres	Jul-Sep	X	X		
Gramineae (Poaceae)	<i>Aristida purpurea</i>	purple three-awn	Native	Pres	Mar-Sep	X	X		
Gramineae (Poaceae)	<i>Bouteloua curtipendula</i>	sideoats grama	Native	Pres	Jul-Sep	X	X		
Gramineae (Poaceae)	<i>Bouteloua gracilis</i>	blue grama	Native	Pres	Jul-Sep	X	X		
Gramineae (Poaceae)	<i>Bromus inermis</i> var. <i>inermis</i>	smooth brome	Intro	Pres	Jun-Aug	X	X	X	

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

Family	Species name	Common name	Nativity	Park status	Flower time	Pin-Jun	PonP-DF	Wet	Comments
<i>Perennial Graminoids, cont.</i>									
Gramineae (Poaceae)	<i>Calamagrostis scopulorum</i>	Jones' reedgrass	Native	Pres	Jul-Aug		X	X	
Gramineae (Poaceae)	<i>Dactylis glomerata</i>	orchard grass	Intro	Rep	Jun-Aug		X		
Gramineae (Poaceae)	<i>Distichlis spicata</i>	desert saltgrass	Native	Rep	Jun-Sep			X	
Gramineae (Poaceae)	<i>Elymus canadensis</i>	Canada wildrye	Native	Pres	Jul-Aug			X	
Gramineae (Poaceae)	<i>Elymus elymoides</i>	squirreltail	Native	Pres	May-Aug	X	X	X	
Gramineae (Poaceae)	<i>Elymus salinus</i>	Salina wildrye	Native	Pres	Jun-Jul	X			
Gramineae (Poaceae)	<i>Elymus smithii</i>	western wheatgrass	Native	Pres	Jun-Aug	X	X		
Gramineae (Poaceae)	<i>Elymus trachycaulus</i>	slender wheatgrass	Native	Pres	Jun-Aug		X	X	
Gramineae (Poaceae)	<i>Erioneuron pilosum</i>	hairy tridens	Native	Pres	May-Jul	X			
Gramineae (Poaceae)	<i>Festuca pratensis</i>	meadow fescue	Intro	Pres	Jun-Aug		X	X	
Gramineae (Poaceae)	<i>Glyceria striata</i>	fowl mannagrass	Native	Pres	Jul-Aug			X	
Gramineae (Poaceae)	<i>Hilaria jamesii</i>	galleta	Native	Pres	May-Aug	X			
Gramineae (Poaceae)	<i>Hordeum jubatum</i>	foxtail barley	Native	Pres	Jun-Aug	X	X	X	
Gramineae (Poaceae)	<i>Muhlenbergia andina</i>	foxtail muhly	Native	Pres	Jul-Sep			X	
Gramineae (Poaceae)	<i>Muhlenbergia asperifolia</i>	scratchgrass	Native	Pres	Jul-Aug			X	
Gramineae (Poaceae)	<i>Muhlenbergia pauciflora</i>	New Mexican muhly	Native	Pres	Aug-Sep	X	X		
Gramineae (Poaceae)	<i>Muhlenbergia pungens</i>	sandhill muhly	Native	Pres	Jul-Sep	X			
Gramineae (Poaceae)	<i>Muhlenbergia thurberi</i>	Thurber's muhly	Native	Pres	Jul-Sep	X	X	X	
Gramineae (Poaceae)	<i>Oryzopsis micrantha</i>	littleseed ricegrass	Native	Pres	Jun-Aug	X	X		
Gramineae (Poaceae)	<i>Panicum acuminatum</i>	bundle panicgrass	Native	Pres	Jul-Sep			X	Sandy soils
Gramineae (Poaceae)	<i>Phleum pratense</i>	timothy	Intro	Pres	Jun-Sep	X	X	X	
Gramineae (Poaceae)	<i>Phragmites australis</i>	common reed	Native	Pres	Jul-Sep			X	
Gramineae (Poaceae)	<i>Poa bulbosa</i>	bulbous bluegrass	Intro	Pres	Apr-Jul	X	X	X	
Gramineae (Poaceae)	<i>Poa compressa</i>	Canada bluegrass	Intro	Pres	Jun-Aug	X	X	X	
Gramineae (Poaceae)	<i>Poa fendleriana</i>	muttongrass	Native	Pres	May-Aug	X	X		
Gramineae (Poaceae)	<i>Poa pratensis</i>	Kentucky bluegrass	Intro	Pres	May-Aug	X	X	X	
Gramineae (Poaceae)	<i>Poa secunda</i>	Sandberg's bluegrass	Native	Rep	Apr-Sep	X	X	X	
Gramineae (Poaceae)	<i>Polypogon semiverticillatus</i>	water polyogon	Intro	Pres	Jul-Aug			X	
Gramineae (Poaceae)	<i>Sporobolus airoides</i> var. <i>airoides</i>	alkali sacaton	Native	Rep	Jun-Aug	X		X	
Gramineae (Poaceae)	<i>Sporobolus cryptandrus</i>	sand dropseed	Native	Pres	Jun-Aug	X			

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

Family	Species name	Common name	Nativity	Park status	Flower time	Pin-Jun	PonP-DF	Wet	Comments
<i>Perennial Graminoids, cont.</i>									
Gramineae (Poaceae)	<i>Stipa comata</i> var. <i>comata</i>	needle-and-thread	Native	Pres	May-Jul	X	X		
Gramineae (Poaceae)	<i>Stipa coronata</i> var. <i>parishii</i>	crested needlegrass	Native	Pres	Jun-Jul	X			
Gramineae (Poaceae)	<i>Stipa hymenoides</i>	Indian ricegrass	Native	Pres	May-Jul	X	X		
Gramineae (Poaceae)	<i>Stipa lettermanii</i>	Letterman's needlegrass	Native	Pres	Jul-Sep	X	X		
Gramineae (Poaceae)	<i>Stipa speciosa</i>	desert needlegrass	Native	Pres	Apr-Jun	X			
Gramineae (Poaceae)	<i>Tridens muticus</i>	slim tridens	Native	Rep	May-Sep	X			
Juncaceae	<i>Juncus arcticus</i>	Baltic rush	Native	Pres	May-Jul			X	
Juncaceae	<i>Juncus ensifolius</i> var. <i>brunnescens</i>	Tracy's rush	Native	Pres	Jun-Aug			X	
Juncaceae	<i>Juncus ensifolius</i> var. <i>montanus</i>	mountain rush	Native	Pres	Jun-Aug			X	
Juncaceae	<i>Juncus longistylis</i>	longstyle rush	Native	Pres	Jun-Aug			X	
Juncaceae	<i>Juncus torreyi</i>	Torrey's rush	Native	Pres	Jun-Aug			X	
Typhaceae	<i>Typha latifolia</i>	broad-leaved cattail	Native	Pres	Jun-Aug			X	
Annual Graminoids									
Gramineae (Poaceae)	<i>Avena fatua</i> var. <i>sativa</i>	oats	Intro	Rep	Jun-Aug				Disturbed areas
Gramineae (Poaceae)	<i>Bromus japonicus</i>	Japanese chess	Intro	Pres	Jun-Aug	X	X	X	
Gramineae (Poaceae)	<i>Bromus rubens</i>	red brome	Intro	Rep	Mar-Jun				Disturbed areas
Gramineae (Poaceae)	<i>Bromus tectorum</i>	cheatgrass	Intro	Pres	Apr-Jul				
Gramineae (Poaceae)	<i>Echinochloa crus-galli</i>	barnyard-grass	Intro	Rep	Aug-Sep			X	
Gramineae (Poaceae)	<i>Festuca octoflora</i>	six-weeks fescue	Native	Pres	Apr-Jun	X	X	X	
Gramineae (Poaceae)	<i>Polygonum monspeliensis</i>	rabbitfoot-grass	Intro	Pres	Jun-Aug			X	
Juncaceae	<i>Juncus bufonius</i>	toad rush	Native	Pres	Jun-Aug			X	
Ferns and Allies									
Equisetaceae	<i>Equisetum arvense</i>	field horsetail	Native	Pres	NA	X	X	X	
Equisetaceae	<i>Equisetum hyemale</i> var. <i>affine</i>	tall scouring-rush	Native	Pres	NA			X	
Equisetaceae	<i>Equisetum laevigatum</i>	smooth scouring-rush	Native	Pres	NA			X	
Polypodiaceae (Adiantaceae)	<i>Adiantum capillus-veneris</i>	southern maidenhair fern	Native	Pres	NA			X	

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

Family	Species name	Common name	Nativity	Park status	Flower time	Pin-Jun	PonP-DF	Wet	Comments
<i>Ferns and Allies, cont.</i>									
Polypodiaceae (Adiantaceae or Sinopteridaceae)	<i>Cheilanthes feei</i>	slender lip-fern	Native	Pres	NA	X	X		Rock crevices
Polypodiaceae (Adiantaceae or Sinopteridaceae)	<i>Pellaea glabella</i> var. <i>occidentalis</i>	western cliffbrake	Native	Pres	NA			X	Rock crevices
Polypodiaceae (Adiantaceae or Sinopteridaceae)	<i>Pellaea limitanea</i>	border cloak-fern	Native	Pres	NA	X			Rock crevices

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.

NPS D-155, January 2009

National Park Service
U.S. Department of the Interior



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