



Annotated Checklist of the Vascular Plant Flora of
Grand Canyon-Parashant National Monument
Phase II Report

By Dr. Terri Hildebrand
Southern Utah University, Cedar City, UT

and Dr. Walter Fertig
Moenave Botanical Consulting, Kanab, UT

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Cover: *Chilopsis linearis* (Desert willow) from Grand Canyon-Parashant National Monument.
Photo by Terri Hildebrand.

INTRODUCTION

One of the primary missions of the National Park Service (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). Because of their high degree of protection and location across a wide spectrum of geologic and vegetation types, national park units play a significant role in the conservation of native biological diversity (Noss and Cooperrider 1994). Unfortunately, many parks have traditionally lacked comprehensive biological inventory programs, making their full contribution to biodiversity conservation unknown. Fully documenting the distribution and abundance of native and introduced species is vital for the effective management and interpretation of the natural values that NPS is charged with conserving.

In 1998, the US Congress passed the National Parks Omnibus Management Act to provide guidance and funding for baseline inventory and monitoring work in all National Park Service units. In the past decade, NPS has developed an inventory and monitoring program to systematically gather and organize information on the animal and plant species known or suspected to occur in each park. The vascular plant inventory phase of the program has focused on compiling and verifying species checklists based on review of herbarium collections, published and unpublished literature, and targeted field surveys. These data have been compiled into a standardized database (NPSpecies) used by NPS units across the country.

Grand Canyon-Parashant National Monument (PARA) in northern Arizona was established in January 2000 (Figure 1) to be managed jointly by NPS and the Bureau of Land Management (BLM). Prior to its creation, monument lands were divided between Lake Mead National Recreation Area and the BLM Arizona Strip Field Office. Although botanists have been exploring the region for more than a century (Cronquist et al. 1972), data on the flora of the new monument was widely scattered among different state and regional herbaria and published and unpublished literature. In 2009, PARA entered into a cooperative agreement with Southern Utah University (SUU) to develop a vascular plant checklist and database for the monument’s flora. Phase I of this project focused on confirming identifications and standardizing nomenclature for vascular plant specimens housed in the PARA herbarium in St. George, Utah, as well as relevant collections from the BLM Arizona Strip Field Office (ASD*), Northern Arizona University (ASC), and Brigham Young University (BRY). This resulted in a preliminary checklist of the PARA flora that was annotated to include information on synonymy, abundance, growth form, and geographic distribution (Fertig 2010a).

Phase II of the project began in 2010 with five objectives:

1. Inventory regions of PARA identified by monument staff as likely to yield new species for the flora;
2. Collect voucher specimens and relevant location, habitat, and ecological data for species encountered in PARA;
3. Contribute species vouchers to the PARA and SUU herbaria;

*Herbarium acronyms are based on the New York Botanical Garden’s Index Herbariorum website (sciweb.nybg.org/science2/IndexHerbariorum.asp). ASC stands for Arizona State College, the original name of Northern Arizona University.

Figure 1. Location of Grand Canyon-Parashant National Monument in northern Arizona.



4. Provide learning opportunities in plant identification, field methods, specimen preparation, and data entry for students from SUU;
5. Generate a NPS Technical Series publication summarizing the flora of PARA that includes an updated annotated checklist and supplemental data on vegetation, rare plants, noxious weeds, and collection history of the monument.

Preliminary results of Phase II were summarized by Hildebrand (2010). Final results of the 2010-2011 inventory are described in the following report.

STUDY AREA

HISTORY AND SETTING

PARA is located in the “Arizona Strip” of northwestern Arizona between the north rim of the Grand Canyon and the Utah and Nevada borders. The monument’s boundary extends from Black Rock Mountain south to Lake Mead and the north border of Grand Canyon National Park and from the Arizona/Nevada state line to Poverty Mountain, Mount Trumbull, and Tuweep Valley. Other prominent geographic features within the monument include the Shivwits Plateau, Grand Wash Cliffs, Mount Logan and Mount Dellenbaugh, and several prominent canyons draining the Colorado River (Grand Wash, Andrus, Parashant, and Whitmore canyons). Included within the monument’s boundaries are all or part of four designated wilderness areas: Grand Wash Cliffs, Mount Logan, Mount Trumbull, and Paiute. Overall, PARA covers 1.05 million acres and ranges in elevation from 375-2447 meters (1230-8029 feet).

President Clinton established PARA in January 2000 under the Antiquities Act, which gives the president authority to designate national monuments for areas of “historic and scientific interest”. The official proclamation creating the monument cites the significant geological, paleontological, and cultural artifacts of the area, as well as its outstanding biological resources (Clinton 2000). PARA contains abundant evidence of early human habitation, ranging from pit houses, rock shelters, pictograph panels, and chipping areas of the Archaic, Basketmaker II, Pueblo III, and Paiute eras, to 19th Century historic sawmills, mine sites, and homesteads. Fossils of ancient marine organisms and prehistoric packrat middens on PARA have contributed to scientific interpretations of Earth’s geologic history and the significant vegetative changes that have followed the Pleistocene. This information may also be useful in current studies on the potential implications of modern climate change. Long-term ecological studies on the Ponderosa pine forests of Mount Trumbull and Mount Logan continue to help generations of researchers from Northern Arizona University develop restoration techniques and improve forestry methods (Grand Canyon Wildlands Council 2000).

GEOLOGY AND ASSOCIATED ECOREGIONS

PARA is located at the boundary of the Colorado Plateau and Basin and Range geologic provinces. The eastern two-thirds of the monument is occupied by the Shivwits Plateau and topped by Quaternary basalt flow mountains (Mount Logan, Mount Trumbull, Poverty Mountain, and Mount Dellenbaugh). Most of the Shivwits Plateau is a rolling tableland of lower Triassic Moenkopi sandstone/shale (usually restricted to the flanks of the highest peaks) and thick Upper Permian Kaibab limestone. Andrus, Parashant, and Whitmore canyons dissect the southeastern flank of the Shivwits Plateau to expose older strata, including cliffs of Permian-age Toroweap and Coconino sandstones, crumbly slopes of Hermit shale, and the Pennsylvanian-Permian age Supai group

(comprised of various sandstone or sandy shale formations, including the Esplanade sandstone). All of these layers rest on the thick cliffs of the Mississippian Redwall Limestone, which forms a prominent ledge in the lower reaches of the canyons. The Redwall is comprised of four members: the grey limestone of the Whitmore Canyon member, thin chert beds of the Thunder Springs member, the coarse-grained Mooney Falls member, and the uppermost, thick-bedded Horseshoe Mesa member. Below the Redwall are cliffs of Devonian-age Temple Butte limestone and erosive slopes and ledges of the Cambrian Tonto Group, consisting of the Mauv limestone, Bright Angel shale, and Tapeats sandstone (Covington 2003).

The western third of PARA is part of the Basin and Range geologic province and separated from the Shivwits Plateau by the Grand Wash Cliffs and Grand Wash Fault. Paleozoic rock strata typical of the Shivwits Plateau are exposed along the west side of the Grand Wash Cliffs, Pigeon Canyon, The Cockscomb, and the flanks of Black Rock Mountain (itself a Quaternary basalt flow). Other areas of Grand Wash and the Pakoon Basin are buried by more recent sediments, including Quaternary alluvium and volcanic colluvium, Tertiary alluvial fans, and limestones and siltstones of the Tertiary Horse Springs Formation (formerly the Tassi Spring Formation). Circular, bowl-shaped depressions in the Grand Gulch Bench area are remnants of breccia pipes and associated with veins of copper and other minerals that were actively mined in the late 19th Century (Billingsley et al. 2004).

Ecoregions, as defined by the BLM (www.blm.gov/az/GIS/strip_rod/meta/ecoregion.htm), correlate closely with surface geology as described by Covington (2003). Ecoregion boundaries are based on geology, soils, hydrology, and climate data (Figure 2). Eight of the 28 ecoregions currently described for BLM lands in northwest Arizona occur on PARA.

Pakoon Ecoregion encompasses the westernmost portion of PARA and is separated from the eastern two-thirds of monument lands by the Grand Wash Cliffs Ecoregion. The far eastern Uinkaret Ecoregion in PARA corresponds with Uinkaret Plateau surface geology and the Trumbull-Logan Ecoregion is inclusive of and proximate to Mounts Logan and Trumbull. The largest ecoregion in PARA is the Shivwits Plateau, an area bordered by the Grand Wash Cliffs Ecoregion on the west and Andrus, Parashant, and Whitmore Canyons on the east. It extends to the Cougar Ecoregion (south of Black Rock) as described along the monument's northernmost boundary and extends south to the North Rim of Grand Canyon. The canyons that border the Shivwits Plateau to the east make up the Whitmore Ecoregion which also includes a small portion in the Black Rock area. Lastly, the Parashant Ecoregion is nestled within the southern portion of the Shivwits Plateau. It includes two areas that are separated by the plateau, a smaller westernmost portion that encompasses Salt House Draw, Oak Grove, and north to McDonald Flat as well as another larger region to the east that includes Horse Valley, Yellow John Mountain, and Penn Valley.

SOILS AND CLIMATE

Over 170 soil types have been described for the Shivwits Area located in northern Mohave County (USDA Soil Survey 1994) with a subset of these occurring in PARA (Figure 3). Soils in PARA vary in depth from very shallow to deep and consist primarily of very fine to fine or mixed sandy loams. Non- or less-sandy loamy soils (e.g., Disterheff and Tanbark Series) occur as well, many of which are calcareous or gypsiferous and include montmorillonite clays (e.g., Moenkopie and Showlow Series). Gravelly or cobbly rock fragments are common on both sandy and loamy soils, varying in their percent cover from 0-75%. Plateaus and mesas broken by broad floodplains and their associated structural benches and fan terraces are dominant landforms found in PARA. Rock outcrops are also common on escarpments, cliffs, and canyon walls that occur in many of

Figure 2. Ecoregions and 2010-2011 collection sites in Grand Canyon-Parashant National Monument in northern Arizona.

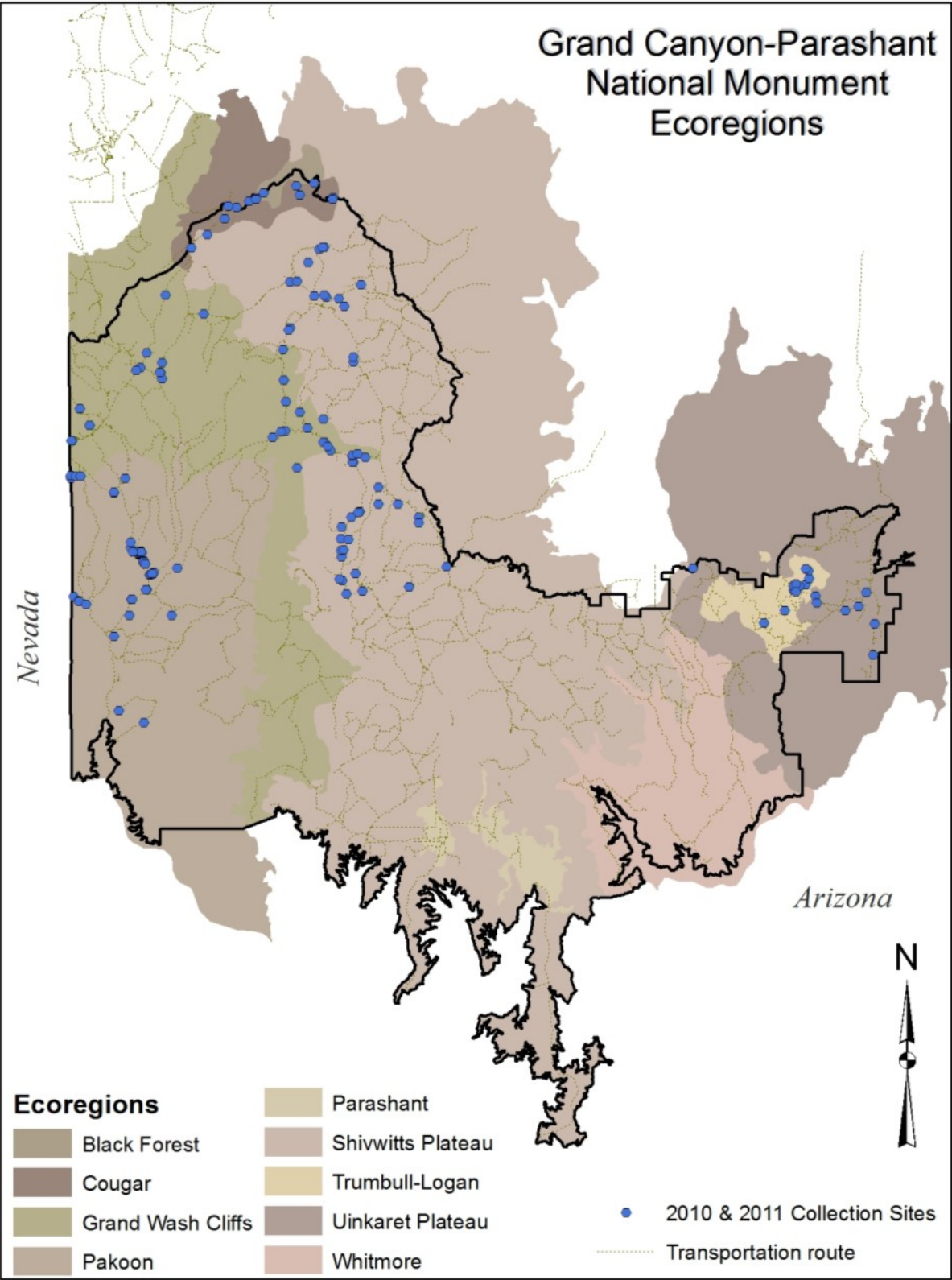
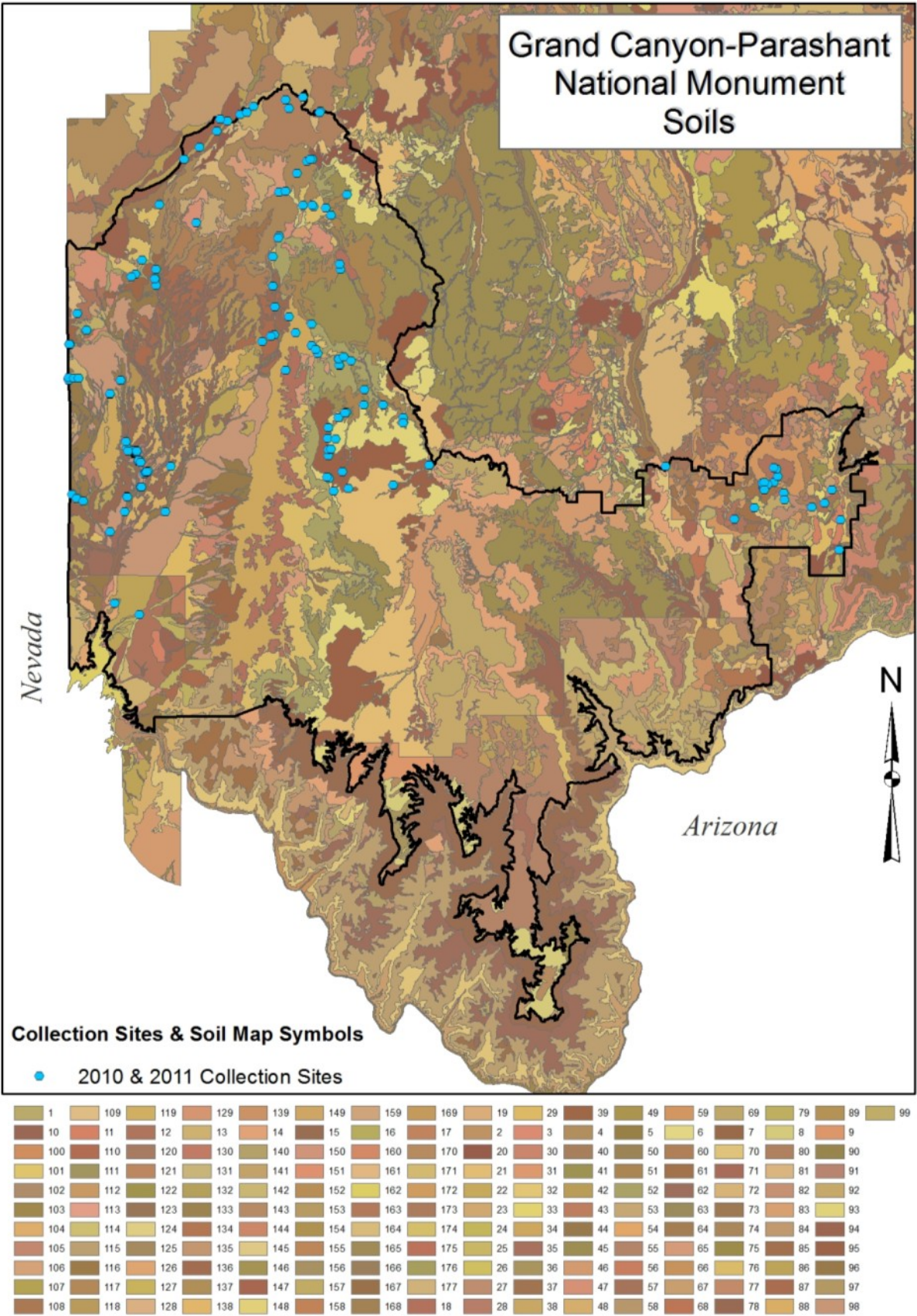


Figure 3. Soil types and 2010-2011 collection sites in Grand Canyon-Parashant National Monument in northern Arizona.



the soil series. These inclusions provide microenvironments that may vary greatly in soil types, as well as associated vegetation, from the broader soil series in which the outcrops occur. Limestone regions dominate some parent material and outcrops (e.g., Hidden Canyon area), whereas basalt flows are common in others (Mounts Trumbull and Logan).

Climate affects soil formation, influencing both vegetative and animal matter that contributes to soil composition. The mean annual precipitation in PARA ranges from 15-56 cm (6-22 inches) and mean annual temperatures vary from 7.5°C (45°F) in the Black Rock area to 21°C (70°F) in the western Pakoon Basin. Growing seasons (i.e., frost-free days) vary greatly over the monument as well. The westernmost portions may experience more than eight months without frost, and in most southwestern areas, the period may extend beyond ten months. In contrast, Mount Logan has a much shorter average growing period of three months (USDA Soil Survey 1994).

VEGETATION

The NPS is currently developing a revised vegetation classification system and mapping the vegetation of Lake Mead National Recreation Area and Grand Canyon National Park (Christie et al. 2011). Unfortunately, no formal classification has yet been developed for PARA in its entirety. The number of vegetation types likely to be described from PARA will be large based on the area's high diversity of soil and geology types and topographic variability. For now, the vegetation of PARA can be subdivided into nine broad categories based on the general appearance and structure of the dominant plant species. These include:

Mojave Desert Scrub. This low elevation desert vegetation type is dominated by Creosote bush (*Larrea tridentata*), Joshua tree (*Yucca brevifolia*), Blackbrush (*Coleogyne ramosissima*), Cholla (*Cylindropuntia* spp.), and Burrobush (*Hymenoclea salsola*). It is most often associated with broad alluvial fans (Cronquist et al. 1972). The majority of species are derived from the Mojave floristic region of southern Nevada and southeastern California, although a number of Sonoran desert taxa (e.g., *Acacia greggii*, *Encelia farinosa*, *Fouquieria splendens*) are also present (Huisinga et al. 2006, McLaughlin 2007, Phillips et al. 1987). Mojave Desert scrub is dominant over much of western PARA, and intergrades with Great Basin shrub vegetation south of Black Rock Mountain.

Salt Shrub. Salt shrub vegetation is dominated by Shadscale (*Atriplex confertifolia*) and other shrubby chenopods (now in the Amaranthaceae) and salt-tolerant shrubs, grasses, and forbs and is found on saline clay soils associated with Moenkopi or Chinle soils in PARA.

Great Basin Sagebrush. This vegetation type replaces Mojave Desert Scrub at higher elevations and in areas of higher precipitation on the Shivwits Plateau and foothills of volcanic mountain peaks. It is dominated by Big sagebrush (*Artemisia tridentata*), rabbitbrush (*Ericameria* or *Chrysothamnus* spp.), mormon-tea (*Ephedra* spp.) and various warm and cool season perennial grasses. Sagebrush vegetation often intergrades with Pinyon-juniper woodlands.

Pinyon-Juniper Woodlands. On PARA, pygmy woodlands of Two-needle pinyon (*Pinus edulis*) or Singleleaf pinyon (*P. monophylla*) codominate rocky mesa slopes or flats with Utah juniper (*Juniperus osteosperma*) over extensive portions of the Shivwits Plateau and the southerly exposures of volcanic mountains. Gambel oak (*Quercus gambelii*), Turbinella oak (*Q. turbinella*), Banana yucca (*Yucca baccata*), mormon-tea, sagebrush, and other shrub species may be abundant in the understory, as well as perennial bunchgrasses and forbs (Phillips et al. 1987).

Mountain Brush. This vegetation type is dominated by Gambel oak, Bigtooth maple (*Acer grandidentatum*), Manzanita (*Arctostaphylos* spp.), and other shrubby species. It is found on mid-slopes of Black Rock Mountain, Mount Dellenbaugh, Mount Trumbull, and Mount Logan. Mountain brush is transitional to pinyon-juniper woodlands on lower slopes and Ponderosa pine forests at higher elevations.

Ponderosa Pine Forest. Forests dominated by Ponderosa pine (*Pinus ponderosa*) occur on the upper slopes and summits of the major volcanic mountains of PARA. Historically, the forests of Mount Trumbull and Mount Logan were logged to provide construction timber for sites as far away as St. George. Openings within the forest may support sagebrush grasslands or thickets of New Mexico locust (*Robinia neomexicana*), Quaking aspen (*Populus tremuloides*), Gambel oak, and other montane shrubs.

Rock Outcrops. Areas of exposed limestone, sandstone, or volcanic bedrock and talus slopes support a suite of species adapted to full sun, shady crevices, or minimal competition. These taxa include various ferns, bunchgrasses, and shrubs such as brickellbush (*Brickellia* spp.), mountain-mahogany (*Cercocarpus ledifolius*), and Squawbush (*Rhus trilobata* var. *simplicifolia*).

Disturbed Areas. This vegetation type is associated with roads, parking areas, trails, old homesites or other areas that have been significantly altered due to soil disturbance. Most are dominated by non-native or weedy species, including Red brome (*Bromus rubens*), Cheatgrass (*B. tectorum*), Mediterranean grass (*Schismus barbatus*), Russian thistle (*Salsola kali*), Flixweed (*Descurainia sophia*), or Stork's-bill (*Erodium cicutarium*).

Wetlands. Wetlands are a rare feature in PARA and limited mostly to small seeps and springs. During the past century, many of these were developed as water sources for livestock and no longer support their original compliment of native species. Common wetland plants may include Fremont cottonwood (*Populus fremontii*), Coyote willow (*Salix exigua*), Seep willows (*Baccharis* spp.), thistles (*Cirsium* spp.), Baltic rush (*Juncus arcticus*), bulrushes (*Schoenoplectus* spp.), Southern cattail (*Typha domingensis*), and various perennial grasses.

PREVIOUS BOTANICAL STUDIES

The earliest known plant collections from the area that would become PARA were made by Edward Palmer in 1877 (Table 1). Palmer was employed by the US government as an ethnobotanist and collected widely in the vicinity of St. George, Utah and adjacent areas of Nevada and northern Arizona (Cronquist et al. 1972). Unfortunately, Palmer's collecting sites were not carefully recorded and the exact location of his sampling localities may never be known with certainty (McVaugh 1943). For example, Palmer made numerous collections in the vicinity of Moki Pass (including the type specimens of four *Astragalus* species, and a beautiful *Penstemon* previously named in his honor) that were probably taken outside the PARA boundary. The only Palmer collections known for certain to have come from PARA were taken on Mount Trumbull and include *Astragalus straturensis*, *Geranium caespitosum*, *G. richardsonii*, *Ptelea trifoliata*, and *Tragia ramosa*. Palmer may have made additional collections within the future monument, but identifying these will require perusing his field notes or all of his specimens once these become available on digital databases.

Marcus E. Jones, one of the leading field botanists of the late 19th and early 20th centuries, visited the PARA area in 1894 and made at least two collections at "Pagumpa" (Pakoon Spring). As with Palmer (and other botanists of the era), Jones' location data were often vague and difficult to

match with present geography. It is likely that Jones collected additional species from PARA that will come to light with further examination of his specimens and field notes.

Over the first half of the 20th Century, relatively little formal botanical exploration occurred in the PARA area. E.W. Nelson and Walter Mann added 13 new species to the PARA flora from Mount Trumbull from 1909-1928. Walter Cottam, founder of the Brigham Young University herbarium, and later professor of botany at the University of Utah, began exploring the PARA region in 1929 with field work on Mount Dellenbaugh. Although he took relatively few specimens, Cottam collected the holotype of *Arenaria aberrans* (*Eremogone aberrans*) on this trip, the first of nearly a dozen narrow endemics to be described from PARA. Cottam would return many times to PARA from 1932-1955, focusing primarily on oak species and the ecology of Mount Trumbull. During the 1940s, Robert Peebles (co-author of *Arizona Flora*), Frank Gould, Kittie Parker, and Elizabeth McClintock collected new species for the monument flora from Mount Trumbull and the upper Tuweep Valley. Bassett Maguire, Arthur Holmgren, and Elzada Clover botanized the Grand Wash area north of the Grand Canyon (Clover and Jotter 1944). Each of these botanists focused on particular species of personal interest or on the more common or showy species, rather than systematically documenting the flora of the region. Not surprisingly, the total flora of the PARA area stood at just 129 species by 1950 (Table 1, Figure 4).

The known flora of PARA continued to grow slowly during the next two decades. New species were documented from Mount Trumbull by Cottam, Walter Phillips, Rose Collum, and John Merkle during the 1950s. R.C. Burns discovered several new species near the fire lookout on Twin Point (along the south rim of the Shivwits Plateau) in 1952 and 1953. In the early 1960s, Chester Deaver (namesake of the Northern Arizona University Herbarium) added new species from Tuweep Valley and Mount Trumbull. Charles Mason and colleagues from the University of Arizona collected extensively in the Pocum Wash area in 1968 and added 18 new species. Noel Holmgren and Duane Atwood found 17 more new species at Mount Trumbull in 1969, bringing the known flora of PARA to 209 taxa.

Botanical exploration of the PARA region finally accelerated in the 1970s. Duane Atwood and Larry Higgins began their collaboration on the Arizona Strip flora in 1972, making new discoveries at Mount Trumbull and later in Andrus and Parashant Canyons. Arthur Phillips III, Barbara Phillips, Thomas Van Devender, Elinor Lehto, J.S. Holland, Wes Niles, and others added new species from Black Rock Mountain, Grand Wash Cliffs, Shivwits Plateau, Mount Dellenbaugh, and other remote areas in the early to mid 1970s. Collecting efforts exploded in 1978 as several teams of BLM and university botanists scoured the canyons, plateaus, and springs of the western and northern portions of PARA, adding 248 new species. Foremost among these collectors were Frank (Buddy) Smith, Ralph Gierisch, Greg Brown, Bruce Parfitt, Robert Coombs, and Charles Bundy. By decades end, the flora of PARA had more than tripled to 612 documented taxa. During this time period, several local endemics, including *Townsendia smithii*, *Rosa stellata* var. *abyssa*, and *Penstemon distans*, were discovered and named as new to science.

The pace of new discoveries slowed somewhat during the 1980s and early 1990s (Figure 4). Over a 16 year period (1980-1995) the flora of PARA grew by 80 species due to the efforts of Gierisch, Bundy, Atwood, and Phillips and Phillips, abetted by new collectors such as F.W. Reichenbacher, Mike Windham, Elizabeth Neese, Arthur Cronquist, Ben Franklin, Sherel Goodrich, Lee Hughes, Wendy Hodgson, Gary Baird, and others. Some notable discoveries during this period included first records of *Camissonia exilis*, *Phacelia cronquistiana*, *P. glechomifolia*, and the earliest report of *Pediomelum pauperitense* (described as a new species with a holotype from PARA by Welsh and Licher 2010).

A second major push to document the flora of PARA began in 1996 and has continued, nearly unabated, to the present day. In the mid 1990s, researchers and graduate students from Northern Arizona University commenced a series of studies on the ecology of Mount Trumbull which have yielded dozens of new species records (Heinlein et al. 1999). Starting in 1999, Atwood and Higgins (with assistance from Blaine Furniss, Stanley Welsh, Mark Madsen, and others associated with the Brigham Young University Herbarium) began to more systematically document the flora of the PARA area as part of a larger project on the flora of the Arizona Strip (Atwood et al. 2000, 2002, 2003, 2005). In 2000, Larry Stevens of the Museum of Northern Arizona began recording the flora of seeps and springs in PARA and added several new riparian species. More recently, Leila Shultz and students from Utah State University have documented new species from isolated, relic sites on the monument (Shultz and Kelly 2006), Glenn Rink, Kyle Christie, and colleagues from Northern Arizona University have found new species in the Shivwits Plateau and Grand Wash areas (Christie et al. 2011). Former PARA botanist Kari Yanskey added 20 new species to the monument flora from 2003-2009.

Figure 4. Increase in the number of plant taxa confirmed as present in Grand Canyon-Parashant National Monument by decade, 1900-2011. The graph does not include 13 species known only from literature reports where the date of first observation is not provided.

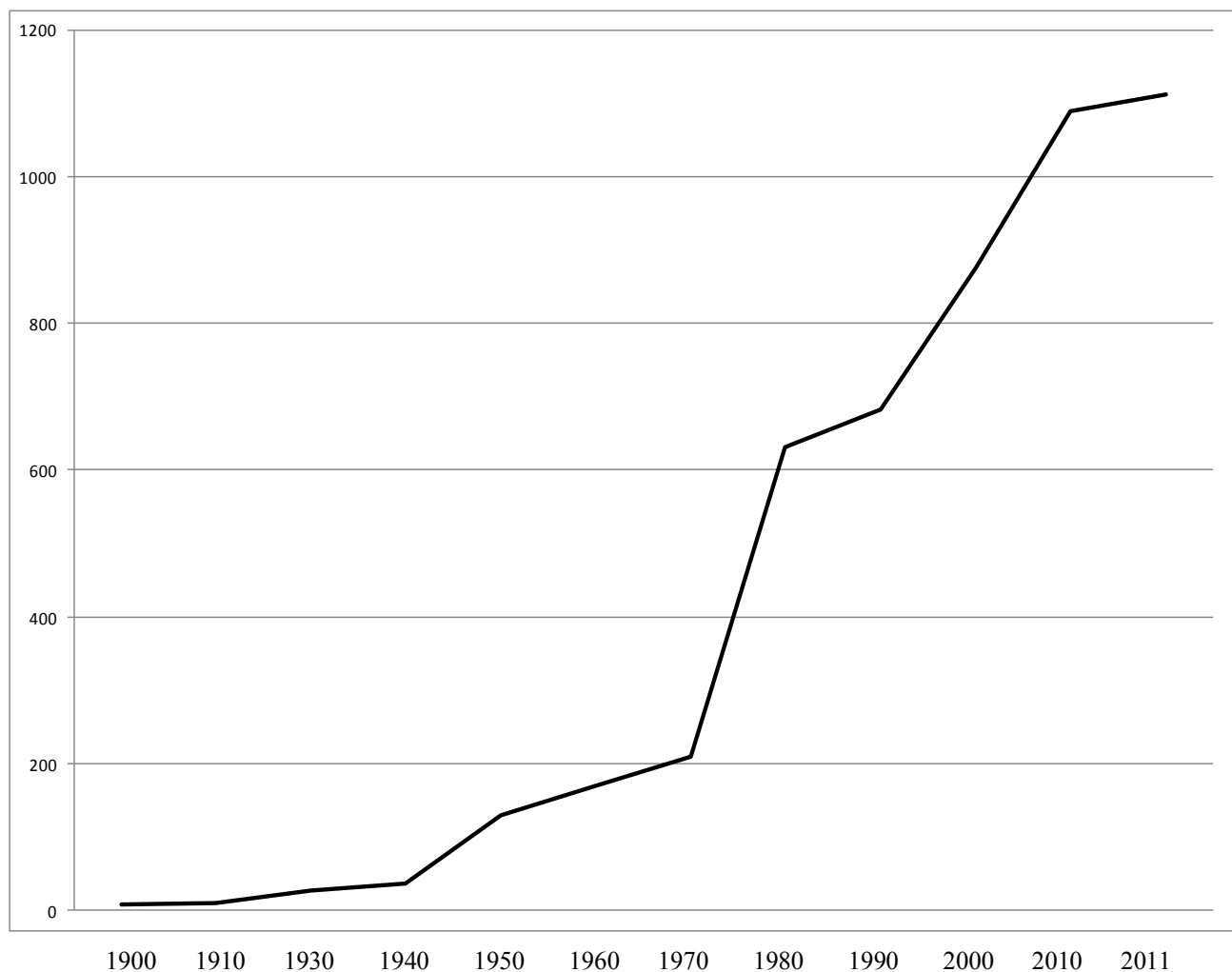


Table 1. Chronology of plant-collecting efforts at Grand Canyon-Parashant National Monument. This table only includes those collectors who documented previously unknown plant species for PARA. The number of new taxa excludes 13 species from undated literature reports.

Year(s)	Collector(s)	# of New Taxa	Comments
1877	Edward Palmer	5	At least 5 collections made from Mount Trumbull. Additional collections taken at “Mokiac Pass” just outside of PARA boundary. More specimens probably taken, but records need to be located.
1894	Marcus E. Jones	2	At least 2 collections cited for “Pagumpa” area, which is thought to be at or near Pakoon Spring. Additional specimens probably taken in the vicinity, though location data from Jones’ collections are vague.
1909	E.W. Nelson	1	First collection of <i>Arctostaphylos pungens</i> from Mount Trumbull.
1926-1928	Walter Mann	12	Collections from Mount Trumbull.
1929	Walter Cottam	10	Cottam makes earliest known collections from Mount Dellenbaugh, including the holotype of local endemic <i>Arenaria aberrans</i> (Mount Dellenbaugh sandwort)
1932	Walter Cottam	1	<i>Gutierrezia sarothrae</i> collected from Mount Trumbull
1940	Robert Peebles and H.W. Parker	8	Peebles adds new species for Mount Trumbull area.
1941	Elzada Clover, Bassett Maguire, Arthur Holmgren, and Walter Cottam	66	New species documented from Mount Trumbull and Grand Wash, including first record of invasive grass <i>Schismus barbatus</i> . Clover and Jotter publish an early account of the flora of the Colorado River drainage. Maguire and Holmgren later help initiate the <i>Intermountain Flora</i> project. Cumulative number of species known for PARA passes 100.
1942	Frank Gould	4	Gould (later known for his taxonomic work with Poaceae) documents new species from Mount Trumbull.
1946-1949	Kittie Parker, Elizabeth McClintock, G.T. Robbins, and Walter Cottam	24	New species added from upper Tuweep Valley and Mount Trumbull. In 1960, McClintock collaborates with J.T. Howell to write the revised edition of Kearney and Peeble’s <i>Arizona Flora</i> (the version still in print).
1951-1956	Walter Cottam, Walter Phillips, Rose Collom, John and Cherrie Merkle, R.W. Dickerman, R.C. Burns, and C.W. Ferguson	39	Cottam, Phillips, Collom, Merkle, and Ferguson make new collections from Mount Trumbull. Dickerman adds a new species from Pigeon Springs. R.C. Burns makes collections from the fire lookout on Twin Point (Shivwits Plateau).
1963-1964	Chester Deaver, Wade Sherbrooke, and Richard Felger	6	Deaver adds new species from upper Tuweep Valley and Mount Trumbull.
1968	Charles Mason Jr., R. Gilbertson, R. Hevly, and J.D. Armstrong	18	Collections from the Middle Spring and Pocum Wash areas of PARA include the first record of local endemic <i>Eriogonum umbellatum</i> var. <i>mohavense</i> .
1969	Charles Mason Jr., Walter Phillips, M.A. Cazier, J. Bigelow, Noel Holmgren, and Duane Atwood	17	Mason and Phillips added new species from Cottonwood Wash. Cazier and Bigelow explored Lime Kiln Pass. Holmgren and Atwood discovered new species from Mount Trumbull. Cumulative number of species known from PARA passes 200.
1972-1973	Duane Atwood, Larry Higgins, Arthur and Barbara Phillips, Richard Spellenberg, Charles Mason, Elinor Lehto, E.L. Smith, and R.B. Oxford	11	New species from Mount Trumbull, the upper Tuweep Valley, and Black Rock Mountain area.

Table 1, continued. Chronology of plant-collecting efforts at Grand Canyon-Parashant National Monument.

Year(s)	Collector(s)	# of New Taxa	Comments
1974	Duane Atwood, J.S. Holland, Arthur and Barbara Phillips, and Tom Van Devender	37	Atwood makes some of the first collections from Parashant and Andrus canyons, including the earliest record of <i>Astragalus lentiginos</i> var. <i>trumbullensis</i> . Holland, Phillips, Phillips and Van Devender find new species at Twin Point and the Grand Wash Cliffs.
1975	J.S. Holland and Wes Niles	7	New collections from Mount Dellenbaugh.
1976	Robert Coombs and Charles Bundy	8	Coombs and Bundy begin multi-year collecting project on BLM lands throughout PARA
1977	Ralph Gierisch, P.J. Leary, Arthur and Barbara Phillips, Charles Mason, John Reeder, and Kaye Thorne	67	Collections from the Shivwits Plateau, Grand Wash, Parashant Canyon, and Mount Trumbull. Total number of species documented for PARA passes 300.
1978	Frank Smith, Ralph Gierisch, Arthur Phillips, Robert Coombs, Charles Bundy, Greg Brown, and Bruce Parfitt	248	Largest single year of collecting new species in history of PARA area. Collections made from throughout BLM portion of PARA, including Black Rock Mountain, Middle Spring, and Pocum Wash. First collections of <i>Townsendia smithii</i> and <i>Atriplex navajoensis</i> in monument.
1979	Greg Brown, Frank Smith, Ralph Gierisch, Arthur and Barbara Phillips, Robert Coombs, Charles Bundy, Noel and Pat Holmgren, and Rupert Barneby	25	New collections from Twin Point (including first record of <i>Rosa stellata</i> var. <i>abyssa</i>), Black Rock Mountain, Tuweep Valley, Mt. Logan, and scattered sites on BLM lands. Holmgrens collect type specimen of <i>Penstemon distans</i> from PARA. Cumulative number of species known for PARA passes 600 (double the number known just three years earlier).
1980-1982	Ralph Gierisch, Charles Bundy, F.W. Reichenbacher, and Mike Windham	28	Collections from Grand Gulch, Sand Cove, Black Rock Mountain, Mount Trumbull, Whitmore Canyon, and Parashant Canyon areas.
1983-1985	Duane Atwood, Ben Franklin, M. Tweiten, Don Hazlett, F.W. Reichenbacher, Elizabeth Neese, and Arthur Cronquist	16	New species found in Whitmore Canyon, Andrus Canyon, Mount Trumbull, Black Rock Mountain, and other areas of PARA
1986-1990	Arthur and Barbara Phillips, Duane Atwood, Sherel Goodrich, Kaye Thorne, Wendy Hodgson, Bruce Palmer, Ralph Gierisch, Bruce Parfitt, Renee Beymer, Gary Baird, and Lee Hughes	25	Collections from Grand Wash, Kinney Point, Andrus Canyon, Mount Logan, Black Rock Mountain, Middle Spring, and other areas of PARA. Earliest collection of <i>Camissonia exilis</i> from PARA made by BLM botanist Lee Hughes.
1992-1995	John and Charlotte Reeder, Charlotte Christy, Ben Franklin, Duane Atwood, and Don Hazlett	9	New species documented from the Gypsum Hills, Mount Trumbull, and Whitmore Canyon areas, including first records of local endemics <i>Phacelia cronquistiana</i> , <i>P. glechomifolia</i> , and <i>Pedimelum pauperitense</i> (the latter not described until 2010).
1996-1998	P. West, Judy Springer, Wendy Hodgson, Nancy Brian, L.M. Machina, J. Brooks, L. Comita, C. Casey, John Anderson, and Lee Hughes	61	Ecologists from Northern Arizona University initiate multi-year study of Ponderosa pine ecology on Mount Trumbull and document many new species. Additional new species found from the Gypsum Hills and Grand Gulch areas. Cumulative flora of PARA exceeds 700 known species.
1999	Duane Atwood, Blaine Furniss, Larry Higgins, Stanley Welsh, A. Waltz, Judy Springer, and M. Daniels	38	New species found on Mount Trumbull, Andrus Canyon, Whitmore Canyon, Grand Wash, and elsewhere in PARA. Atwood, Higgins, and colleagues from Brigham Young University initiate Arizona Strip Flora project.

Table 1, continued. Chronology of plant-collecting efforts at Grand Canyon-Parashant National Monument.

Year(s)	Collector(s)	# of New Taxa	Comments
2000	Larry Higgins, Duane Atwood, Blaine Furniss, Stanley Welsh, Larry Stevens, K. Beck, and L. Labate	87	PARA established by Presidential Proclamation in January. Larry Stevens of the Museum of Northern Arizona initiates multi-year survey of seeps and springs. Welsh and Atwood discover <i>Sphaeralcea gierischii</i> on PARA. Cumulative flora of monument surpasses 800 taxa. Atwood et al. publish first annotated checklist of flora of Arizona Strip based primarily on specimens from the BYU and BLM Arizona Strip Field Office herbaria.
2001	Larry Higgins, Duane Atwood, Mark Madsen, Larry Stevens, John Anderson, Andrew Salywon, and Raul Puentes	120	First collection of local endemic <i>Phacelia hughesii</i> from PARA. Cumulative flora of monument surpasses 900 taxa following the second most productive collecting season in PARA history.
2002	Duane Atwood, Larry Higgins, Stanley Welsh, Larry Stevens, and Steve Buckley	11	Cumulative flora of PARA surpasses 1000 taxa (twice the number of species known in 1978). Atwood et al. and Powell produce checklists for Lake Mead National Recreation Area. First collection of <i>Phacelia higginsii</i> from PARA.
2003-2004	Kari Yanskey, Larry Higgins, Duane Atwood, G. Green, C. McGlone, M. Stoddard, Brian Geics, Judy Springer, and Lee Hughes	36	PARA botanist Kari Yanskey begins multi-year collecting project, ultimately adding 20 new species to the monument flora. Northern Arizona University researchers add new species from Mount Trumbull. Atwood and Higgins add several new rare and endemic species, including <i>Physaria arizonica</i> var. <i>andrusensis</i> , <i>Tetradymia canescens</i> var. <i>thorneae</i> , and <i>Phacelia furnisii</i> .
2005-2007	Leila Shultz, Alison Kelly, Joe Mendelsson, Kari Yanskey, and M. Nazaire	10	Shultz and Kelly publish new species records from remote, relict areas of PARA. Atwood et al. release revised annotated list of vascular plants of the Arizona Strip and PARA. Bangle publishes revised checklist for Lake Mead NRA.
2008-2009	Kari Yanskey, Glenn Rink, Duane Atwood, and Kyle Christie	24	Glenn Rink, Kyle Christie, and colleagues from Northern Arizona University add new species from the Shivwits Plateau and Grand Wash areas.
2010	Larry Higgins, Duane Atwood, Stanley Welsh, Terri Hildebrand and SUU students	12	Duane Atwood and associates add several new species, including the first record of <i>Phacelia austromontana</i> . Hildebrand and SUU students initiate Phase II collecting project for PARA herbarium. Fertig completes PARA Phase I report, citing 1016 species for the monument.
2011	Terri Hildebrand, Glenn Rink, Walter Fertig, and SUU students	23	Hildebrand, Fertig, and SUU students document 17 new species from scattered locations in the Black Rock Mountain, Grand Wash, and Mount Trumbull areas. Glenn Rink adds 6 new species from spring inventories. The total flora of PARA reaches 1107 confirmed taxa (and another 13 reported from the literature).

Since 2010, 35 new species have been discovered within PARA, bringing the total known flora to its current level of 1120 taxa (Table 4). At least 17 of these species were discovered during field work associated with Phase II of the PARA flora project.

METHODS

In the Fall of 2009, we initiated Phase I of this project by developing a preliminary checklist of the flora of PARA based on collections in the monument herbarium. These specimens were primarily vouchers collected by former PARA botanist Kari Yanskey and duplicates provided by researchers from Brigham Young University, Northern Arizona University, and the BLM Arizona Strip Field Office. Each specimen in the collection was reviewed to determine if the identification was correct or if the name on the label was currently accepted. Misidentified or misnamed specimens were annotated following the standardized nomenclature of the USDA PLANTS database (<http://plants.usda.gov/java>), except for recently described taxa not yet in the PLANTS system (Atwood 2007, Atwood and Welsh 2007, Welsh et al. 2008, Welsh and Licher 2010). Specimens were also checked to ensure that they were actually found within PARA boundaries and not adjacent public lands.

The initial checklist was expanded to include species records from literature sources or other herbaria that were not already represented in the PARA herbarium. Literature sources included checklists of the Arizona Strip (Atwood et al. 2000, 2003), Lake Mead National Recreation Area (Anonymous 2003, Atwood et al. 2002, Bangle 2007, Powell 2002), the BLM portion of PARA (Atwood et al. 2005), and other ecological or taxonomic references pertaining to PARA or the flora of Arizona (Boufford 1992; Chamberland 1995; Christy 1998; Haber 1992; Hodgson 1999; Mason 1998; Pinkava 1999; Shultz and Kelly 2006; Wilken and Porter 2005). Herbarium records were obtained from the New York Botanical Garden Virtual Herbarium website (<http://sciweb.nybg.org/science2/hcol/intf/index.asp>) and the Southwest Environmental Information Network (SEINet) website (<http://swbiodiversity.org/seinet/collections/index.php>). An attempt was made to relocate at least one voucher specimen from PARA for each species on the expanded checklist by reviewing collections at the BLM Arizona Strip Field Office (ASD), Brigham Young University (BRY), and Northern Arizona University (ASC).

The revised species checklist was then subdivided into four lists:

1. Vascular plant species confirmed as present in PARA based on examination of authenticated herbarium specimens collected within PARA boundaries. This list included species found prior to 1970 (considered historical) and those confirmed since.
2. Vascular plant species reported for PARA in the literature but not corroborated by a voucher specimen (equivalent to “probably present” in NPSpecies terminology).
3. Potential species (“unconfirmed” in NPSpecies terminology) known from the vicinity of PARA based on authenticated herbarium specimens or reliable literature reports, but not yet recorded from the monument. Species were excluded from this list if suitable habitat was not present within PARA.
4. Rejected (falsely reported) species that are known to be misidentified (based on examination of critical herbarium material) or highly questionable (cited in literature reports but not known or expected from northern Arizona or the PARA area).

Each list was annotated with supplemental information on taxonomy (family and synonyms), common name, life form, range within Arizona and PARA, population size and status within the monument, the source for each species (either an herbarium record with collector, collection number, and repository or literature reference), date first reported in PARA, flowering period, habitat, legal status, and other comments (summarized in Table 2). Family names were based on the Angiosperm Phylogeny Group III (2009) classification. Synonyms were derived from a review of recent taxonomic literature (Barkworth et al. 2003, 2007; Barneby 1989; Cronquist 1994; Cronquist et al. 1972, 1977, 1984, 1997; Flora of North America Editorial Committee 1993, 1997, 2000, 2002a, 2002b, 2003, 2005, 2006a, 2006b, 2006c, 2009, 2010; Holmgren et al. 2005; Kearney and Peebles 1960; McDougall 1973; Welsh et al. 2008).

Phase II of the project commenced in the Fall of 2010 and continued through the 2011 field season. Using the Phase I checklist (Fertig 2010a) as a starting point, and after discussions with PARA personnel, areas and habitats were identified to target for field surveys. The goal of these surveys was to collect voucher specimens of all taxa encountered in the field, including those new to PARA or which were not represented in the PARA herbarium (including species reported in the literature without a voucher). The collection of all taxa would significantly increase the number of representatives of the monument's flora housed in the PARA and SUU herbaria. For each specimen, information was gathered on location (latitude, longitude, and UTM coordinates), slope gradient, aspect, topographic position, soil type, drainage, soil moisture, canopy, elevation, vegetative community, and associated species.

Students enrolled in botany courses at SUU assisted with collecting specimens during three separate experiential learning events (30 August 2010, 15 April, and 29 August 2011) (Figure 5). The



Figure 5. Southern Utah University students enrolled in the 2010 Plant Anatomy and Diversity course that collected during the 30 August 2010 experiential learning event. Photo by Terri Hildebrand.

Table 2. Data Fields in the Annotated Checklist of the Flora of Grand Canyon-Parashant National Monument (Appendices A, B, C, and D).

Field	Description	Data Source
Family	Taxonomic family based on the Angiosperm Phylogeny Group III (2009). Synonymous family names from Kearney and Peebles (1960) and Welsh et al. (2008) are included in parentheses.	Angiosperm Phylogeny Group III (2009), Reveal and Chase (2011)
Species Name	Accepted taxonomic name, following the USDA PLANTS Database standard. Some names are likely to change in the near future, as the PLANTS database is revised to conform with published volumes of the <i>Flora of North America</i> (such as <i>Boechea</i> for <i>Arabis</i> and <i>Physaria</i> for <i>Lesquerella</i>).	USDA PLANTS Database (2012)
Common Name	Primary accepted common name.	USDA PLANTS Database (2012)
Synonym(s)	Other names used for the species in contemporary regional and state floras and taxonomic treatments.	Literature review
Life Form	Growth form is based on the stature and habit of typical members of a species at reproductive maturity. AnnF (Annual Forbs) are broad-leaved dicots or monocots with non-woody stems that complete their life cycle (mature, flower, die) in one year; AnnG (Annual Graminoids) are linear-leaved, grass-like monocots that complete their life cycle in one year; Ferns and fern-allies are non-flowering vascular plants that reproduce by spores; PerF (Perennial Forbs) are broad-leaved dicots or monocots with non-woody stems (at least above-ground) that live for multiple years; PerG (Perennial Graminoids) are linear-leaved, grass-like monocots that live for multiple years; Shrubs are woody perennials with one to many main stems and are usually less than 3.5 m tall; Trees are woody perennials with a single stem and are typically over 3.5 m tall.	Literature review
Range	Range is defined as Arizona's contribution to a species' overall distribution. One of the following 7 categories is used: Disj (Disjunct) taxa have their Arizona distribution separated from the main, contiguous portion of their range by a gap of at least 800 km; Intro (Introduced) taxa are not native to Arizona but have become naturalized (breeding on their own without human interference); LocEn (Local Endemic) taxa with their entire global range restricted to an area of less than 16,500 km ² or approximately 1° of latitude x 2° of longitude; Periph (Peripheral) taxa have a widespread global distribution but are found at the edge of their contiguous range in Arizona (occupying less than 5% of the state and restricted to the border region); RegEn (Regional Endemic) taxa have a global range of 16,500-250,000 km ² (about equal to the area of the state of Wyoming); Sparse taxa occur widely across Arizona and the US but have scattered and small occurrences in the state and are limited to specialized or uncommon habitats; Wide (Widespread) taxa have global ranges greater than 250,000 km ² and occur over more than 5% of the state.	Literature review

Table 2, continued. Data Fields in the Annotated Checklist of the Flora of Grand Canyon-Parashant National Monument (Appendices A, B, C, and D).

Field	Description	Data Source
Status	Status within PARA is based on the following categories: Present: documented by a voucher collected since 1970; Historical: documented by a voucher but not relocated since before 1970; Reported: plausibly listed for PARA in the literature but not vouchered; Potential: known from the vicinity of PARA and likely to occur but not confirmed yet; False Report: previous reports for PARA based on misidentified specimens or improbable literature reports.	Herbarium and literature review
Population Size	Abundance of a species within PARA is based on the following categories: Com (Common) taxa have large populations, are dominant on the landscape, or occur extensively across PARA; Unc (Uncommon) taxa have low to medium-sized populations, contribute little cover, or have a small range across PARA; Rare taxa have low population numbers and are restricted to 1-2 sites in PARA; NA indicates abundance is not known.	Herbarium and literature review
Source	For Present and Historical species, documentation consists of a verified herbarium specimen (including the collector, collection number, and repository). For reported species, documentation is the literature source that places the species within PARA.	Herbarium and literature review
Year Doc	Year when the species was first documented in PARA. This year does not necessarily correspond to the collection cited under documentation. "NA" indicates that the year is not known (used only for reported taxa).	Herbarium and literature review
Comments	Additional information on legal status, region of origin for introduced species, type locality (only provided if the holotype is from PARA or vicinity), comments on taxonomic problems, or other notes pertinent to the status of a species in PARA.	Herbarium and literature review
Flowering Period	Months when a species is flowering (not applicable to gymnosperms and spore-bearing ferns)	Literature review
Habitat	General habitat types in which a species is known or suspected to occur within PARA. Categories include: Wet: Wetland or riparian Moj Scrub: Mojave Desert Scrub dominated by warm desert shrub species such as Creosote bush, Joshua tree, Blackbrush, cholla, and Burrobush Salt Shrub: Salt Desert Shrub dominated by Shadscale or other Chenopods and salt-tolerant shrubs, grasses, and forbs Sagebrush: Great Basin desert shrub and grasslands dominated by Big sagebrush Pin-Jun: Pinyon-juniper woodlands dominated by Singleleaf or Two-needle pinyon and Utah juniper Mtn Brush: Mountain Brush communities dominated by Gambel oak, maple, manzanita, and other shrubs of intermediate to high elevation Ponderosa: Ponderosa pine forests at higher elevations. Rock: Bare sandstone, limestone, or volcanic rock or talus areas Dist: Disturbed areas dominated by weedy species	Literature review
Substrate	Comments on rock or soil types inhabited by a species.	Literature review

all day events included students collecting in groups that targeted portions of a particular region. For example, four groups of three students each sampled various habitats adjacent to and on Mount Trumbull during the 2010 event. Identification of specimens was completed at the SUU herbarium. Label information was entered in the ICMS (Interior Collections Management System); labels were produced and added to mounts to capture location and habitat information.

Additional herbarium review was also conducted in 2011. A second search of the SEINet database was conducted to locate new PARA records added to the database since 2009. It was anticipated that additional institutions previously not contributing to the database (e.g., Brigham Young University) may have added records on SEINet since the earlier Phase I search. Critical specimens reported from PARA were examined during a subsequent visit to the BYU Herbarium in January 2012. These new reports, plus new species records from 2010-2011 field work, were compiled into a revised Phase II annotated checklist and database for PARA (Appendices A-D).

RESULTS

Our fieldwork in 2010-2011 resulted in 540 new collections for the PARA and SUU herbaria from 194 sites on the monument (Figure 6, Appendix E). Among these collections were 17 new plant species for the PARA flora (Table 3). In addition, our review of additional records from regional herbaria netted 87 newly confirmed or reported species for the monument. Overall, the Phase II project documented 104 new taxa* for the PARA flora, an increase of 10% since the completion of Phase I (Fertig 2010a). The vascular plant flora of PARA currently stands at 1120 taxa (Table 4, Appendix A, D). Of these, 1107 taxa have been confirmed with authenticated herbarium vouchers and 13 are known only from literature reports. Excluding varieties and subspecies, 1042 species from 89 families are now known or reported from the monument.

Of the eight ecoregions described as occurring in PARA, plants were collected in seven: Pakoon, Grand Wash Cliffs, Shivwits Plateau, Trumbull-Logan, Whitmore, Uinkaret Plateau, and Cougar (Figure 2). However, only a limited number were collected from the Cougar and Whitmore Ecoregions, and during Phase II field work no plants were collected in the Parashant Ecoregion. The Shivwits Plateau Ecoregion experienced the heaviest sampling during the Phase II field work, followed by the Grand Wash Cliffs and Pakoon Ecoregions.

Plants were collected on 38 of the described soil types of PARA during the 2010 and 2011 field seasons (Table 5). Due to the rugged nature and large size of PARA, obtaining access to all soil types (particularly Moenkopi soils) often proved difficult. The soil on which the heaviest sampling occurred was the gravelly calcareous loams of the Meriwhitica-Rock Outcrop-Strych type found in Hidden Canyon. The canyon, along with Rattlesnake and Last Chance canyons, was the site of a student sampling event as well as the target of several additional collection periods. Experiential learning events also occurred on the Yellowhorse-Luzena soils in the Black Rock area.

*Taxa refer to all named species, subspecies, and varieties. In deriving the total number of taxa, each full species is counted once. Varieties or subspecies contribute to the total number of taxa only when two or more are known from PARA. For example, the species *Artemisia tridentata* has three subspecies present in the monument (ssp. *tridentata*, *vaseyana*, and *wyomingensis*) and these count as three separate taxa, whereas *Artemisia campestris* has a single variety (var. *scouleriana*), and is counted once.

Figure 6. 2010-2011 collection sites and transportation routes in Grand Canyon-Parashant National Monument in northern Arizona.

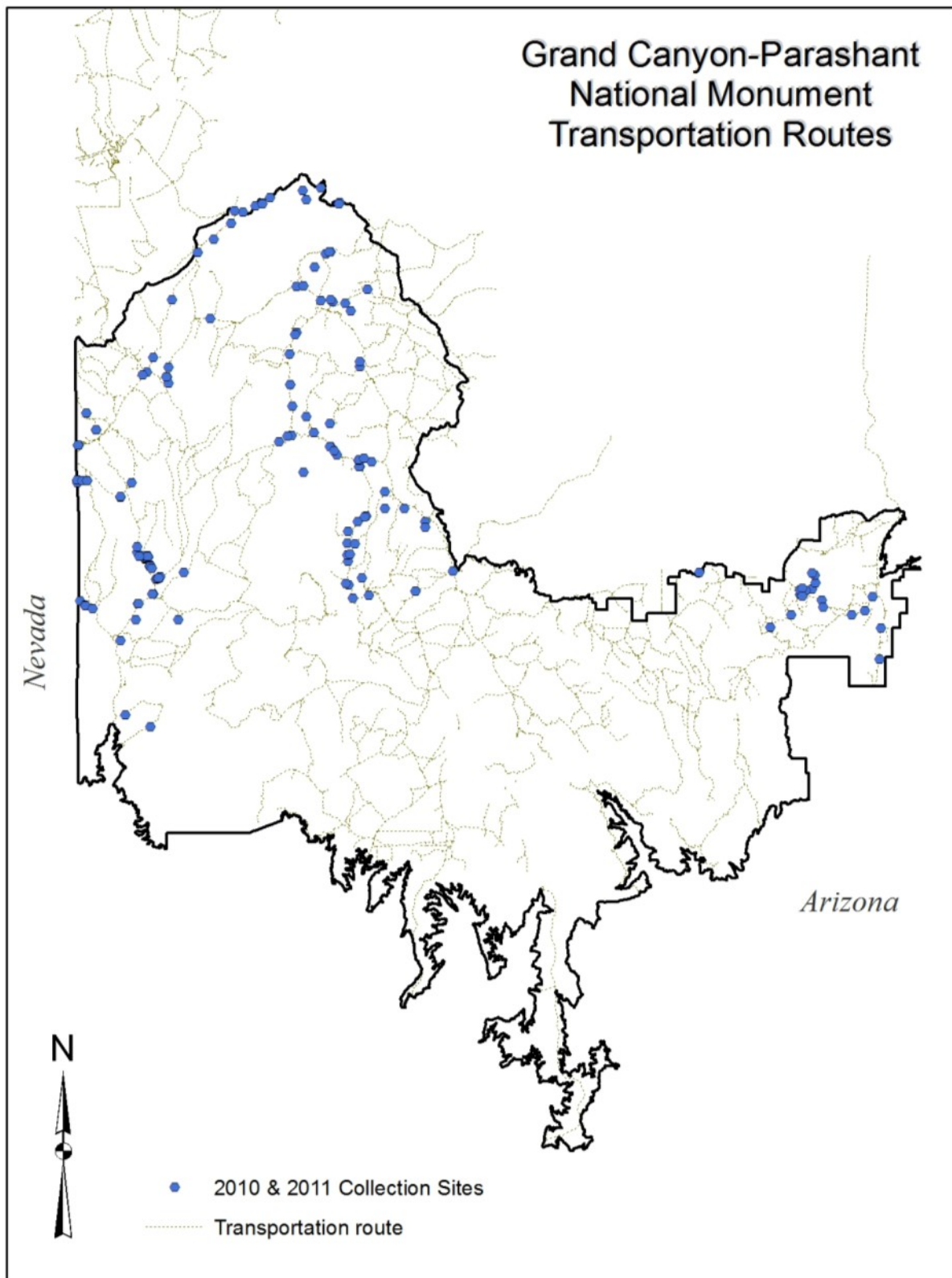


Table 3. New vascular plant species discovered in Grand Canyon-Parashant National Monument in 2011.

Family	Species	Common Name	Collector/Collection #
Amaranthaceae (Chenopodiaceae)	<i>Bassia scoparia</i>	Summer-cypress	Hildebrand 3956
Amaranthaceae (Chenopodiaceae)	<i>Chenopodium berlandieri</i>	Berlandier's goosefoot	Hildebrand 3838
Apiaceae (Umbelliferae)	<i>Lomatium dissectum</i>	Fernleaf biscuitroot	Hildebrand 3731
Asteraceae (Compositae)	<i>Hulsea heterochroma</i>	Great hulsea	Hildebrand 3711
Boraginaceae (Hydrophyllaceae)	<i>Eucrypta chrysanthemifolia</i> var. <i>bipinnatifida</i>	Spotted eucrypta	Hildebrand 3430
Convolvulaceae (Cuscutaceae)	<i>Cuscuta indecora</i>	Large-seed dodder	Rink 10849
Cyperaceae	<i>Carex douglasii</i>	Douglas' sedge	Hildebrand 3742
Fabaceae (Leguminosae)	<i>Glycyrrhiza lepidota</i>	Nuttall's licorice	Hildebrand 3984
Fabaceae (Leguminosae)	<i>Medicago sativa</i>	Alfalfa	Hildebrand 3862
Fabaceae (Leguminosae, Mimosaceae)	<i>Prosopis pubescens</i>	Screwbean mesquite	Hildebrand 3516
Juncaceae	<i>Juncus longistylis</i>	Longstyle rush	Rink 10848
Montiaceae (Portulacaceae)	<i>Phemeranthus parviflorus</i>	Small-flowered fame-flower	Fertig 26875
Oleaceae	<i>Fraxinus anomala</i> var. <i>lowellii</i>	Singleleaf ash	Rink 10182
Onagraceae	<i>Camissonia parryi</i>	Parry's camissonia	Hildebrand 3490
Poaceae (Gramineae)	<i>Bromus catharticus</i>	Rescuegrass	Hildebrand 3508
Poaceae (Gramineae)	<i>Echinochloa crus-galli</i>	Barnyard-grass	Hildebrand 3847
Poaceae (Gramineae)	<i>Puccinellia distans</i>	Weeping alkaligrass	Rink 10858
Polygonaceae	<i>Eriogonum hookeri</i>	Hooker's wild buckwheat	Rink 10831
Rosaceae	<i>Rubus armeniacus</i>	Himalayan blackberry	Hildebrand 3514
Salicaceae	<i>Salix amygdaloides</i>	Peach-leaf willow	Rink 10832
Salicaceae	<i>Salix lasiolepis</i>	Arroyo willow	Fertig & Fertig 27122
Scrophulariaceae (Buddlejaceae)	<i>Buddleja utahensis</i>	Utah butterfly-bush	Hildebrand 3550
Selaginellaceae	<i>Selaginella leucobryoides</i>	Mohave spike-moss	Hildebrand 3552

Table 4. Statistical Summary of the Flora of Grand Canyon-Parashant National Monument. Categories are fully defined in Table 2.

Flora of Grand Canyon-Parashant NM	Present and Historic in Park	Reported for Park	Total
Taxonomic Diversity			
Total Taxa (including varieties & subspecies)	1107	13	1120
Taxonomic Species (excluding varieties & subspecies)	1042	12	1054
Families	89	0	89
Life Form Diversity			
Trees	21	2	23
Shrubs	175	0	175
Perennial Forbs	429	3	432
Annual Forbs	327	5	332
Perennial Graminoids	103	3	106
Annual Graminoids	39	0	39
Ferns & Fern Allies	13	0	13
Biogeographic Diversity			
Introduced	106	0	106
Native (Total)	1002	13	1015
Locally Endemic	19	0	19
Regionally Endemic	136	0	136
Disjunct	0	0	0
Peripheral	60	2	62
Sparse	1	1	2
Widespread	785	10	795

Table 5. Soil types on Grand Canyon-Parashant National Monument on which specimens were collected and vouchered. Soil classification derived from USDA (1994). *Collected by T. Hildebrand if no initials indicated.

Soil Type	Soil Description	Landform/ Landscape Position	Eleva- tion (meters)	Slope (%)	Map Symbol	Collector ID* (Total # Vouchered)
Arada	light brown; loamy fine sand	fan terraces/ stabilized dunes over alluvium	480-910	1-10	3	3467-3475 (9)
Arizo	light brown; very gravelly, sandy loam; flooded	floodplain & alluvium fan/all	540-910	1-5	5	3424-3427, 3476- 3480, 3532-3536, 3539, 3621-3622, 3633, 3768 (19)
Bisoodi-Anasazi	light brown; channery loam; ± calcareous	plateaus/summits; back slopes & depres- sions	440-1820	1-8	11	3614-3619 (6)
Blind-Shelley	pink; very stony or cobbly sandy loam	fan terraces/summits; back & foot slopes	370-910	5-15	12	3428-3439, 3602- 3603; WF 26866- 26874 (23)
Blind-Shelley	pink; very stony or cobbly sandy loam	fan terraces/summits; back & foot slopes	910-1900	5-15	13	3544-3546 (3)
Childers-Rizno	light brown to brown; gravelly loam; ± calcareous; reddish brown very channery sandy loam	plateaus/summits & back slopes	1370-1820	4-15	18	3409-3422, 3461a- 3468a, 3563-3570; HH 78, 82-87 (37)
Disterheff- Natank- Yumtheska	brown to dark brown; gravelly loam with clay	plateaus/summits, depressions, & back slopes	1760-1970	2-15	21	4056-4057, 4065- 4077 (15)
Dutchman- McCullan	light brown; gravelly loam and reddish yellow, pink, & pinkish white; calcareous sandy loam	fan terraces/summits & back slopes	370-450	1-10	22	3620 (1)
Grapevine- Shelley	light brown to reddish yellow; gravelly sandy loam; ± cal- careous	fan terraces/summits & back slopes	370-480	1-5	27	3483, 3612-3613 (3)
Gypill-Badland	pale yellow to pink; gypsifer- ous fine sandy loam with ex- posed areas of mudstone, siltstone, shale & gypsite	eroding areas/back & foot slopes & summits	480-1370	10-70	28	3465-3466, 3484- 3524, 3529-3531, 3763-3767, 3952- 3959 (59)
Hindu-Rock Outcrop-Gypill	pale yellow, pink, to brown; extremely gravelly, ± gyp- siferous, loam; hard sedimen- tary & igneous rock forma- tions	escarpments; cliffs & canyon walls/ steps, benches & foot slopes; cliffs & canyon walls	480-1370	35-70	34	3440-3447, 3573- 3579, 3761-3762 (17)
Hobog-Tidwell	light brown; very gravelly sandy loam with cobble-sized limestone fragments covering 10% of the surface	plateaus, mesas & ridges/summits & back slopes	480-1370	8-35	38	3537 (1)
	pink to light brown; very gravelly sandy loam, calcare- ous	plateaus, mesas	480-1370	5-30	39	3547-3556, 3960- 3974 (25)
Katzine-Rock Outcrop- Yumtheska	light brown to pink; very cob- bly, gravelly loam;	mountains/foot slopes & back slopes; summits; vertical cliff walls & canyons	450-1970	35-70	42	3722-3723 (2)

Table 5, continued. Soil types on Grand Canyon-Parashant National Monument on which specimens were collected and vouchered. Soil classification derived from USDA (1994). *Collected by T. Hildebrand if no initials indicated.

Soil Type	Soil Description	Landform/ Landscape Position	Eleva- tion (meters)	Slope (%)	Map Symbol	(Total # Vouchered) Collector ID*
Meadview	light brown; very gravelly sandy loam; 50% surface coverage with gravel & few cobbles	fan terraces/summits & back slopes	480-1370	2-18	44	3978-3979 (2)
Mellenthin-Tanbark	dark brown; calcareous very gravelly loam; white to pinkish white, gypsiferous loam	plateaus, mesas, hills/summits & back slopes	440-1820	5-50	48	3604-3605 (2)
Meriwhitica-Rock Outcrop-Strych	light brown to brown; very gravelly, calcareous loam; hard to extremely hard sedimentary & igneous rock formations	escarpments; cliffs & canyon walls/ steps, benches & foot slopes; cliffs & canyon walls	440-1820	35-70	51	3387-3388, 3390, 3581-3587, 3593, 3597, 4063-4064; WF 26875-26878; CC 30-37, 39-41; TD 21-24, 35, 41-42, 46-48, 51; AS & DKP 1-6 (46)
Meriwhitica-Rock Outcrop-Strych	light brown to brown; very gravelly, calcareous loam; hard to extremely hard sedimentary & igneous rock formations	escarpments; cliffs & canyon walls/ steps, benches & foot slopes; cliffs & canyon walls	440-1820	35-70	52	3396, 3559-3562, 3571-3572, 4058-4062; SY 16, 18, 20-29, 34-40; CC 27, 42, 42A, 44, 46-49; DL 25-26, 28-30 (44)
Mespun	reddish yellow to reddish brown; loamy fine sand	fan terraces/somewhat stable dunes & interdunes	440-1820	2-10	53	3634, 3975-3977 (4)
Nipton-Rock Outcrop-Nickel	light yellowish brown to brown; very gravelly coarse sandy loam to very cobbly loam; $\pm$ calcareous	mountains/colluvial back slopes; foot slopes	480-1370	10-50	57	3606-3611 (6)
Padilla	reddish brown; silt or clay loam	fan terraces/summits	440-1820	1-5	59	JT 1, 3; JD 4; CR 4 (4)
Pocum-Spenlo	brown; slightly calcareous gravelly, fine sandy loam	mesas/summits	440-1820	1-10	61	3384; WF 26862-26863SP 2-3, 6-8; MM 6; MH 9 (10)
Rizno-Bond-Rock Outcrop	reddish brown to brown; very channery sandy loam; gravelly sandy loam	plateaus/summits & back slopes	1370-1820	4-25	65	3982-3986 (5)
Robroost	reddish yellow; fine sandy loam	fan terraces/summits	370-450	1-3	66	HH 1, 6, 11; MH 3, 10-11 (6)
Ruesh	reddish yellow; very gravelly, fine sandy, calcareous loam	fan terraces/summits	480-1370	3-20	67	3557-3558 (2)
Showlow-Thunderbird	dark reddish gray to dark brown; very cobbly clay loam	mesas/summits & back slopes	1760-1970	2-25	69	3385, 3598-3601; WF 26865 (6)
Strych	light brown, very gravelly loam	fan terraces/summits & back slopes	1460-1820	2-10	73	3981 (1)
Tanbark Family-Strych Family-Rock Outcrop	light to yellowish reddish brown; cobbly to extremely cobbly fine sandy loam; $\pm$ gypsiferous	mesas/back & foot slopes	1460-1820	10-40	74	3393-3394, 3755-3760 (8)

Table 5, continued. Soil types on Grand Canyon-Parashant National Monument on which specimens were collected and vouchered. Soil classification derived from USDA (1994). *Collected by T. Hildebrand if no initials indicated.

Soil Type	Soil Description	Landform/ Landscape Position	Elevation (meters)	Slope (%)	Map Symbol	(Total # Vouchered) Collector ID*
Tassi-Rizno	light brown to reddish brown; very gravelly loam to very channery sandy loam	structural benches/ summits & back slopes	1370-1820	5-35	76	3389, 3391-3392, 3386, 3635-3637, 3754; DL 23-24 (10)
Torriorthents- Calciorthids- Rock Outcrop	light brown to brown; very cobbly loamy sand; $\pm$ calcareous	mesa escarpments/ colluvial back & foot slopes	480-1310	10-40	78	3398-3403, 3481- 3482, 3525-3526, 3623-3632 (20)
Tsezhin Family- Ashfork Family- Rock Outcrop	reddish brown to dark reddish brown; very cobbly loam, often with organic mat	mesas/back & foot slopes	1760-1980	10-70	80	3740-3741, 3745- 3753; WF 27122 (12)
Virgin Peak- Rock Outcrop	dark brown; very gravelly loam	mountains/back slopes	1520-2430	10-70	84	3724-3737 (14)
Winkel-Rock Outcrop	light brown; very gravelly loam; $\pm$ calcareous	plateaus & mesas/ summits & shoulders	480-1370	2-35	87	3395, 3771-3777 (8)
Yellowhorse- Luzena	reddish brown; very cobbly loam with clay	mesas/summits	2010-2190	1-10	92	3738-3739, 3742- 3744, SM 2-4, 6, 8- 10, 12-13; JM 1-7, 11, 14; DKP 11-18; GK 1- 4; DT 1-3, 5-6, 8 (40)
Yumtheska- Katzine-Rock Outcrop	brown; very gravelly loam; $\pm$ calcareous	limestone hills/ summits & back & foot slopes	1760-1980	2-30	93	3453-3454, 3588, 3594, 4038-4042, 4044-4055; AS & DKP 7-11 (26)
Yumtheska- Katzine-Rock Outcrop	grayish brown to brown; very gravelly to cobbly loam; $\pm$ calcareous	mountains/summits & back & foot slopes	1520- 2040	5-50	94	3397, 3448-3449, 3638, 3711-3721 (15)
Yumtheska- Natank	brown to dark brown; very gravelly loam; $\pm$ clay	plateaus & mesas/ back & foot slopes; summit depressions	1670-1980	10-45	95	3450-3452, 3455- 3457, 3580, 3589- 3592, 3595-3596 (13)
Yurm-Meadview	light brown to brown, pink; very gravelly sandy loam; $\pm$ calcareous; $\pm$ weakly lime-cemented	fan terraces & mesas/ back & foot slopes; summit swales	480-1370	15-40	96	3528, 3538, 3540- 3543, 3769-3770 (8)
Yurm	light brown to brown; very gravelly loam	fan terraces/summits & shoulders	480-1370	15-35	98	3404-3408, 3461- 3464 (9)

DISCUSSION

The confirmed and reported flora of PARA represents 26% of the 4,241 native and naturalized vascular plant taxa documented for Arizona by Kartesz (2003). Within Mohave County, the monument flora captures 71% of the 1,588 reported plant taxa (Kartesz 2003). PARA contains 44% of the 2517 species of seed plants and ferns cited for the Arizona Strip by Atwood et al. (2003), McDougall (1973) and Flora of North America Editorial Committee (1993).

Perennial forbs contribute the greatest number of species to the flora of PARA with 432 documented or reported taxa (Table 4) or 39% of all species. The percentage of annual forbs is also high (332 taxa), comprising about 30% of the total flora. While ecologically dominant, shrubs contribute just 16% of all plant species and perennial grasses and grass-like plants (graminoids) represent only 9% of all taxa. Just 2% of known species are trees and only 1% are ferns or fern-allies.

At least 106 introduced plant taxa have been recorded at PARA, or 9.5% of the entire flora. This figure is lower than the statewide average of 12.7% non-native species recorded by Kartesz (2003). Seventeen plant species from the monument are listed as noxious weeds by the state of Arizona (ADAPSD 2005), including six weedy natives (Table 6). Fifteen noxious species are on the state's prohibited list, while 12 are restricted and four regulated (ADAPSD 2005). At least three other noxious weed species (*Centaurea solstitialis*, *Halogeton glomeratus*, and *Ipomoea coccinea*) are known from the vicinity of PARA and may eventually be found inside the monument.

The PARA flora contains 1015 native taxa, of which 78% occur widely across Arizona and western North America (Table 4). Approximately 15% of the native species are local or regional endemics restricted to the PARA area, Mojave Desert, or Colorado Plateau. About 6% of the native species occur at the periphery of their range in Arizona or sparsely across the state (Table 4).

No plant species from PARA are presently listed as Threatened or Endangered under the US Endangered Species Act, although two listed plants (*Astragalus cremnophylax* var. *cremnophylax* and *A. holmgreniorum*) are known from outside the monument. Gierisch's globemallow (*Sphaeralcea gierischii*) is the only species from PARA currently considered an official candidate for potential listing (Table 7). Six species from the monument are classified as Sensitive by the BLM or US Forest Service. Black Rock townsendia (*Townsendia smithii*) was previously listed as Sensitive by the Arizona Strip BLM, but was dropped from that list on December 22, 2010. Several recently described narrow endemics from PARA and vicinity (such as *Lesquerella arizonica* var. *andrusensis*, *Camissonia dominguez-escalantorum*, *Eriogonum umbellatum* var. *mohavense*, *Pediomelum pauperitense*, *Phacelia furnissi*, *P. higginsii*, and *P. hughesii*) might warrant sensitive or candidate status in the future (Atwood 2007, Atwood and Welsh 2007, Flora of North America Editorial Committee 2005). Presently 18 species from PARA (mostly commercially valuable cacti and yuccas) are classified as "salvage restricted" in Arizona, meaning that their collection is prohibited without a permit (AGFD 2010).

Nearly 300 additional vascular plant species have been reported from adjacent areas of the Arizona Strip and Washington County, Utah (Atwood et al. 2000, 2005; Welsh et al. 2008). At least 182 of these species are known from the Virgin River Gorge, Virgin Mountains, Black Rock, Toroweap, Lake Mead NRA, Main Street Valley, and Colorado City areas and are included in the checklist as "potential" species (Appendix B). Another 67 taxa cited by Atwood et al. (2005) for the Arizona Strip flora are found only in the vicinity of Fredonia, AZ, or on the Kaibab and Paria plateaus east of the monument and have been excluded. Most of the excluded taxa occur in specialized soil or vegetation types that are poorly represented or absent from PARA.

Table 6. Noxious weed species of Grand Canyon-Parashant National Monument.

Family	Species	Common Name	AZ Noxious Weed Status
Asteraceae	<i>Acroptilon repens</i>	Russian knapweed	Prohibited Noxious Weed, Restricted Noxious Weed
Asteraceae	<i>Helianthus ciliaris</i>	Blueweed sunflower	Prohibited Noxious Weed, Restricted Noxious Weed
Asteraceae	<i>Onopordum acanthium</i>	Scotch thistle	Prohibited Noxious Weed, Restricted Noxious Weed
Brassicaceae	<i>Cardaria draba</i>	Whitetop	Prohibited Noxious Weed, Restricted Noxious Weed
Convolvulaceae	<i>Convolvulus arvensis</i>	Field bindweed	Prohibited Noxious Weed, Regulated Noxious Weed
Convolvulaceae (Cuscutaceae)**	<i>Cuscuta californica</i> var. <i>breviflora</i> * (reported)	Chapparal dodder	Prohibited Noxious Weed, Restricted Noxious Weed
Convolvulaceae (Cuscutaceae)**	<i>Cuscuta californica</i> var. <i>californica</i> *	Chapparal dodder	Prohibited Noxious Weed, Restricted Noxious Weed
Convolvulaceae (Cuscutaceae)**	<i>Cuscuta indecora</i> *	Large-seed dodder	Prohibited Noxious Weed, Restricted Noxious Weed
Convolvulaceae (Cuscutaceae)**	<i>Cuscuta pentagona</i> *	Field dodder	Prohibited Noxious Weed, Restricted Noxious Weed
Convolvulaceae (Cuscutaceae)**	<i>Cuscuta salina</i> * (reported)	Salt dodder	Prohibited Noxious Weed, Restricted Noxious Weed
Convolvulaceae	<i>Ipomoea costellata</i> *	Crest-rib morning-glory	Prohibited Noxious Weed
Fabaceae	<i>Alhagi maurorum</i>	Camelthorn	Restricted Noxious Weed
Fabaceae	<i>Medicago polymorpha</i>	Bur clover	Prohibited Noxious Weed, Regulated Noxious Weed
Poaceae	<i>Aegilops cylindrica</i>	Jointed goatgrass	Prohibited Noxious Weed, Restricted Noxious Weed
Poaceae	<i>Elymus repens</i>	Creeping wildrye	Restricted Noxious Weed
Portulacaceae	<i>Portulaca oleracea</i>	Common purslane	Prohibited Noxious Weed, Regulated Noxious Weed
Zygophyllaceae	<i>Tribulus terrestris</i>	Puncture vine	Prohibited Noxious Weed, Regulated Noxious Weed

*Native species

**All *Cuscuta* species are listed as “noxious”

At least 90 additional plant taxa that had been reported for PARA are now considered false reports based on misidentified herbarium specimens or erroneous reports in the literature (Appendix C). Some of the falsely reported species may occur in the Monument, but were not included in the potential list to avoid confusion of being cited twice. Additional species currently on the Monument's reported list may ultimately be re-classified as falsely reported once critical specimens are relocated.

Table 7. Rare and Salvage Restricted plant species of Grand Canyon-Parashant National Monument. Derived from AGFD (2010).

Family	Species	Common Name	TNC Rank	Federal Status	AZ Status
Asparagaceae (Agavaceae)	<i>Agave utahensis</i> var. <i>kaibabensis</i>	Kaibab century-plant	G4T3/S3		Salvage restricted
Asparagaceae (Agavaceae)	<i>Agave utahensis</i> var. <i>utahensis</i>	Utah century-plant	G4T3?/S2		Salvage restricted
Asparagaceae (Agavaceae)	<i>Hesperoyucca whipplei</i> (<i>Yucca whipplei</i>)	Our Lord's-candle	G4G5/ S3S4		Salvage restricted
Asparagaceae (Agavaceae)	<i>Yucca angustissima</i> var. <i>angustissima</i>	Narrow-leaved yucca	G5TNR/ S3		Salvage restricted
Asparagaceae (Agavaceae)	<i>Yucca angustissima</i> var. <i>kanabensis</i>	Kanab yucca	G5T3?/S1		Salvage restricted
Asteraceae	<i>Enceliopsis argophylla</i>	Silverleaf enceliopsis	G2G3/S2	BLM Sensitive	
Cactaceae	<i>Cylindropuntia echinocarpa</i> (<i>Opuntia echinocarpa</i>)	Pale cholla	G5/S5		Salvage restricted
Cactaceae	<i>Cylindropuntia whipplei</i> var. <i>whipplei</i> (<i>Opuntia whipplei</i> var. <i>whipplei</i>)	Whipple's cholla	G4?T4?/ S1		Salvage restricted
Cactaceae	<i>Echinocactus polycephalus</i> var. <i>polycephalus</i>	Manyhead barrel cactus	G3G4 T3T4/S2		Salvage restricted
Cactaceae	<i>Echinocactus polycephalus</i> var. <i>xeranthemoides</i>	Kaibab barrel cactus	G3G4 T1T3/ S2S3		Salvage restricted
Cactaceae	<i>Echinocereus coccineus</i> (<i>E. triglochidiatus</i>)	Claret cup	G5/S4S5		Salvage restricted
Cactaceae	<i>Echinocereus engelmannii</i> (all vars)	Engelmann's hedgehog cactus	G5/S4		Salvage restricted
Cactaceae	<i>Echinomastus johnsonii</i>	Johnson's neolloydia	G3G4/S2		Salvage restricted
Cactaceae	<i>Escobaria vivipara</i> var. <i>rosea</i>	Rosy pincushion cactus	G5T3/S3		Salvage restricted
Cactaceae	<i>Ferocactus cylindraceus</i> var. <i>lecontei</i>	Desert barrel cactus	G5/S4		Salvage restricted

Table 7, continued. Rare and Salvage Restricted plant species of Grand Canyon-Parashant National Monument. Derived from AGFD (2010).

Family	Species	Common Name	TNC Rank	Federal Status	AZ Status
Caryophyllaceae	<i>Arenaria aberrans</i>	Mount Dellenbaugh sandwort	G2/S2	USFS Sensitive	
Fabaceae	<i>Pedimelum castoreum</i>	Beaver breadroot	G3/S1		
Fabaceae	<i>Prosopis glandulosa</i> var. <i>torreyana</i> (<i>P. velutina</i>)	Honey mesquite	G5/S5		Highly safe-guarded
Fabaceae	<i>Prosopis pubescens</i>	Screwbean mesquite	G5/S4		Highly safe-guarded
Fabaceae	<i>Psoralea arborescens</i> var. <i>pubescens</i>	Mojave dalea	G5T2/S2	BLM Sensitive	
Malvaceae	<i>Sphaeralcea gierischii</i>	Gierisch's globemallow	G1/S1	USFWS: Candidate	
Onagraceae	<i>Camissonia brevipes</i>	Yellow cups	G4G5/S1		
Onagraceae	<i>Camissonia exilis</i>	Meager camissonia	G1/S1		Salvage restricted
Onagraceae	<i>Camissonia gouldii</i>	Gould's camissonia	G1?/S1?		
Plantaginaceae (Scrophulariaceae)	<i>Penstemon distans</i>	Mount Trumbull penstemon	G2/S2	BLM Sensitive	Salvage restricted
Polemoniaceae	<i>Phlox amabilis</i>	Arizona phlox	G2/S2	USFS: Sensitive	
Ranunculaceae	<i>Aquilegia chrysantha</i>	Golden columbine	G4/S3		Salvage restricted
Rosaceae	<i>Rosa stellata</i> var. <i>abyssa</i>	Desert rose	G4T2/S2	BLM Sensitive, USFS Sensitive	Salvage restricted

CONCLUSIONS

With 1120 documented and reported plant taxa in its flora, Grand Canyon-Parashant National Monument ranks second among protected areas of the Arizona Strip, adjacent southern Utah, and southern Nevada in total plant species richness. Grand Canyon National Park has the largest flora, with nearly 1700 species reported (Ayers et al. 1994; Brian et al. 2000; Christie et al. 2011, Grand Canyon National Park 2005, Phillips et al. 1987). Utah's Zion National Park has the third largest flora, with 1075 taxa confirmed or reported (Fertig and Alexander 2009, Fertig et al. 2011), followed by Grand Staircase-Escalante National Monument with 999 taxa (Fertig 2005, 2009), Lake Mead National Recreation Area with 1009 taxa (Bangle 2007), Glen Canyon National Recreation Area at 889 species (Hill 2005, Spence 2005), and Pipe Spring National Monument with 330 species (Fertig and Alexander 2008, Fertig 2008, Fertig et al. 2011).

The tremendous species richness of PARA can be attributed partly to its location at the confluence of four major floristic regions: Colorado Plateau, Great Basin, Mojave Desert, and Sonoran Desert (McLaughlin 2007). A rich diversity of geologic substrates and soil types, coupled with extreme topographic relief also has contributed to local speciation, with at least 19 taxa being recognized as local endemics and 136 more being restricted to the southwest desert and plateau country,

Sampling the floristic diversity of PARA presents a challenge to botanists conducting inventories due to the monument's size (1.05 million acres, remote location, and primitive transportation routes. Access to new locations is a problem in many areas, but is compounded in PARA by the considerable hiking distances required beyond accessible roads. Sampling sites routinely require a full day of hiking to reach them and then one or more weeks to thoroughly inventory. Adding to the difficulty is the desert habitat with limited access to water. These difficulties have resulted in biased floristic sampling, i.e., sampled areas generally lie within a day's hike of roads. A map of Phase II collection sites and transportation routes (Figure 6) illustrates the access problems faced by botanists during the Phase II inventory. If collection localities from earlier PARA vouchers were included on the map it is likely that a very similar pattern would be evident. It is imperative that future collection efforts in PARA target areas that are more difficult to access to thoroughly reflect the impressive resource diversity suspected to occur in the Monument.

Permanently protected areas, like PARA, play a critical role in conserving common and rare plant species alike (Margules and Sarkar 2007). While not all species within the monument may persist over the long term (some may be naturally small or in sub-optimal sites), populations found in protected areas or afforded proper management attention should theoretically be able to survive longer than those in unprotected or vulnerable sites. Comparing floras across protected areas on a regional scale can also help conservation practitioners identify species or habitats that are inadequately represented in protected areas and therefore help prioritize future conservation efforts (Fertig 2010b).

Maintaining accurate and current species lists for such highly protected areas is also important to better inform resource managers about the species under their care and to educate the public. Our results from Phase II of this project show that the vascular flora of PARA has grown by 10% in just the last two years. Perhaps as many as 300 additional species may still be found on PARA, based on the number of taxa known from comparable habitats in adjacent areas of the Arizona Strip. These results underscore the importance of continued field work, herbarium research, and database development in documenting the flora of an area as large and diverse as PARA.

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Species/Common Name	Synonym	Life form	Range	Status	Pop Size	Source (year)/Comments
Adoxaceae (Caprifoliaceae)						
<i>Sambucus nigra</i> ssp. <i>cerulea</i> Blue elderberry	<i>S. cerulea</i>	Shrub	Wide	Pres	Unc	Tweiten 1976 ASC (1979)
Amaranthaceae (Chenopodiaceae)						
<i>Amaranthus albus</i> Tumble pigweed		AnnF	Intro	Pres	Unc	Atwood 29928 BRY, PARA (1978). Native to tropical America.
<i>Amaranthus blitoides</i> Prostrate pigweed	<i>A. graecizans</i>	AnnF	Wide	Pres	Unc	Higgins & Atwood 21809 BRY (1968)
<i>Amaranthus fimbriatus</i> Fringed amaranth		AnnF	Wide	Pres	Unc	Atwood 27859 BRY, PARA (2000)
<i>Amaranthus hybridus</i> Slim amaranth		AnnF	Wide	Pres	Unc	Atwood 27835 BRY, NY (2001)
<i>Amaranthus palmeri</i> Palmer's amaranth		AnnF	Wide	Pres	Unc	Atwood 29920 BRY, PARA (1979)
<i>Atriplex canescens</i> var. <i>canescens</i> Four-wing saltbush	<i>A. canescens</i> var. <i>occidentalis</i>	Shrub	Wide	Pres	Com	Yanskey 1781 PARA (1977)
<i>Atriplex confertifolia</i> Shadscale		Shrub	Wide	Pres	Com	Gierisch 4133 ASD (1977)
<i>Atriplex elegans</i> var. <i>elegans</i> Wheelscale saltbush		PerF	Wide	Pres	Unc	Hildebrand 3952 PARA (2001)
<i>Atriplex hymenelytra</i> Desert holly		Shrub	Wide	Pres	Unc	Gierisch 4614 ASD (1979)
<i>Atriplex micrantha</i> Two-seed amaranth	<i>A. heterosperma</i>	AnnF	Intro	Pres	Rare	Higgins 23528 ASU (2001). Specimen has not been verified. Native to Eurasia.
<i>Atriplex navajoensis</i> Navajo saltbush	<i>A. garrettii</i> var. <i>navajoensis</i>	Shrub	LocEn	Pres	Rare	Smith 868 ASD (1978). Questionable - otherwise known only from type locality at Navajo Bridge and Lees Ferry.
<i>Atriplex rosea</i> Tumbling orach		AnnF	Intro	Pres	Unc	Atwood & Higgins 29051 BRY, NY, PARA (1978). Native to Eurasia.
<i>Bassia scoparia</i> Summer-cypress	<i>Kochia scoparia</i> , <i>B. sieversiana</i>	AnnF	Intro	Pres	Unc	Hildebrand 3956 PARA (2011). Native to Eurasia.
<i>Chenopodium album</i> Lambsquarter	<i>C. album</i> var. <i>album</i>	AnnF	Intro	Pres	Unc	Atwood 27829 BRY (2000). Native to Eurasia.
<i>Chenopodium atrovirens</i> Mountain goosefoot	<i>C. fremontii</i> var. <i>atrovirens</i>	AnnF	Wide	Pres	Unc	Higgins 28365 BRY (2000)

Appendix A. Confirmed, historical, and reported vascular plant taxa of
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Species/Common Name	Synonym	Life form	Range	Status	Pop Size	Source (year)/Comments
Amaranthaceae (Chenopodiaceae)						
<i>Chenopodium berlandieri</i> Berlandier's goosefoot	<i>Chenopodium album</i> var. <i>berlandieri</i> , <i>C. berlandieri</i> var. <i>zschackei</i>	AnnF	Wide	Pres	Unc	Hildebrand 3838 PARA (2011)
<i>Chenopodium botrys</i> Jerusalem-oak	<i>Teloxys botrys</i> , <i>Dysphania botrys</i>	AnnF	Intro	Pres	Unc	Higgins 23495 BRY, PARA (1997). Native to Eurasia.
<i>Chenopodium desiccatum</i> Desert goosefoot	Includes <i>C. pratericola</i>	AnnF	Wide	Pres	Rare	Waltz s.n. ASC (1997). Specimen has not been verified.
<i>Chenopodium fremontii</i> Fremont's goosefoot	<i>C. fremontii</i> var. <i>fremontii</i>	AnnF	Wide	Pres	Unc	Atwood & Higgins 29052 BRY, PARA (1978)
<i>Chenopodium graveolens</i> Fetid goosefoot	<i>C. graveolens</i> var. <i>neomexicanum</i> , <i>C. incisum</i>	AnnF	Wide	Pres	Unc	Higgins 24017 BRY, PARA (2002).
<i>Chenopodium incanum</i> Silvery goosefoot	<i>C. fremontii</i> var. <i>incanum</i>	AnnF	Periph	Pres	Unc	Atwood 27855 BRY, PARA (1978)
<i>Chenopodium leptophyllum</i> Narrowleaf goosefoot		AnnF	Wide	Pres	Rare	Springer s.n. ASC, ASD (1997)
<i>Chenopodium murale</i> Nettleleaf goosefoot		AnnF	Intro	Pres	Rare	Yanskey 2191 PARA (2001). Native to Eurasia.
<i>Grayia spinosa</i> Spiny hopsage	<i>Atriplex spinosa</i> , <i>A. grayi</i>	Shrub	Wide	Pres	Unc	Higgins 29139 BRY (2001)
<i>Krascheninnikovia lanata</i> Winterfat	<i>Ceratoides lanata</i> , <i>Eurotia lanata</i>	Shrub	Wide	Pres	Com	Brown & Parfitt 363 ASD (1978)
<i>Monolepis nuttalliana</i> Nuttall's poverty-weed		AnnF	Wide	Pres	Rare	Brown & Parfitt 798 ASU (1978). Specimen has not been verified.
<i>Salsola paulsenii</i> Barbwire Russian-thistle		AnnF	Intro	Pres	Rare	Atwood 27052 BRY (1978). Native to Eurasia.
<i>Salsola tragus</i> Russian-thistle	<i>S. kali</i> , <i>S. iberica</i> , <i>S. pestifer</i> , <i>S. australis</i>	AnnF	Intro	Pres	Com	Coombs & Bundy 2656 ASD (1978). Native to Asia.
<i>Suaeda calceoliformis</i> American sea-blite		PerF	Wide	Pres	Rare	Yanskey 2036 PARA (2008)
<i>Tidestromia lanuginosa</i> Woolly tidestromia	<i>Achyranthes lanuginosa</i> , <i>Cladothrix lanuginosa</i>	AnnF	Wide	Pres	Unc	Atwood 27885 BRY, PARA (1977)
<i>Tidestromia oblongifolia</i> Honeysweet tidestromia	<i>T. suffruticosa</i> var. <i>oblongifolia</i>	PerF	Periph	Pres	Unc	Atwood & Higgins 26334 BRY (2000)

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Species/Common Name	Synonym	Life form	Range	Status	Pop Size	Source (year)/Comments
Amaryllidaceae (Alliaceae, Liliaceae)						
<i>Allium acuminatum</i> Taper-tip onion		PerF	Wide	Pres	Rare	Yanskey 1693 PARA (1997)
<i>Allium bisceptrum</i> Aspen onion		PerF	Wide	Pres	Unc	Yanskey 2207 PARA (1996)
<i>Allium nevadense</i> Nevada onion	<i>A. atrorubens</i> var. <i>cristatum</i>	PerF	Wide	Pres	Unc	Atwood 27236 BRY, PARA (1978)
Anacardiaceae						
<i>Rhus glabra</i> Smooth sumac		Shrub	Wide	Pres	Rare	Beck 1982 ASC (1987)
<i>Rhus trilobata</i> var. <i>simplicifolia</i> Squawbush	<i>R. aromatica</i> var. <i>simplicifolia</i>	Shrub	Wide	Pres	Unc	Yanskey 1772 PARA (2001)
<i>Rhus trilobata</i> var. <i>trilobata</i> Squawbush	<i>R. aromatica</i> var. <i>trilobata</i>	Shrub	Wide	Pres	Unc	Phillips & Phillips 77-245 ASD (1977)
Apiaceae (Umbelliferae)						
<i>Bowlesia incana</i> Hoary bowlesia		AnnF	Wide	Pres	Rare	Christie 1569 PARA (2008)
<i>Cymopterus multinervatus</i> Striate spring-parsley		PerF	Wide	Pres	Unc	Yanskey 1319 PARA (1952). Type locality: Peach Springs, AZ (Lemmon 80-111 US)
<i>Cymopterus purpurascens</i> Basin white-cup spring-parsley		PerF	Wide	Pres	Unc	Hildebrand 3454 PARA (1952)
<i>Cymopterus purpureus</i> Colorado Plateau spring-parsley	<i>C. purpureus</i> var. <i>purpureus</i>	PerF	RegEn	Pres	Rare	Yanskey 1353 PARA (1941). Includes report of var. <i>rosei</i> (UT endemic)
<i>Daucus pusillus</i> American wild carrot		AnnF	Wide	Pres	Unc	Atwood 27225 BRY (2001)
<i>Hydrocotyle verticillata</i> Water pennywort		PerF	Wide	Pres	Rare	Gierisch 4032 ASD (1977)
<i>Lomatium dissectum</i> Fernleaf biscuitroot		PerF	Wide	Pres	Unc	Hildebrand 3731 PARA (2011)
<i>Lomatium foeniculaceum</i> ssp. <i>macdougalii</i> Desert-parsley	<i>L. macdougalii</i>	PerF	Wide	Pres	Unc	Huisinga & McGlone 2766 ASC, PARA (1975)
<i>Lomatium nevadense</i> var. <i>parishii</i> Nevada lomatium		PerF	Wide	Pres	Unc	Welsh & Atwood 26762 BRY (1987)

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Species/Common Name	Synonym	Life form	Range	Status	Pop Size	Source (year)/Comments
Apiaceae (Umbelliferae)						
<i>Lomatium scabrum</i> var. <i>tripinnatum</i> Rough lomatium		PerF	RegEn	Pres	Rare	Atwood & Thorne 12647 BRY (1987). Type locality: Snow Canyon, UT (Goodrich 20282 BRY)
<i>Pteryxia petraea</i> Rock spring-parsley	<i>Cymopterus terebinthinus</i> var. <i>petraeus</i> , <i>C. petraeus</i> , <i>Aletes petraea</i>	PerF	Periph	Pres	Unc	Atwood 9429 BRY (1983)
<i>Pteryxia terebinthina</i> var. <i>albiflora</i> Aromatic spring-parsley	<i>Cymopterus terebinthinus</i> var. <i>albiflorus</i> , <i>C. terebinthinus</i> var. <i>calcareus</i>	PerF	Periph	Pres	Unc	Atwood & Furniss 24167 BRY (1999).
<i>Yabea microcarpa</i> California hedge-parsley	<i>Caucalis microcarpa</i>	AnnF	Wide	Pres	Rare	Yanskey 1427 PARA (1978)
Apocynaceae (Asclepiadaceae)						
<i>Amsonia jonesii</i> Jones' amsonia		PerF	RegEn	Pres	Unc	Brown & Parfitt 383 ASD (1972)
<i>Amsonia palmeri</i> Palmer's bluestar	Includes <i>A. hirtella</i>	PerF	Wide	Pres	Rare	Atwood & Furniss 24268 BRY (1999)
<i>Amsonia tomentosa</i> Tomentose amsonia	<i>A. eastwoodiana</i>	PerF	Wide	Pres	Unc	Yanskey 1752 PARA (1974).
<i>Asclepias asperula</i> var. <i>asperula</i> Spider milkweed	<i>A. capricornu</i>	PerF	Wide	Pres	Unc	Atwood & Higgins 27545 BRY (1952)
<i>Asclepias erosa</i> Desert milkweed		PerF	Wide	Pres	Unc	Higgins 21535 BRY (1968). Type locality: near St. George, UT (Parry 207 MO)
<i>Asclepias latifolia</i> Broadleaf milkweed		PerF	Wide	Pres	Rare	Yanskey 2174 PARA (2008)
<i>Asclepias rusbyi</i> Rusby's milkweed	<i>A. engelmanniana</i> var. <i>rusbyi</i>	PerF	Wide	Pres	Rare	Buckley 3241 ASC (2002). Specimen has not been verified.
<i>Asclepias subverticillata</i> Whorled milkweed	<i>A. galioides</i>	PerF	Wide	Pres	Com	Coombs & Bundy 2606 AZ Strip BLM (1953)
<i>Asclepias tuberosa</i> var. <i>interior</i> Orange milkweed	<i>A. tuberosa</i> ssp. <i>terminalis</i>	PerF	Wide	Pres	Rare	Atwood & Atwood 32643 BRY (2009)
<i>Cynanchum utahense</i> Swallow-wort	<i>Astephanus utahensis</i>	PerF	RegEn	Pres	Unc	Higgins, Atwood, & Furniss 21084 BRY (2000). Type locality: near St. George, UT (Parry 209 MO).

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Species/Common Name	Synonym	Life form	Range	Status	Pop Size	Source (year)/Comments
Apocynaceae (Asclepiadaceae)						
<i>Funastrum cynanchoides</i> ssp. <i>heterophyllum</i> Climbing milkweed	<i>F. heterophyllum</i> , <i>Sarcostemma</i> <i>cynanchoides</i> var. <i>hartwegii</i>	PerF	Wide	Pres	Unc	Atwood & Higgins 30164 BRY (2000)
<i>Matelea producta</i> Texas milkvine	<i>Gonolobus productus</i>	PerF	Wide	Pres	Unc	Atwood & Higgins 29068 BRY (1999)
Asparagaceae (Agavaceae, Anthericaceae, Convallariaceae, Laxmanniaceae, Liliaceae, Ruscaceae, Themidaceae)						
<i>Agave utahensis</i> var. <i>kaibabensis</i> Kaibab century-plant	<i>A. kaibabensis</i>	Shrub	RegEn	Pres	Rare	Atwood & Higgins 29475 BRY (2003). Type locality: Kaibab Plateau, AZ (McKelvey 4318A). AZ: Salvage restricted
<i>Agave utahensis</i> var. <i>utahensis</i> Utah century-plant	<i>A. utahensis</i>	Shrub	RegEn	Pres	Unc	Hodgson & Palmer 4594 DES (1969). Type locality: St. George, UT (Palmer s.n. MO). AZ: Salvage restricted
<i>Androstephium breviflorum</i> Pink funnel-lily		PerF	Wide	Pres	Unc	Madsen & Atwood 1375 BRY (2001). Type locality: Kanab, UT (Thompson s.n.)
<i>Dichelostemma capitatum</i> ssp. <i>pauciflorum</i> Bluedicks	<i>D. pulchellum</i>	PerF	Wide	Pres	Unc	Atwood & Higgins 26941 BRY, PARA (2001)
<i>Hesperoyucca whipplei</i> Our-Lord's-candle	<i>Yucca whipplei</i> , <i>Y. newberryi</i>	Shrub	Periph	Pres	Rare	Gierisch 5028 ASD (1981). AZ: Salvage Restricted
<i>Leucocrinum montanum</i> Star lily		PerF	Periph	Pres	Rare	Anderson 2001-20 ASU (2001)
<i>Maianthemum racemosum</i> ssp. <i>amplexicaule</i> False Solomon's-seal	<i>M. amplexicaule</i> , <i>Smilacina racemosa</i>	PerF	Wide	Pres	Rare	Shultz et al. 19946 UTC (2005). Confirmation needed.
<i>Maianthemum stellatum</i> Starry false Solomon's-seal	<i>Smilacina stellata</i>	PerF	Wide	Pres	Rare	Brown & Parfitt 780 ASD (1978)
<i>Nolina microcarpa</i> Beargrass		Shrub	Wide	Pres	Rare	Gierisch 4837 ASD (1981)
<i>Yucca angustissima</i> var. <i>angustissima</i> Narrowleaved yucca	<i>Y. angustissima</i> , includes var. <i>avia</i>	Shrub	RegEn	Pres	Unc	Brown & Parfitt 715 ASD (1978). AZ: Salvage Restricted
<i>Yucca angustissima</i> var. <i>kanabensis</i> Kanab yucca	<i>Y. kanabensis</i>	Shrub	RegEn	Pres	Rare	Atwood & Thorne 12686 BRY (2004). Type locality: between Mt. Carmel & Kanab, UT (McKelvey 4347a A). AZ: Salvage Restricted
<i>Yucca baccata</i> Datil yucca	Includes vars. <i>baccata</i> & <i>vespertina</i>	Shrub	Wide	Pres	Unc	Atwood & Madsen 26682 BRY (1977)

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Asparagaceae (Agavaceae, Anthericaceae, Convallariaceae, Laxmanniaceae, Liliaceae, Ruscaceae, Themidaceae)						
<i>Yucca brevifolia</i> Joshua tree		Tree	RegEn	Pres	Unc	Atwood 27132 BRY (2001)
<i>Yucca elata</i> Utah yucca	<i>Y. utahensis</i>	Shrub	RegEn	Pres	Rare	Atwood & Higgins 30173 BRY (2004). Type locality: NW of St. George, UT (McKelvey 4167 A).
<i>Yucca schidigera</i> Splinter yucca		Shrub	Wide	Pres	Unc	Higgins, Atwood, & Welsh 22164 BRY (1978)
Asteraceae (Compositae)						
<i>Acamptopappus sphaerocephalus</i> Goldenhead	includes vars <i>hirtellus</i> & <i>sphaerocephalus</i>	Shrub	Wide	Pres	Unc	Gierisch 4720 ASD (1980)
<i>Acourtia wrightii</i> Wright's perezia	<i>Perezia wrightii</i>	PerF	Wide	Pres	Unc	Yanskey 1463 PARA (1968)
<i>Acroptilon repens</i> Russian knapweed	<i>Centaurea repens</i> , <i>C. pteris</i> , <i>Rhaponticum repens</i>	PerF	Intro	Pres	Rare	Higgins 21531 BRY (2000). Native to Eurasia. AZ state noxious weed.
<i>Adenophyllum cooperi</i> Cooper's dogweed	<i>Dyssodia cooperi</i>	Shrub	RegEn	Pres	Unc	Higgins 22757 BRY, PARA (1978)
<i>Adenophyllum porophylloides</i> San Felipe dogweed	<i>Dyssodia porophylloides</i>	Shrub	Wide	Pres	Unc	Gierisch 4752 ASD (1979)
<i>Ageratina herbacea</i> White thoroughwort	<i>Eupatorium herbaceum</i>	PerF	Wide	Pres	Rare	Springer, McGlone, & Anderson 2752 ASC, PARA (1997)
<i>Agoseris glauca</i> var. <i>glauca</i> Pale agoseris		PerF	Wide	Pres	Unc	Tweiten 1980 ASC, PARA (1996)
<i>Agoseris glauca</i> var. <i>laciniata</i> Cutleaf agoseris	<i>A. parviflora</i>	PerF	Wide	Pres	Rare	Hazlett 7062 ASD (1941)
<i>Agoseris heterophylla</i> Annual agoseris		AnnF	Wide	Pres	Rare	Atwood 32943 BRY (2010). Confirmation needed
<i>Ambrosia acanthicarpa</i> Bur ragweed	<i>Franseria acanthicarpa</i>	AnnF	Wide	Pres	Unc	Lasater s.n. ASD (1940)
<i>Ambrosia artemisiifolia</i> Common ragweed	<i>A. artemisiifolia</i> var. <i>elatio</i>	AnnF	Wide	Pres	Rare	Atwood & Welsh 33685 BRY (2010)
<i>Ambrosia confertiflora</i> Mexican ragweed	<i>Franseria confertiflora</i>	PerF	Wide	Pres	Unc	Atwood & Higgins 26200 BRY (2000)
<i>Ambrosia dumosa</i> White bursage	<i>Franseria dumosa</i>	Shrub	Wide	Pres	Com	Atwood 27057 BRY, PARA (2000)

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Asteraceae (Compositae)						
<i>Ambrosia eriocentra</i> Woolly bursage	<i>Franseria eriocentra</i>	Shrub	Wide	Pres	Unc	Higgins 22756 BRY (1978)
<i>Amphipappus fremontii</i> var. <i>spinosus</i> Chaff-bush		Shrub	RegEn	Pres	Com	Atwood 27146 BRY, PARA (1941)
<i>Antennaria dimorpha</i> Low pussytoes		PerF	Periph	Pres	Rare	Atwood & Furniss 25228 BRY (2000).
<i>Antheropeas lanosum</i> Gray's woollyleaf	<i>Eriophyllum lanosum</i>	AnnF	Wide	Pres	Com	Gierisch 4136 ASD (1978)
<i>Antheropeas wallacei</i> Wallace's woollyleaf	<i>Eriophyllum wallacei</i>	AnnF	Wide	Pres	Com	Yanskey 2096 PARA (1979)
<i>Arctium minus</i> Burdock		PerF	Intro	Pres	Rare	Atwood & Welsh 33688 BRY (2010). Native to Eurasia.
<i>Artemisia biennis</i> Biennial wormwood	<i>A. biennis</i> var. <i>biennis</i>	PerF	Wide	Pres	Rare	Stevens 1275 ASC (2000). Specimen has not been verified
<i>Artemisia bigelovii</i> Bigelow's sagebrush		Shrub	Wide	Pres	Unc	Atwood & Higgins 27989 BRY, PARA (2001)
<i>Artemisia campestris</i> var. <i>scouleriana</i> Sand wormwood	<i>A. pacifica</i> , <i>Oligosporus campestris</i> ssp. <i>pacificus</i> , <i>O. pacificus</i>	PerF	Wide	Pres	Unc	Higgins 23523 BRY, PARA (2000)
<i>Artemisia carruthii</i> Carruth's wormwood		PerF	Wide	Pres	Unc	Atwood & Higgins 27943 BRY, PARA (1953)
<i>Artemisia dracunculus</i> Tarragon	<i>A. dracunculus</i> var. <i>glauca</i> , <i>A. dracunculoides</i> , <i>Oligosporus dracunculus</i>	PerF	Wide	Pres	Unc	Atwood 27854 BRY, PARA (2000)
<i>Artemisia filifolia</i> Sand sagebrush	<i>Oligosporus filifolius</i>	Shrub	Wide	Pres	Rare	Yanskey 1864 PARA (1978)
<i>Artemisia frigida</i> Fringed sagebrush		Shrub	Wide	Pres	Unc	McGlone 2751 ASC (2001)
<i>Artemisia ludoviciana</i> ssp. <i>albula</i> Louisiana wormwood		PerF	Wide	Pres	Unc	Atwood 29861 BRY, PARA (1977)
<i>Artemisia nova</i> Black sagebrush	<i>A. nova</i> var. <i>nova</i> , <i>A. arbuscula</i> var. <i>nova</i> , <i>Seriphidium novum</i>	Shrub	Wide	Pres	Rare	Gierisch 4566 ASD (1978)
<i>Artemisia tridentata</i> ssp. <i>tridentata</i> Basin big sagebrush	<i>Seriphidium tridentatum</i> ssp. <i>tridentatum</i>	Shrub	Wide	Pres	Com	Yanskey 1487 PARA (1956)

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Asteraceae (Compositae)						
<i>Artemisia tridentata</i> ssp. <i>vaseyana</i> Mountain big sagebrush	Includes <i>A. tridentata</i> var. <i>pauciflora</i> , <i>Seriphidium vaseyanum</i>	Shrub	Periph	Pres	Com	Gierisch 4565 ASD (1978)
<i>Artemisia tridentata</i> ssp. <i>wyomingensis</i> Wyoming big sagebrush	<i>Seriphidium tridentatum</i> ssp. <i>wyomingense</i>	Shrub	Wide	Pres	Unc	Atwood 27862 BRY, RM (1956)
<i>Atrichoseris platyphylla</i> Tobacco-weed		AnnF	Wide	Pres	Com	Atwood 27196 PARA, BRY (2000)
<i>Baccharis salicifolia</i> Sticky seepwillow	<i>B. glutinosa</i> , in- cludes <i>B. viminea</i> var. <i>viminea</i>	Shrub	Wide	Pres	Unc	Higgins, Atwood, & Welsh 19989 BRY, ASD (1977)
<i>Baccharis salicina</i> Rio Grande seepwillow	Includes <i>B. emoryi</i>	Shrub	Wide	Pres	Unc	Gierisch 4560 ASD (1978)
<i>Baccharis sergiloides</i> Squaw waterweed		Shrub	Wide	Pres	Unc	Phillips & Phillips 77-252 ASD (1977)
<i>Bahia dissecta</i> Cutleaf	<i>Amauriopsis dissecta</i>	PerF	Wide	Pres	Unc	Anderson 2818 ASC, PARA (2001)
<i>Baileya multiradiata</i> Desert-marigold		PerF	Wide	Pres	Unc	Gierisch 4718 ASD (1974)
<i>Baileya pleniradiata</i> Woolly desert-marigold		AnnF	Wide	Pres	Com	Higgins, Atwood, & Welsh 20022 BRY, ASD (1999)
<i>Balsamorhiza hookeri</i> var. <i>hispidula</i> Hooker's balsamroot		PerF	Periph	Pres	Rare	Brown & Parfitt 803 ASD (1978)
<i>Bebbia juncea</i> var. <i>aspera</i> Sweetbush		Shrub	Wide	Pres	Com	Yanskey 1930 PARA (2000)
<i>Brickellia atractyloides</i> Spiny brickellbush		Shrub	Wide	Pres	Unc	Atwood 27156 BRY, PARA (1968)
<i>Brickellia californica</i> California brickellbush		Shrub	Wide	Pres	Unc	Atwood 29901 BRY, PARA (1974)
<i>Brickellia eupatorioides</i> var. <i>corymbulosa</i> False boneset	<i>Kuhnia eupatorioides</i> var. <i>chlorolepis</i> , <i>K. eupatorioides</i> var. <i>corymbulosa</i> , <i>K. rosmarinifolia</i> , <i>B. rosmarinifolia</i> ssp. <i>chlorolepis</i>	PerF	Wide	Pres	Unc	Yanskey 1461 PARA (1977)
<i>Brickellia grandiflora</i> Tasselflower		PerF	Wide	Pres	Rare	McGlone, Anderson, & Springer 2753 ASC, PARA (1996)

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Asteraceae (Compositae)						
<i>Brickellia incana</i> Woolly brickellbush		Shrub	RegEn	Pres	Rare	Higgins & Green 25458 ARIZ, BRY (2004)
<i>Brickellia longifolia</i> Longleaf brickellbush	<i>B. longifolia</i> var. <i>longifolia</i>	Shrub	Wide	Pres	Rare	Atwood 29862 BRY, PARA (2000)
<i>Brickellia microphylla</i> var. <i>scabra</i> Rough brickellbush	<i>B. scabra</i>	Shrub	Wide	Pres	Rare	Higgins & Atwood 21850 BRY (2001). Includes unpublished "var. nov."
<i>Brickellia oblongifolia</i> var. <i>linifolia</i> Mohave brickellbush		Shrub	Wide	Pres	Rare	Mason 2824 ARIZ (1968)
<i>Calycoseris parryi</i> Purple tackplant		AnnF	Wide	Pres	Unc	Higgins 22744 BRY (2001)
<i>Calycoseris wrightii</i> Pale tackplant		AnnF	Wide	Pres	Com	Higgins 22763 BRY, PARA (1941)
<i>Centaurea melitensis</i> Maltese star-thistle		PerF	Intro	Pres	Unc	Hildebrand 3764 PARA (2001). Native to Europe.
<i>Chaenactis carphoclinia</i> Gray's chaenactis	<i>C. carphoclinia</i> var. <i>carphoclinia</i>	AnnF	Wide	Pres	Com	Smith 1013 ASD (1978)
<i>Chaenactis douglasii</i> Hoary dusty-maiden	includes vars. <i>douglasii</i> & <i>montana</i>	PerF	Wide	Pres	Unc	Ojeda s.n. ASC, ASD (1941)
<i>Chaenactis fremontii</i> Fremont's dusty-maiden		AnnF	Wide	Pres	Com	Higgins, Atwood, & Welsh 19976 BRY, ASD (2000)
<i>Chaenactis macrantha</i> Showy dusty-maiden		AnnF	Wide	Pres	Unc	Atwood 27130 BRY, PARA (1978)
<i>Chaenactis stevioides</i> Stevia dusty-maiden		AnnF	Wide	Pres	Com	Yanskey 2133 PARA (2001)
<i>Chaetopappa ericoides</i> Rose-heath	<i>Leucelene ericoides</i> , <i>Aster arenosus</i>	PerF	Wide	Pres	Unc	Coombs & Bundy 2594 ASD (1975)
<i>Chloracantha spinosa</i> Mexican devilweed	<i>Aster spinosus</i>	PerF	Wide	Pres	Unc	Smith 1087 ASD (1978)
<i>Chrysothamnus depressus</i> Dwarf rabbitbrush		Shrub	Wide	Pres	Unc	Machina 531 ASC (1974)
<i>Chrysothamnus Greenei</i> Greene's rabbitbrush		Shrub	Wide	Pres	Rare	Atwood 27861 BRY (2001)
<i>Chrysothamnus viscidiflorus</i> var. <i>lanceolatus</i> Lanceleaf rabbitbrush	<i>C. viscidiflorus</i> var. <i>elegans</i>	Shrub	Wide	Pres	Unc	Thorne 292 ASD (1952)
<i>Chrysothamnus viscidiflorus</i> var. <i>puberulus</i> Puberulent rabbitbrush		Shrub	Wide	Pres	Unc	Higgins 24019 BRY, ASD (2001)

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Asteraceae (Compositae)						
<i>Chrysothamnus viscidiflorus</i> var. <i>stenophyllus</i> Slenderleaf rabbitbrush	Included in var. <i>viscidiflorus</i> by some authors	Shrub	Wide	Pres	Unk	Gierisch & Bundy 4452 ARIZ (1978)
<i>Chrysothamnus viscidiflorus</i> var. <i>viscidiflorus</i> Green rabbitbrush		Shrub	Wide	Pres	Unc	Gierisch & Bundy 4552 ASD (1978)
<i>Cirsium arizonicum</i> Arizona thistle	Includes vars <i>arizonicum</i> & <i>nidulum</i>	PerF	Wide	Pres	Unc	Bundy 153 ASD (1978)
<i>Cirsium calcareum</i> Pretty thistle	<i>C. calcareum</i> var. <i>pulchellum</i> , <i>C.</i> <i>arizonicum</i> var. <i>bipinnatum</i> , <i>C.</i> <i>pulchellum</i>	PerF	Wide	Pres	Unc	Coombs & Bundy 2605 ASD (1978)
<i>Cirsium mohavense</i> Mojave thistle	<i>C. virginense</i>	PerF	RegEn	Pres	Unc	Yanskey 1793 PARA (1980). Rink and Hodgson are de- scribing a new variety from the PARA area. Type locality of <i>C. virginense</i> : St. George, UT (Welsh 21234 BRY)
<i>Cirsium neomexicanum</i> New Mexico thistle	<i>C. neomexicanum</i> var. <i>neomexicanum</i>	PerF	Wide	Pres	Com	Brown & Parfitt 344 ASD (1978)
<i>Cirsium ochrocentrum</i> ssp. <i>ochrocentrum</i> Yellow-spine thistle		PerF	Wide	Pres	Unc	Coombs & Bundy 2597 ASD (1978)
<i>Cirsium vulgare</i> Bull thistle		PerF	Intro	Pres	Unc	Bundy 198 ASD (1980). Native to Europe.
<i>Cirsium wheeleri</i> Wheeler's thistle	<i>C. wheeleri</i> var. <i>wheeleri</i>	PerF	Wide	Pres	Unc	West & Springer 542 ASC, PARA (1996)
<i>Conyza canadensis</i> var. <i>glabrata</i> Canadian horseweed		AnnF	Wide	Pres	Unc	Coombs & Bundy 2752 ASD (1978)
<i>Crepis intermedia</i> Gray hawksbeard		PerF	Wide	Pres	Rare	Holland & Niles 634 ARIZ (1975)
<i>Crepis occidentalis</i> Western hawksbeard		PerF	Wide	Rep	Unc	Powell 2002; Bangle 2007 (NA)
<i>Eclipta prostrata</i> False daisy	<i>E. alba</i>	AnnF	Wide	Pres	Unc	Atwood & Higgins 29046 BRY (2002)
<i>Encelia farinosa</i> White brittlebush		Shrub	Wide	Pres	Com	Gierisch 4712 ASD (1977)
<i>Encelia resinifera</i> Bush encelia	<i>E. frutescens</i> var. <i>resinosa</i>	Shrub	RegEn	Pres	Unc	Atwood 27195 BRY, PARA (1978). Type locality: Little Colorado River near Winslow, AZ (Jones s.n. POM)

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Asteraceae (Compositae)						
<i>Encelia virginensis</i> Virgin encelia	<i>E. frutescens</i> var. <i>virginensis</i>	Shrub	Wide	Pres	Unc	Brown & Parfitt 462 ASD (1941)
<i>Enceliopsis argophylla</i> Silverleaf enceliopsis		PerF	RegEn	Pres	Unc	Atwood 27215 BRY, PARA (1978). Type locality: reported as St. George, UT (Palmer s.n. YU), but may have been taken from St. Thomas, NV (now under Lake Mead). BLM Sensitive.
<i>Enceliopsis nudicaulis</i> var. <i>nudicaulis</i> Nakedstem		PerF	Periph	Pres	Rare	Reif 10925 PARA (2001). Type locality: "Southern Utah" (Bishop s.n. GH).
<i>Ericameria laricifolia</i> Larchleaf goldenbush	<i>Haplopappus laricifolius</i> , <i>Aplopappus laricifolius</i>	Shrub	Wide	Pres	Unc	Higgins & Atwood 21881 BRY, ASD (1978)
<i>Ericameria linearifolia</i> Mohave goldenbush	<i>Haplopappus linearifolius</i> var. <i>interior</i> , <i>Stenotus linearifolius</i> , <i>Aplopappus linearifolius</i>	Shrub	Wide	Pres	Unc	Yanskey 1443 PARA (1978)
<i>Ericameria nauseosa</i> var. <i>glabrata</i> Glabrate rabbitbrush	<i>Ericameria nauseosa</i> var. <i>graveolens</i> , <i>Chrysothamnus nauseosus</i> var. <i>graveolens</i>	Shrub	Wide	Pres	Unc	Gierisch 4570 ASD (1978)
<i>Ericameria nauseosa</i> var. <i>hololeuca</i> Graystem rabbitbrush	<i>Chrysothamnus nauseosus</i> var. <i>hololeucus</i> , <i>C. nauseosus</i> var. <i>gnaphalodes</i>	Shrub	Wide	Pres	Com	Atwood 29792 BRY, PARA (1978)
<i>Ericameria nauseosa</i> var. <i>junceae</i> Rush rabbitbrush	<i>Chrysothamnus nauseosus</i> var. <i>junceus</i>	Shrub	RegEn	Pres	Unc	Gierisch 4563 ASD (1978). Type locality: Gila River, AZ (Greene s.n. NDG)
<i>Ericameria nauseosa</i> var. <i>mohavensis</i> Mohave rabbitbrush	<i>Chrysothamnus nauseosus</i> var. <i>mohavensis</i>	Shrub	Periph	Pres	Com	Atwood & Higgins 27944 BRY, PARA (1978)
<i>Ericameria nauseosa</i> var. <i>nitida</i> Shiny rabbitbrush	<i>Chrysothamnus nauseosus</i> var. <i>turbinatus</i> , <i>C. nauseosus</i> var. <i>nitidus</i>	Shrub	RegEn	Pres	Rare	Atwood & Higgins 27991 BRY, PARA (2001)
<i>Ericameria nauseosa</i> var. <i>oreophila</i> Greenish rabbitbrush	<i>Chrysothamnus nauseosus</i> var. <i>oreophilus</i> , <i>C. nauseosus</i> var. <i>consimilis</i> , <i>E. nauseosa</i> var. <i>consimilis</i>	Shrub	Wide	Pres	Com	Springer 2757 ASC, PARA (2000)

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Asteraceae (Compositae)						
<i>Ericameria nauseosa</i> var. <i>oreophila</i> Greenish rabbitbrush	<i>Chrysothamnus nauseosus</i> var. <i>oreophilus</i> , <i>C. nauseosus</i> var. <i>consimilis</i> , <i>E. nauseosa</i> var. <i>consimilis</i>	Shrub	Wide	Pres	Com	Springer 2757 ASC, PARA (2000)
<i>Ericameria paniculata</i> Mohave rabbitbrush	<i>Chrysothamnus paniculatus</i>	Shrub	Wide	Pres	Com	McNeill et al. 63 BRY (1996)
<i>Erigeron concinnus</i> var. <i>concinnus</i> Navajo fleabane	<i>E. pumilus</i> var. <i>concinnus</i> , <i>E. pumilus</i> ssp. <i>concinnoides</i>	PerF	Wide	Pres	Unc	Phillips, Phillips, & Downs 77-204 ASD (1977)
<i>Erigeron divergens</i> Spreading daisy	<i>E. divergens</i> var. <i>divergens</i>	PerF	Wide	Pres	Com	Gierisch 4725 ASD (1941)
<i>Erigeron flagellaris</i> Trailing daisy		PerF	Wide	Pres	Rare	Rink 8684 ASC (2009)
<i>Erigeron lobatus</i> Lobeleaf daisy		PerF	RegEn	Pres	Unc	Atwood, Higgins, & Furniss 25181 BRY (2000)
<i>Erigeron speciosus</i> var. <i>macranthus</i> Aspen fleabane		PerF	Wide	Pres	Rare	Fertig 26866 PARA (1973)
<i>Erigeron utahensis</i> var. <i>utahensis</i> Utah daisy		PerF	RegEn	Pres	Unc	Yanskey 1820 PARA (2001). Type locality: Kanab, UT (Thompson s.n. GH)
<i>Gaillardia parryi</i> Parry's blanketflower		PerF	RegEn	Pres	Rare	Gierisch 4995 ASD (1987). Type locality: "Southern Utah" (Parry 120 GH)
<i>Gaillardia pinnatifida</i> Hopi blanketflower		PerF	Wide	Pres	Unc	Higgins 25552 BRY (1946)
<i>Geraea canescens</i> Desert sunflower		AnnF	Wide	Pres	Com	Higgins, Atwood, & Welsh 20036 BRY, ASD (1999)
<i>Gnaphalium palustre</i> Lowland cudweed		AnnF	Wide	Pres	Rare	Atwood, Higgins, & Furniss 25148 BRY (2000)
<i>Grindelia squarrosa</i> var. <i>serrulata</i> Curly-cup gumweed		PerF	Wide	Pres	Unc	Atwood & Welsh 33689 BRY (2010)
<i>Gutierrezia microcephala</i> Thread snakeweed		Shrub	Wide	Pres	Com	Yanskey 1879 PARA (1986)
<i>Gutierrezia sarothrae</i> Broom snakeweed		Shrub	Wide	Pres	Com	Atwood & Higgins 27945 BRY (1932)

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Asteraceae (Compositae)						
<i>Helianthus annuus</i> Common sunflower	<i>H. annuus</i> var. <i>lenticularis</i>	AnnF	Wide	Pres	Unc	Coombs & Bundy 2622 ASD (1977)
<i>Helianthus anomalous</i> Sand sunflower		AnnF	RegEn	Pres	Unc	Brooks 1927 ASC (1998). Confirmation needed.
<i>Helianthus ciliaris</i> Blueweed sunflower		PerF	Wide	Pres	Unc	Atwood 24883 BRY (1999). AZ state noxious weed.
<i>Helianthus nuttallii</i> Nuttall's sunflower		PerF	Wide	Pres	Rare	Atwood 33067 BRY (2010). Specimen atypical.
<i>Helimeris longifolia</i> var. <i>annua</i> Southern goldeneye	<i>Viguiera annua</i> , <i>V. longifolia</i> var. <i>annua</i>	AnnF	Wide	Pres	Unc	Atwood 30001 BRY, PARA (1977)
<i>Helimeris multiflora</i> var. <i>nevadensis</i> Showy goldeneye	<i>Viguiera multiflora</i> var. <i>nevadensis</i>	PerF	Wide	Pres	Unc	Higgins 24018 BRY, PARA (1968)
<i>Hesperodoria salicina</i> Willow goldenweed	<i>Haplopappus salicinus</i> , <i>Lorandersonia salicina</i> , <i>Aplopappus salicinus</i>	Shrub	LocEn	Pres	Unc	Atwood & Higgins 29079 BRY (2000). Type locality: Bright Angel Trail, Grand Canyon, AZ
<i>Hesperodoria scopulorum</i> Spindly goldenbush	<i>Haplopappus scopulorum</i> var. <i>scopulorum</i> , <i>Aplopappus scopulorum</i> , <i>Lorandersonia scopulorum</i> , <i>Chrysothamnus scopulorum</i>	Shrub	RegEn	Pres	Rare	Bundy & Coombs 2969 ASD (1979). Type locality: above Springdale, UT (Jones 6074 US)
<i>Heterotheca villosa</i> var. <i>minor</i> Hispid golden-aster	<i>H. villosa</i> var. <i>hispida</i> , <i>Chrysopsis villosa</i> var. <i>minor</i> , <i>C. villosa</i> var. <i>hispida</i>	PerF	Wide	Pres	Rare	Higgins & Atwood 21849 BRY (1980)
<i>Hulsea heterochroma</i> Great hulsea		PerF	Periph	Pres	Rare	Hildebrand 3711 PARA (2011)
<i>Hymenoclea salsola</i> Burrobush	<i>Ambrosia salsola</i>	Shrub	Wide	Pres	Com	Gierisch 4717 ASD (1941)
<i>Hymenopappus filifolius</i> var. <i>cinereus</i> Common hyalineherb	<i>H. lugens</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>	PerF	Wide	Pres	Unc	Bundy 173 ASD (1946)

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Asteraceae (Compositae)						
<i>Hymenopappus filifolius</i> var. <i>nanus</i> Great Basin hyalineherb		PerF	Periph	Pres	Unc	Smith & Gierisch 1095 ASD (1978)
<i>Hymenoxys cooperi</i> var. <i>canescens</i> Cooper's rubberweed	<i>Actinella biennis</i>	PerF	Periph	Pres	Rare	Atwood & Higgins 27534 PARA (2001)
<i>Hymenoxys cooperi</i> var. <i>cooperi</i> Cooper's rubberweed	<i>Actinella cooperi</i>	PerF	Wide	Pres	Com	Atwood & Higgins 27948 BRY, PARA (1940)
<i>Hymenoxys lemmonii</i> Alkali hymenoxys		PerF	Periph	Pres	Rare	Atwood & Higgins 27534 BRY (2001)
<i>Hymenoxys richardsonii</i> var. <i>floribunda</i> Colorado rubber-plant	<i>Picardenia richardsonii</i> var. <i>floribunda</i>	PerF	Wide	Pres	Unc	Atwood 24872 BRY (1975)
<i>Hymenoxys subintegra</i> Entire hymenoxys		PerF	RegEn	Pres	Rare	Atwood & Furniss 24869 BRY (1999). Type locality: Kaibab Plateau, AZ (Jones 60540 US)
<i>Isocoma acradenia</i> Alkali goldenweed	<i>Haplopappus acradenius</i> , <i>Aplopappus acradenius</i>	Shrub	Wide	Pres	Unc	Gierisch 4028 ASD (1977)
<i>Isocoma rusbyi</i> Rusby's goldenbush	<i>Haplopappus rusbyi</i> , <i>H. drummondii</i> , <i>Isocoma drummondii</i> ,	Shrub	RegEn	Pres	Unc	Higgins & Welsh 21781 BRY (1978)
<i>Iva axillaris</i> Poverty-weed		PerF	Wide	Rep	NA	Powell (2002). Historical Goodding collection from Kaibab Plateau
<i>Lactuca serriola</i> Prickly lettuce		AnnF	Intro	Pres	Unc	Fertig 26865 PARA (2009). Native to Europe
<i>Laennecia coulteri</i> Coulter's horseweed	<i>Conyza coulteri</i>	AnnF	Wide	Pres	Unc	Atwood 27856 BRY, PARA (2001)
<i>Layia glandulosa</i> Tidytips		AnnF	Wide	Pres	Unc	Yanskey 1431 PARA (1978)
<i>Lepidospartum latisquamum</i> Nevada broom		Shrub	Periph	Pres	Rare	Higgins & Atwood 24611 BRY, PARA (2000)
<i>Logfia californica</i> Fluffweed	<i>L. filaginoides</i> , <i>Filago californica</i>	AnnF	Wide	Pres	Unc	Higgins & Atwood 22511 BRY (2000)
<i>Machaeranthera asterioides</i> var. <i>glandulosa</i> Fall false tansy-aster	<i>Dieteria asterioides</i> var. <i>glandulosa</i>	PerF	RegEn	Pres	Unc	Atwood & Welsh 27020 BRY (1978)
<i>Machaeranthera canescens</i> var. <i>ambigua</i> Hoary tansyaster		PerF	RegEn	Hist	NA	Parker et al. 6282 ARIZ (1946). Specimen has not been verified.

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Species/Common Name	Synonym	Life form	Range	Status	Pop Size	Source (year)/Comments
Asteraceae (Compositae)						
<i>Machaeranthera canescens</i> var. <i>aristata</i> Hoary tansyaster	<i>M. rigida</i> , <i>M. canescens</i> ssp. <i>glabra</i> , <i>M. linearis</i> , <i>Dieteria canescens</i> var. <i>aristata</i>	PerF	RegEn	Pres	Unc	Yanskey 2057 PARA (1996)
<i>Machaeranthera canescens</i> var. <i>canescens</i> Hoary aster	<i>Aster canescens</i> , <i>Dieteria canescens</i> var. <i>canescens</i>	PerF	Wide	Pres	Unc	Yanskey 1862 PARA (1978). Some plants tending to var. <i>leucanthemifolia</i> .
<i>Machaeranthera gracilis</i> Slender goldenweed	<i>Haplopappus gracilis</i> , <i>Xanthisma gracile</i> , <i>Aplopappus gracilis</i>	AnnF	Wide	Pres	Unc	Atwood & Higgins 29056 BRY, PARA (1974)
<i>Machaeranthera pinnatifida</i> var. <i>gooddingii</i> Spiny goldenweed	<i>M. spinulosa</i> ssp. <i>gooddingii</i> , <i>Haplopappus spinulosus</i> var. <i>gooddingii</i> , <i>Aplopappus spinulosus</i> , <i>Xanthisma spinulosum</i> var. <i>gooddingii</i>	PerF	Wide	Pres	Com	Brown & Parfitt 346 ASD (1976)
<i>Machaeranthera tanacetifolia</i> Tansyleaf aster	<i>Aster tanacetifolius</i>	AnnF	Wide	Pres	Unc	Springer 2814 ASC, PARA (1977)
<i>Malacothrix coulteri</i> Snakeshead desert-dandelion		AnnF	Wide	Pres	Rare	Atwood 27232 BRY, PARA (1978)
<i>Malacothrix glabrata</i> Filiform desert-dandelion	<i>Malacothrix californica</i> var. <i>glabrata</i>	AnnF	Wide	Pres	Com	Smith 924 ASD (1978)
<i>Malacothrix stebbinsii</i> Cleveland's desert-dandelion	<i>M. clevelandii</i> var. <i>stebbinsii</i>	AnnF	Wide	Pres	Unc	Higgins 22780 BRY, PARA (1985)
<i>Melampodium leucanthum</i> Plains blackfoot		PerF	Wide	Pres	Unc	Yanskey 1827 PARA (1983)
<i>Microseris lindleyi</i> Lindley's microseris	<i>Uropappus lindleyi</i>	AnnF	Wide	Pres	Unc	Yanskey 1382 PARA (1978)
<i>Monoptilon bellidiforme</i> Monoptilon		AnnF	RegEn	Pres	Unc	Atwood 27086 BRY (2001)
<i>Onopordum acanthium</i> Scotch thistle		PerF	Intro	Pres	Unc	West s.n. ASD (1996). Native to Eurasia. AZ state noxious weed.
<i>Packera multilobata</i> Basin groundsel	<i>Senecio multilobatus</i> , <i>S. stygius</i>	PerF	Wide	Pres	Unc	Yanskey 1363 PARA (1941)
<i>Packera quercetorum</i> Oak Creek groundsel	<i>Senecio quercetorum</i>	PerF	RegEn	Pres	Rare	Brown & Parfitt 837 ASD (1978)

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Asteraceae (Compositae)						
<i>Palafoxia arida</i> Spanish needle	<i>P. linearis</i>	AnnF	Wide	Pres	Com	Yanskey 1865 PARA (2000)
<i>Parthenium incanum</i> Mariola		Shrub	Wide	Pres	Rare	Atwood & Higgins 27965 BRY, PARA (1977)
<i>Pectis papposa</i> Chinchweed	<i>P. papposa</i> var. <i>papposa</i>	AnnF	Wide	Pres	Com	Yanskey 1880 PARA (1946)
<i>Perityle congesta</i> Grand Canyon rock-daisy	<i>Laphamia congesta</i>	PerF	RegEn	Pres	Rare	Yanskey 1784 PARA (1999). Type locality: Kaibab Plateau, AZ (Jones 6063 POM)
<i>Perityle emoryi</i> White rock-daisy		AnnF	Wide	Pres	Com	Atwood, Welsh, & Higgins 26483 BRY, PARA (2000)
<i>Perityle tenella</i> Dixie rock-daisy	<i>Laphamia palmeri</i>	PerF	RegEn	Pres	Unc	Higgins 23206 BRY, PARA (1941). Type locality: Springdale, UT (Jones 5249a US).
<i>Petradoria pumila</i> ssp. <i>graminea</i> Grassy rock-goldenrod		PerF	RegEn	Pres	Unc	Coombs & Bundy 2971 ASD (1951)
<i>Peucephyllum schottii</i> Pygmy-cedar		Shrub	Wide	Pres	Unc	Higgins, Atwood, & Welsh 20028a BRY, ASD (1978)
<i>Pleurocoronis pluriseta</i> Arrowleaf	<i>Hofmeisteria pluriseta</i>	Shrub	Wide	Pres	Unc	Atwood 25193 BRY, UVU (1981)
<i>Pluchea odorata</i> var. <i>odorata</i> Camphor-weed	<i>P. camphorata</i> , <i>P. purpurascens</i>	AnnF	Wide	Pres	Unc	Gierisch 4025 ASD (1977)
<i>Pluchea sericea</i> Arrowweed	<i>Tessaria sericea</i>	Shrub	Wide	Pres	Com	Yanskey 1902 PARA (1977)
<i>Porophyllum gracile</i> Odora		PerF	Wide	Pres	Unc	Gierisch 4834 ASD (1981)
<i>Prenanthes exigu</i> Prenanthes	<i>Lygodesmia exigu</i>	AnnF	Wide	Pres	Unc	Higgins 22694 BRY, PARA (1978)
<i>Psathyrotes annua</i> Mealy rosettes		AnnF	Periph	Pres	Unc	Smith 1089 ASD (1978)
<i>Psathyrotes ramosissima</i> Velvet turtleback		AnnF	Wide	Pres	Unc	Christy 941-a ASU (1992). Specimen has not been verified.
<i>Pseudognaphalium canescens</i> Wright's cudweed	<i>Gnaphalium canescens</i> , <i>G. wrightii</i>	PerF	Wide	Pres	Unc	Higgins, Atwood, & Welsh 20070 BRY, ASD (1977)
<i>Pseudognaphalium luteoalbum</i> Yellow-white cudweed	<i>Gnaphalium luteoalbum</i>	AnnF	Intro	Pres	Unc	Higgins 22719 BRY (1977). Native to Europe

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Asteraceae (Compositae)						
<i>Pseudognaphalium stramineum</i> Cottonbatting cudweed	<i>Gnaphalium stramineum</i> , <i>G. chilense</i>	PerF	Wide	Pres	Unc	Atwood & Welsh 26990 BRY (2000)
<i>Psilostrophe cooperi</i> Whitestem paperflower		Shrub	Wide	Pres	Unc	Yanskey 1871 PARA (1978)
<i>Psilostrophe sparsiflora</i> Greenstem paperflower		PerF	Wide	Pres	Unc	Smith & Gierisch 1094 ASD (1940). Type locality: Southern Utah (Thompson s.n. GH)
<i>Rafinesquia californica</i> California chicory		AnnF	Wide	Pres	Unc	Atwood 27268 BRY, PARA (2001)
<i>Rafinesquia neomexicana</i> Desert chicory		AnnF	Wide	Pres	Com	Yanskey 1604 PARA (1997)
<i>Rudbeckia hirta</i> Black-eyed susan		PerF	Intro	Pres	Rare	Casey1476 ASC (1998). Native to E North America. Specimen has not been verified.
<i>Sanvitalia aberti</i> Abert's creeping-zinnia		PerF	Wide	Pres	Unc	Atwood 29929 BRY, PARA (1997)
<i>Scabrethia scabra</i> Rough mule's-ears	<i>Wyethia scabra</i>	PerF	Wide	Pres	Rare	Bundy 193 ASD (1980)
<i>Schkuhria multiflora</i> Many-flower false threadleaf	<i>Bahia neomexicana</i>	AnnF	Wide	Pres	Unc	Atwood 29888 BRY, PARA (2001)
<i>Senecio eremophilus</i> var. <i>kingii</i> Cut-leaved groundsel		PerF	Wide	Pres	Unc	Atwood & Higgins 27999 BRY (1926)
<i>Senecio eremophilus</i> var. <i>macdougalii</i> Macdougal's desert groundsel	<i>S. macdougalii</i>	PerF	RegEn	Pres	Unc	Higgins 23508 BRY, PARA (1946). Type locality: near Flagstaff, AZ (Macdougal 342)
<i>Senecio flaccidus</i> var. <i>flaccidus</i> Threadleaf ragwort	<i>S. longilobus</i> , <i>S. douglasii</i> var. <i>longilobus</i>	PerF	Wide	Pres	Unc	Higgins 24020 BRY, PARA (1999)
<i>Senecio flaccidus</i> var. <i>monoensis</i> Mono groundsel	<i>S. monoensis</i> , <i>S. douglasii</i> var. <i>monoensis</i>	PerF	Wide	Pres	Unc	Yanskey 1462 PARA (1978)
<i>Senecio spartioides</i> var. <i>multicapitatus</i> Many-headed groundsel	<i>S. multicapitatus</i>	PerF	Wide	Pres	Rare	Atwood 33073 BRY (2010)
<i>Solidago canadensis</i> Common goldenrod	<i>S. lepida</i> var. <i>salebrosa</i>	PerF	Wide	Pres	Rare	Stevens 1568 ASC (2000). Specimen has not been verified.
<i>Solidago velutina</i> Three-nerve goldenrod	<i>S. sparsiflora</i> , <i>S. velutina</i> var. <i>sparsiflora</i>	PerF	Wide	Pres	Unc	Atwood 29898 BRY, PARA (1979)

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Asteraceae (Compositae)						
<i>Sonchus asper</i> Spiny-leaf sow-thistle		AnnF	Intro	Pres	Unc	Atwood & Higgins 27528 BRY (1978). Native to Europe.
<i>Stephanomeria exigua</i> White-plumed wire-lettuce		AnnF	Wide	Pres	Com	Yanskey 1742 PARA (1978)
<i>Stephanomeria minor</i> var. <i>minor</i> Slender wirelettuce	<i>S. tenuifolia</i> var. <i>tenuifolia</i>	PerF	Wide	Pres	Unc	Springer s.n. ASD (1953)
<i>Stephanomeria parryi</i> Parry's wire-lettuce		PerF	Periph	Pres	Rare	Thorne 238 BRY, ASD (1977). Type locality: near St. George, UT (Parry 132 GH)
<i>Stephanomeria pauciflora</i> Brown-plume wire-lettuce		PerF	Wide	Pres	Com	Atwood & Furniss 25144 BRY (1978)
<i>Stephanomeria thurberi</i> Thurber's wire-lettuce		PerF	Wide	Pres	Rare	Rink 8647 ASC (2009). Specimen has not been verified.
<i>Stylocline micropoides</i> Desert nest-straw		AnnF	Wide	Pres	Unc	Yanskey 1648 PARA (1941)
<i>Symphiotrichum ascendens</i> Pacific aster	<i>Aster ascendens</i> , <i>A. adscendens</i> , <i>A. chilensis</i> ssp. <i>adscendens</i> , <i>Virgulaster ascendens</i>	PerF	Wide	Pres	Com	Higgins & Atwood 21856 BRY (2000)
<i>Syntrichopappus fremontii</i> Fremont's syntrichopappus		AnnF	Wide	Pres	Rare	Brown & Parfitt 808 ASD (1978)
<i>Taraxacum officinale</i> Common dandelion		PerF	Intro	Pres	Unc	Brown & Parfitt 392 ASU (1978). Native to Eurasia.
<i>Tetradymia canescens</i> var. <i>canescens</i> Common horsebrush		Shrub	Wide	Pres	Unc	Ojeda 565 ASC (1954)
<i>Tetradymia canescens</i> var. <i>thorneae</i> Thorne's horsebrush		Shrub	LocEn	Pres	Rare	Atwood & Furniss 29711 BRY (2003). Type locality: Uinkaret Plateau, AZ (Atwood et al. 29711 BRY)
<i>Tetranneuris acaulis</i> var. <i>arizonica</i> Arizona stemless hymenoxys	<i>Hymenoxys acaulis</i> var. <i>arizonica</i>	PerF	Wide	Pres	Unc	Ojeda s.n. ASC, ASD (1969)
<i>Thelesperma subnudum</i> var. <i>subnudum</i> Scapose greenthread		PerF	Wide	Pres	Unc	Atwood 29921 BRY, PARA (1946). Type locality: "Southern Utah" (Parry 109 GH)
<i>Thymophylla acerosa</i> Dogweed	<i>Dyssodia acerosa</i>	PerF	Wide	Pres	Unc	Atwood & Furniss 24257 BRY (1974)

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Asteraceae (Compositae)						
<i>Thymophylla pentachaeta</i> var. <i>belenidium</i> Scale glandweed	<i>Dyssodia pentachaeta</i> var. <i>belenidium</i> , <i>D. thurberi</i>	PerF	Wide	Pres	Unc	Atwood, Higgins, & Furniss 25101 BRY, ASD (1974)
<i>Townsendia exscapa</i> Stemless townsendia		PerF	Wide	Pres	Rare	Hodgson & Palmer 4593 DES (1987). Specimen has not been verified.
<i>Townsendia incana</i> Hoary townsendia		PerF	Wide	Pres	Rare	Yanskey 1736b PARA (1977)
<i>Townsendia smithii</i> Black Rock townsendia		PerF	LocEn	Pres	Unc	Hazlett 7063 ASD (1978). Type locality: Black Rock Mountain, 2.2 miles E of Sullivan Springs, AZ Holmgren et al. 16380 UTC)
<i>Tragopogon dubius</i> Yellow salsify		PerF	Intro	Pres	Unc	Fertig 26868 PARA (2009). Native to Europe
<i>Trixis californica</i> American threefold		Shrub	Wide	Pres	Unc	Atwood & Higgins 26658 BRY (2001)
<i>Verbesina encelioides</i> var. <i>exauriculata</i> Golden crownbeard	<i>Ximensia encelioides</i>	AnnF	Wide	Pres	Unc	Atwood 30003 BRY, PARA (1926)
<i>Viguiera parishii</i> Parish's goldeneye	<i>Bahiopsis parishii</i>	Shrub	Wide	Pres	Rare	Gierisch 4724 ASU (1980). Specimen has not been verified.
<i>Xanthium strumarium</i> var. <i>canadense</i> Common cocklebur	<i>X. pensylvanicum</i> , <i>X. saccharatum</i>	AnnF	Wide	Pres	Unc	Atwood 27865 BRY (2000)
<i>Xylorhiza tortifolia</i> var. <i>tortifolia</i> Glandular woodyaster	<i>Machaeranthera tortifolia</i> var. <i>tortifolia</i>	PerF	Wide	Pres	Com	Atwood & Furniss 25188 BRY (1978)
Berberidaceae						
<i>Mahonia fremontii</i> Fremont's mahonia	<i>Berberis fremontii</i>	Shrub	Wide	Pres	Unc	Clark 3632 BRY, AZ Strip BLM (1941)
<i>Mahonia repens</i> Oregon-grape	<i>Berberis repens</i>	Shrub	Wide	Pres	Rare	Brown & Parfitt 719 AZ Strip BLM (1978)
Bignoniaceae						
<i>Chilopsis linearis</i> Desert willow		Tree	Wide	Pres	Unc	Atwood & Higgins 29500 BRY, PARA (1968)

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Boraginaceae (Hydrophyllaceae)						
<i>Amsinckia menziesii</i> var. <i>intermedia</i> Tarweed fiddleneck	<i>A. intermedia</i>	AnnF	Wide	Pres	Com	Smith 821 ASD (1978)
<i>Amsinckia tessellata</i> Rough fiddleneck	<i>A. tessellata</i> var. <i>tessellata</i>	AnnF	Wide	Pres	Unc	Higgins 21985 BRY (1978)
<i>Cryptantha ambigua</i> Obscure cryptanth		AnnF	Periph	Pres	Unc	Yanskey 1938 PARA (1985)
<i>Cryptantha angustifolia</i> Narrowleaf cryptanth		AnnF	Wide	Pres	Com	Higgins, Atwood, & Welsh 20021 BRY, ASD (1978)
<i>Cryptantha barbiger</i> Bearded cryptanth		AnnF	Wide	Pres	Unc	Yanskey 1429 PARA (1987). Type locality: St. George, UT (Parry 171 GH))
<i>Cryptantha cinerea</i> var. <i>cinerea</i> Bow-nut cryptanth	Includes <i>C.</i> <i>atwoodii</i>	PerF	Wide	Pres	Unc	Buckley 3202 ASC, PARA (1946)
<i>Cryptantha circumscissa</i> Cushion cryptanth		AnnF	Wide	Pres	Unc	Atwood 27163a BRY (1978)
<i>Cryptantha confertiflora</i> Basin yellow cryptanth	<i>Oreocarya</i> <i>confertiflora</i>	PerF	Wide	Pres	Unc	Gierisch 4150 ASD, NY (1940)
<i>Cryptantha decipiens</i> Beguiling cryptanth		AnnF	Wide	Pres	Unc	Higgins, Atwood, & Welsh 19995 BRY, ASD (1999)
<i>Cryptantha dumetorum</i> Scrambling cryptanth		AnnF	RegEn	Pres	Rare	Atwood 27173 BRY, PARA (2001)
<i>Cryptantha fendleri</i> Sand dune cryptanth		AnnF	Wide	Pres	Unc	Atwood 6080 BRY (1974)
<i>Cryptantha flava</i> Plateau yellow cryptanth	<i>Oreocarya flava</i>	PerF	Wide	Pres	Unc	Higgins 25561 BRY, NY (1985)
<i>Cryptantha fulvocanescens</i> Plateau cryptanth	<i>Oreocarya</i> <i>fulvocanescens</i>	PerF	RegEn	Pres	Unc	Welsh & Atwood 26772 BRY (1997)
<i>Cryptantha gracilis</i> Slender cryptanth		AnnF	Wide	Pres	Com	Atwood & Higgins 27532 BRY, PARA (1974)
<i>Cryptantha holoptera</i> Unequal cryptanth	<i>C. inaequata</i> , included in <i>C.</i> <i>angustifolia</i> by some authors	AnnF	RegEn	Pres	Unc	Atwood, Welsh, & Higgins 26486 BRY, PARA (1978)
<i>Cryptantha maritima</i> Guadalupe cryptanth		AnnF	Wide	Pres	Unc	Higgins 24212 BRY, PARA (2001)
<i>Cryptantha micrantha</i> Redroot cryptanth		AnnF	Wide	Pres	Com	Atwood, Welsh, & Higgins 26438 BRY, PARA (1978). Type locality: "Southern Utah" (Parry 164)

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Boraginaceae (Hydrophyllaceae)						
<i>Cryptantha nevadensis</i> Nevada cryptanth		AnnF	Wide	Pres	Unc	Higgins, Atwood, & Welsh BRY, ASD (1978)
<i>Cryptantha pterocarya</i> var. <i>cycloptera</i> Wing-nut cryptanth		AnnF	Wide	Pres	Com	Yanskey 1662 PARA (2005)
<i>Cryptantha pterocarya</i> var. <i>pterocarya</i> Wing-nut cryptanth		AnnF	Wide	Pres	Com	Yanskey 2081 PARA (1978)
<i>Cryptantha racemosa</i> Bushy cryptanth		AnnF	Wide	Pres	Unc	Atwood, Higgins, & Furniss 25108a BRY, ASD (1999)
<i>Cryptantha recurvata</i> Recurved cryptanth		AnnF	Wide	Pres	Unc	Yanskey 1425 PARA (1974)
<i>Cryptantha utahensis</i> Utah cryptanth		AnnF	RegEn	Pres	Unc	Atwood & Welsh 26999 BRY (1978). Type locality: near St. George, UT (Palmer 352 GH)
<i>Cryptantha virginensis</i> Virgin River cryptanth		PerF	RegEn	Pres	Unc	Atwood & Higgins 26816 BRY, NY (1987). Type locality: LaVerkin, UT (Jones 5195a POM)
<i>Eriodictyon angustifolium</i> Yerba santa		Shrub	Wide	Pres	Rare	Phillips & Phillips 77-223 ASD (1968)
<i>Eucrypta chrysanthemifolia</i> var. <i>bipinnatifida</i> Spotted eucrypta		AnnF	Wide	Pres	Unc	Hildebrand 3430 PARA (2011)
<i>Eucrypta micrantha</i> Desert eucrypta		AnnF	Wide	Pres	Unc	Yanskey 1663 PARA (1978)
<i>Heliotropium convolvulaceum</i> Bindweed heliotrope	<i>Euploca convolvulacea</i> ssp. <i>californica</i>	AnnF	Wide	Pres	Unc	Bundy 192 ASD (1980)
<i>Heliotropium curassavicum</i> var. <i>oculatum</i> Seaside heliotrope		PerF	Wide	Pres	Unc	Gierisch 4022 ASD (1977)
<i>Hesperochiron pumilus</i> Dwarf hesperochiron		PerF	Periph	Pres	Rare	Smith 750 ASD (1976)
<i>Hydrophyllum occidentale</i> Western waterleaf		PerF	Wide	Pres	Rare	Smith 755 ASD (1976)
<i>Lappula occidentalis</i> var. <i>cupulata</i> Cupseed stickseed	<i>L. texana</i> , <i>L. redowskii</i> var. <i>cupulata</i> , <i>L. marginata</i>	AnnF	Wide	Pres	Unc	Phillips, Phillips, & Downs 77-217 ASD (1977)
<i>Lappula occidentalis</i> var. <i>occidentalis</i> Western stickseed	<i>L. redowskii</i> var. <i>redowskii</i>	AnnF	Wide	Pres	Unc	Casey 1487 ASC, PARA (1969)

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Boraginaceae (Hydrophyllaceae)						
<i>Lithospermum incisum</i> Showy stoneseed		PerF	Wide	Pres	Unc	Higgins & Atwood 23129 BRY (2001)
<i>Lithospermum multiflorum</i> Southwestern stoneseed		PerF	Wide	Pres	Rare	Rink 8297 ASC (2008). Specimen has not been verified.
<i>Mertensia macdougalii</i> Macdougal's bluebells		PerF	RegEn	Pres	Rare	Casey 1521 ASC, PARA (1998)
<i>Nama demissum</i> Purple-mat		AnnF	Wide	Pres	Unc	Atwood, Welsh, & Higgins 26449 BRY, PARA (1978)
<i>Nama dichotomum</i> Wishbone fiddleleaf		AnnF	Wide	Pres	Rare	Atwood 29910 BRY, PARA, UVU (2003)
<i>Nama hispidum</i> Hairy fiddleleaf		AnnF	Wide	Pres	Rare	Brown & Parfitt 355 ASU (1978). Specimen has not been verified.
<i>Nama pusillum</i> Egg-leaf fiddleleaf		AnnF	Periph	Pres	Rare	Smith 983 ASD (1978). Type locality: Fort Mohave, AZ Lemmon).
<i>Pectocarya heterocarpa</i> Mixed-nut Combseed		AnnF	Wide	Pres	Unc	Yanskey 1424 PARA (1978)
<i>Pectocarya platycarpa</i> Broad-winged Combseed		AnnF	Wide	Pres	Com	Yanskey 1624 PARA (2001)
<i>Pectocarya recurvata</i> Bent Combseed		AnnF	Wide	Pres	Unc	Atwood, Welsh, & Higgins 26433 BRY (2001)
<i>Pectocarya setosa</i> Saucer Combseed		AnnF	Wide	Pres	Unc	Higgins 22779 BRY, PARA (2000)
<i>Phacelia affinis</i> Twin phacelia		AnnF	Wide	Pres	Unc	Yanskey 1356 PARA (2001)
<i>Phacelia alba</i> White phacelia	<i>P. neomexicana</i> var. <i>alba</i>	AnnF	Wide	Pres	Rare	Atwood & Higgins 27551 BRY, PARA (2001)
<i>Phacelia anelsonii</i> Nelson's phacelia		AnnF	RegEn	Pres	Rare	Atwood 27070 BRY, PARA (2001)
<i>Phacelia austromontana</i> Southern phacelia		AnnF	Periph	Pres	Rare	Atwood 33052 BRY (2010)
<i>Phacelia coerulea</i> Blue phacelia	<i>P. caerulea</i>	AnnF	Wide	Pres	Rare	Madsen & Atwood 1387 BRY (2001)
<i>Phacelia crenulata</i> var. <i>ambigua</i> Jones' phacelia	<i>P. ambigua</i>	AnnF	Wide	Pres	Unc	Atwood, Welsh, & Higgins 26466 BRY, PARA (1978)
<i>Phacelia crenulata</i> var. <i>angustifolia</i> Narrowleaf phacelia		AnnF	RegEn	Pres	Rare	Atwood 29412 BRY, PARA (2004)
<i>Phacelia crenulata</i> var. <i>corrugata</i> Corrugate phacelia	<i>P. corrugata</i>	AnnF	Wide	Pres	Rare	Smith 997 ASD (1978)

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Species/Common Name	Synonym	Life form	Range	Status	Pop Size	Source (year)/Comments
Boraginaceae (Hydrophyllaceae)						
<i>Phacelia cronquistiana</i> Cronquist's phacelia		AnnF	LocEn	Pres	Rare	Atwood & Franklin 18018 BRY (1993).
<i>Phacelia cryptantha</i> Cryptanth phacelia		AnnF	Wide	Pres	Unc	Brown & Parfitt 325 ASD (1978)
<i>Phacelia curvipes</i> Washoe phacelia		AnnF	Periph	Pres	Rare	Higgins 22783 BRY, PARA (1978)
<i>Phacelia filiformis</i> Filiform phacelia		AnnF	RegEn	Pres	Unc	Coombs & Bundy 2706 ASD (1974). Type locality: Grand Canyon, AZ (MacDougal 186).
<i>Phacelia fremontii</i> Fremont's phacelia		AnnF	Wide	Pres	Unc	Yanskey 1355 PARA (1976)
<i>Phacelia furnissii</i> Furniss' phacelia		AnnF	LocEn	Pres	Unc	Atwood & Higgins 29495 BRY (2003). Type locality: Andrus Canyon at road crossing, PARA, AZ (Atwood & Higgins 29469 BRY).
<i>Phacelia glechomifolia</i> Canyon phacelia		AnnF	LocEn	Pres	Unc	Atwood & Welsh 26394 BRY, PARA (1992). Type locality: between Peach Springs & Grand Canyon, AZ (Gray s.n.).
<i>Phacelia hastata</i> Lanceleaf phacelia	Includes vars. <i>hastata</i> , <i>leucophylla</i> , & <i>alpina</i>	PerF	Wide	Pres	Unc	Atwood & Furniss 24917 BRY (1999)
<i>Phacelia heterophylla</i> Wand phacelia	<i>P. magellanica</i> . Includes ssp. <i>heterophylla</i> & var. <i>virgata</i>	PerF	Wide	Pres	Unc	Higgins 24008 BRY, PARA (1979)
<i>Phacelia higginsii</i> Higgins' phacelia		AnnF	LocEn	Pres	Unc	Atwood 29893 BRY, PARA (2002). Type locality: 12.5 miles SW from head of Trail Canyon toward Andrus Canyon (Atwood, Furniss, & Higgins 29729 BRY).
<i>Phacelia hughesii</i> Hughes' phacelia		AnnF	LocEn	Pres	Unc	Atwood & Hughes 27814 BRY (2001). Type locality: E of Salt Spring S base of Poverty Mtn, PARA, AZ Atwood & Hughes 27814 BRY).
<i>Phacelia integrifolia</i> Torrey's phacelia		AnnF	Wide	Pres	Unc	Reichenbacher 1613 ARIZ (1984)
<i>Phacelia ivesiana</i> Ives' phacelia		AnnF	Wide	Pres	Unc	Atwood 27050 BRY, PARA (1974)

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Boraginaceae (Hydrophyllaceae)						
<i>Phacelia laxiflora</i> Panamint phacelia	<i>P. perityloides</i> var. <i>laxiflora</i>	PerF	RegEn	Pres	Rare	Atwood, Higgins, & Furniss 25107 BRY, UVU (1974). Type locality: Toroweap Point, Grand Canyon, AZ (Hilend s.n.).
<i>Phacelia palmeri</i> Palmer's phacelia		PerF	RegEn	Pres	Unc	Higgins, Atwood, & Welsh 20039 ASD, BRY (1978). Type locality: St. George, UT (Palmer 4).
<i>Phacelia pedicellata</i> Pedicillate phacelia		AnnF	RegEn	Pres	Unc	Atwood 27272 BRY, PARA (1999)
<i>Phacelia petrosa</i> Forgotten phacelia		AnnF	RegEn	Pres	Unc	Atwood 27174 BRY, PARA (1999). Type locality: Mohave Co, AZ (Atwood & Furniss 24210 BRY).
<i>Phacelia pulchella</i> var. <i>gooddingii</i> Goodding's pretty phacelia		AnnF	RegEn	Pres	Unc	Higgins, Atwood, & Welsh 22151 BRY, PARA (1974)
<i>Phacelia pulchella</i> var. <i>pulchella</i> Pretty phacelia	<i>P. pulchella</i> var. <i>typica</i>	AnnF	RegEn	Pres	Unc	Brown & Parfitt 319a ASD (1974). Type locality: near St. George, UT (Parry 182 GH).
<i>Phacelia rotundifolia</i> Roundleaf phacelia		AnnF	Wide	Pres	Unc	Atwood & Furniss 30890 BRY, PARA (1978). Type locality: "southern Utah" (Parry 183 NY).
<i>Phacelia saxicola</i> Rock phacelia		AnnF	RegEn	Pres	NA	Yanskey 1785 PARA (2005). Type locality: near Kingman, AZ (Lemmon).
<i>Phacelia vallis-mortae</i> Death Valley phacelia		AnnF	Wide	Pres	Unc	Atwood 27223 BRY, NY (1978)
<i>Pholistoma auritum</i> Blue fiesta-flower	<i>Nemophila auritum</i>	AnnF	Wide	Pres	Unc	Atwood & Madsen 26642 BRY (2001)
<i>Plagiobothrys arizonicus</i> Arizona popcorn-flower		AnnF	Wide	Pres	Unc	Yanskey 1609 PARA (2000)
<i>Plagiobothrys jonesii</i> Jones' popcorn-flower		AnnF	Wide	Pres	Unc	Atwood, Welsh, & Higgins 26487 BRY, PARA (2001)
<i>Tiquilia canescens</i> Hairy tiquilia	<i>Coldenia canescens</i>	PerF	Wide	Pres	Unc	Higgins, Atwood, & Welsh 20046 BRY, ASD (1941)
<i>Tiquilia latior</i> Matted tiquilia	<i>Coldenia hispidissima</i>	PerF	RegEn	Pres	Com	Yanskey 1603 PARA (2001)
<i>Tiquilia nuttallii</i> Nuttall's tiquilia	<i>Coldenia nuttallii</i>	AnnF	Wide	Pres	Rare	Atwood 13366 BRY (1988).
<i>Tiquilia plicata</i> Fan-leaved tiquilia	<i>Coldenia plicata</i>	PerF	Wide	Pres	Com	Hunter s.n. ASD (1978)

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Boraginaceae (Hydrophyllaceae)						
<i>Tricardia watsonii</i> Three hearts		PerF	Periph	Pres	Rare	Gierisch 4723 ASD (1980)
Brassicaceae (Cruciferae)						
<i>Alyssum desertorum</i> Desert alyssum		AnnF	Intro	Pres	Rare	Atwood & Madsen 26626 BRY (2001). Native to Europe
<i>Arabis drummondii</i> Drummond's rockcress	<i>Boechea stricta</i> , <i>B. drummondii</i> , <i>B. angustifolia</i>	PerF	Wide	Pres	Rare	Atwood 6086 BRY, NY (1974)
<i>Arabis fendleri</i> Fendler's rockcress	<i>A. holboellii</i> var. <i>fendleri</i> , <i>Boechea fendleri</i>	PerF	Wide	Pres	Rare	Smith 771 ASD (1940)
<i>Arabis gracilipes</i> Flagstaff rockcress	<i>A. perennans</i> var. <i>longipes</i> , <i>Boechea gracilipes</i>	PerF	RegEn	Pres	Unc	Phillips, Phillips, & Turner 79-596 ASD (1969). Type locality: Flagstaff, AZ Wilson s.n. NDG)
<i>Arabis holboellii</i> var. <i>pinetorum</i> Holboell's rockcress	<i>Boechea holboellii</i> var. <i>pinetorum</i> , <i>B. pinetorum</i>	PerF	Periph	Pres	unc	Higgins 25556 BRY (1989)
<i>Arabis perennans</i> Perennial rockcress	<i>Boechea perennans</i> var. <i>perennans</i>	PerF	Wide	Pres	Unc	Gierisch 4149 ASD (1949)
<i>Athysanus pusillus</i> Common sandweed		AnnF	Wide	Pres	Rare	Atwood, Higgins, & Welsh 26391 BRY, PARA (2001)
<i>Brassica tournefortii</i> Asian mustard		PerF	Intro	Pres	Unc	Yanskey 2192b PARA (2001). Native to the Mediterranean
<i>Camelina microcarpa</i> Littlepod false-flax		AnnF	Intro	Pres	Unc	McGlone & Stoddard 3796 ASC (2003). Native to Asia. Specimen has not been verified.
<i>Capsella bursa-pastoris</i> Shepherd's-purse		AnnF	Intro	Pres	Unc	Higgins, Atwood, & Welsh 22217 BRY (1978). Native to Europe.
<i>Cardaria draba</i> Whitetop	<i>Lepidium draba</i>	PerF	Intro	Pres	Rare	Atwood & Higgins 27557 BRY (2001). Native to Europe. AZ state noxious weed.
<i>Caulanthus cooperi</i> Cooper's wild cabbage		AnnF	Periph	Pres	Com	Yanskey 1616 PARA (1978)
<i>Caulanthus crassicaulis</i> var. <i>crassicaulis</i> Thick-stem wild cabbage	<i>C. crassicaulis</i>	PerF	Periph	Pres	Unc	Brown & Parfitt 820 ASU (1978)
<i>Chorispora tenella</i> Blue mustard		AnnF	Intro	Pres	Unc	Tweiten 1967 ASC, PARA (1996). Native to Asia.

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Brassicaceae (Cruciferae)						
<i>Descurainia incana</i> ssp. <i>incana</i> Mountain tansy-mustard	<i>D. richardsonii</i>	AnnF	Wide	Pres	Rare	Higgins 21993 (BRY)
<i>Descurainia obtusa</i> Blunt tansy-mustard		AnnF	Wide	Pres	Unc	Bundy 179 ASD (1946)
<i>Descurainia pinnata</i> ssp. <i>glabra</i> Western tansy-mustard		AnnF	Wide	Pres	Unc	Yanskey 1386 PARA (2001)
<i>Descurainia pinnata</i> ssp. <i>halictorum</i> Western tansymustard	<i>D. pinnata</i> var. <i>osmiarum</i>	AnnF	Wide	Pres	Unc	Yanskey 2058 PARA (1978)
<i>Descurainia pinnata</i> ssp. <i>paysonii</i> Payson's tansymustard	<i>D. incisa</i> var. <i>paysonii</i>	AnnF	Periph	Pres	Unc	Rink 8661 ASC (2009). Confirmation needed
<i>Descurainia sophia</i> Flixweed		AnnF	Intro	Pres	Com	Thorne 249 ASD (1974). Native to Europe
<i>Dimorphocarpa wislizeni</i> Spectacle-pod	<i>Dithyrea wislizeni</i>	AnnF	Wide	Pres	Unc	Atwood 27152 BRY (2001)
<i>Draba cuneifolia</i> var. <i>cuneifolia</i> Wedge-leaf draba		AnnF	Wide	Pres	Unc	Springer, Anderson, & Daniels 3016 ASC, PARA (1969)
<i>Draba cuneifolia</i> var. <i>integrifolia</i> Wedge-leaf draba		AnnF	Wide	Pres	Unc	Welsh & Atwood 27914 BRY, NY (1978)
<i>Erysimum capitatum</i> var. <i>capitatum</i> Western wallflower	<i>E. asperum</i> var. <i>arkansanum</i> , <i>E. asperum</i> var. <i>purshii</i>	PerF	Wide	Pres	Unc	Gierisch 4153 ASD (1978)
<i>Erysimum inconspicuum</i> Shy wallflower		PerF	Wide	Pres	Rare	Yanskey 1534 PARA (2004)
<i>Erysimum repandum</i> Spreading wallflower		AnnF	Intro	Pres	Unc	Higgins, Atwood, & Furniss 21124 BRY (2000). Native to Europe
<i>Guillenia lasiophylla</i> Hairyleaf wild cabbage	<i>Caulanthus lasiophyllus</i> , <i>Thelypodium lasiophyllum</i>	AnnF	Wide	Pres	Com	Higgins & Green 26225 BRY, ASD (1978)
<i>Hornungia procumbens</i> Ovalpurse	<i>Hutchinsia procumbens</i> , <i>Hymenolobus procumbens</i>	AnnF	Periph	Pres	Rare	Smith 934 ASU (1978). Specimen has not been verified.
<i>Lepidium alyssoides</i> var. <i>eastwoodiae</i> Eastwood's pepperplant	<i>L. eastwoodiae</i>	PerF	RegEn	Pres	Rare	Springer & Hughes s.n. ASC (2003)

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Species/Common Name	Synonym	Life form	Range	Status	Pop Size	Source (year)/Comments
Brassicaceae (Cruciferae)						
<i>Lepidium densiflorum</i> var. <i>densiflorum</i> Prairie pepperwort	Vars not recognized by some authors	AnnF	Wide	Pres	Rare	Thorne 247 ASD, BRY (1977)
<i>Lepidium densiflorum</i> var. <i>pubecarpum</i> Hairy pepperwort	Vars not recognized by some authors	AnnF	Periph	Pres	Rare	Atwood & Madsen 26700 BRY, NY (2001)
<i>Lepidium densiflorum</i> var. <i>ramosum</i> Prairie pepperwort	Vars not recognized by some authors	AnnF	Wide	Pres	Unc	Atwood & Higgins 25087 BRY, NY (2000)
<i>Lepidium fremontii</i> Fremont's pepperwort		PerF	Wide	Pres	Com	Brown & Parfitt 321 ASD (1974)
<i>Lepidium lasiocarpum</i> var. <i>lasiocarpum</i> Hairy-pod pepperwort		AnnF	Wide	Pres	Com	Yanskey 1634 PARA (1974)
<i>Lepidium montanum</i> var. <i>glabrum</i> Grand Canyon pepperwort	Vars not recognized by some authors	PerF	RegEn	Pres	Unc	Hildebrand 3774 PARA (1968). Type locality: Hermit Trail, Grand Canyon, AZ Eastwood 5826 CAS).
<i>Lepidium montanum</i> var. <i>jonesii</i> Jones' pepperwort	Vars not recognized by some authors	PerF	Wide	Pres	Unc	Thorne 330 BRY, ASD (1977)
<i>Lepidium montanum</i> var. <i>montanum</i> Mountain pepperwort	Vars not recognized by some authors	PerF	Wide	Pres	Unc	Atwood & Thorne 12687 NY (1987). Specimen has not been verified.
<i>Lepidium virginicum</i> var. <i>pubescens</i> Hairy pepperweed		PerF	Wide	Pres	Unc	Atwood 26738 BRY, NY (2001)
<i>Lesquerella arizonica</i> "var. <i>andrusensis</i> " Andrus Canyon bladderpod	<i>Physaria</i> <i>arizonica</i> var. <i>andrusensis</i>	PerF	LocEn	Pres	Rare	Atwood & Higgins 30144 BRY, PARA (2003). Type locality: Andrus Canyon, AZ (Atwood & Higgins 29481 BRY). Technically, the combi- nation <i>L. arizonica</i> var. <i>andrusensis</i> has not been pub- lished
<i>Lesquerella arizonica</i> var. <i>arizonica</i> Arizona bladderpod	<i>Physaria arizonica</i> var. <i>arizonica</i>	PerF	RegEn	Pres	Unc	Yanskey 1415 PARA (1972)
<i>Lesquerella intermedia</i> Watson's bladderpod	<i>L. alpina</i> var. <i>intermedia</i> , <i>Physaria intermedia</i>	PerF	Wide	Pres	Rare	Shultz 19560 UTC (2004)
<i>Lesquerella rectipes</i> Colorado Plateau bladderpod	<i>Physaria rectipes</i>	PerF	Wide	Pres	Rare	Gierisch 4640 ASD (1979)
<i>Lesquerella tenella</i> Moapa bladderpod	<i>Physaria tenella</i>	AnnF	Wide	Pres	Unc	Gierisch 4135 ASD (1941). Type locality: Moapa, NV (Goodding 2184 RM)

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Brassicaceae (Cruciferae)						
<i>Malcolmia africana</i> African mustard	<i>Strigosella africana</i>	AnnF	Intro	Pres	Unc	Atwood, Welsh, & Higgins 26444 BRY, PARA (1974). Native to Africa.
<i>Nasturtium officinale</i> Watercress	<i>Rorippa nasturtium-aquaticum</i>	PerF	Intro	Pres	Unc	Coombs & Bundy 2574 ASD (1977). Native to Europe.
<i>Physaria acutifolia</i> var. <i>acutifolia</i> Sharp-leaf twinpod	<i>P. australis</i>	PerF	Periph	Pres	Rare	Atwood 33341 BRY (2010). Specimen has immature fruit.
<i>Physaria newberryi</i> Newberry's twinpod	<i>Physaria newberryi</i> var. <i>racemosa</i>	PerF	RegEn	Pres	Unc	Phillips, Phillips, & Downs 77-261 ASD (1977)
<i>Sisymbrium altissimum</i> Tumblemustard		AnnF	Intro	Pres	Com	Yanskey 2088 PARA (1978). Native to Europe
<i>Sisymbrium irio</i> London rocket		AnnF	Intro	Pres	Unc	Yanskey 2192a PARA (1999). Native to Europe
<i>Stanleya pinnata</i> var. <i>integrifolia</i> Golden prince's-plume	<i>S. integrifolia</i>	PerF	Periph	Pres	Rare	Smith 963 ASD (1978)
<i>Stanleya pinnata</i> var. <i>pinnata</i> Prince's-plume	<i>S. pinnata</i>	PerF	Wide	Pres	Unc	Higgins & Atwood 21877 BRY (1963)
<i>Streptanthella longirostris</i> Long-beak fiddle-mustard		AnnF	Wide	Pres	Com	Yanskey 1762 PARA (2001)
<i>Streptanthus cordatus</i> var. <i>cordatus</i> Heart-leaf jewelflower	<i>S. cordatus</i>	PerF	Wide	Pres	Unc	Yanskey 1347 PARA (1978)
<i>Thelypodiopsis ambigua</i> Kanab thelypody	<i>Sisymbrium ambiguum</i>	PerF	RegEn	Pres	Unc	Atwood 30117 BRY, ASD (1979)
<i>Thelypodiopsis purpusii</i> Purpus' thelypody		AnnF	Periph	Pres	Rare	Holmgren, Holmgren, & Barneby 9161 NY, BRY (1979)
<i>Thelypodium integrifolium</i> ssp. <i>integrifolium</i> Tall thelypody		PerF	Periph	Pres	Rare	Atwood 29935 BRY (2003)
<i>Thelypodium wrightii</i> ssp. <i>wrightii</i> Wright's thelypody	Included in <i>T. laxiflorum</i> by some authors	PerF	Wide	Pres	unc	Parker 6287 ARIZ, NY (1946)
<i>Thlaspi arvense</i> Field pennycress		AnnF	Intro	Pres	Unc	Mason 3080 ASU (1972). Native to Europe
<i>Thysanocarpus curvipes</i> Fringepod		AnnF	Wide	Pres	Unc	Yanskey 1291 PARA (1978)

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Cactaceae						
<i>Cylindropuntia acanthocarpa</i> var. <i>coloradensis</i> Buckhorn cholla	<i>Opuntia acanthocarpa</i> var. <i>coloradensis</i>	Shrub	Wide	Pres	Unc	Brown & Parfitt 814 ASD (1978). Some PARA populations intergrade with var. <i>thorneri</i> (Pinkava 1999)
<i>Cylindropuntia echinocarpa</i> Pale cholla	<i>Opuntia echinocarpa</i>	Shrub	Wide	Pres	Unc	Brown & Parfitt 305 ASD (1978). AZ: Salvage Restricted
<i>Cylindropuntia ramosissima</i> Darning-needle cholla	<i>Opuntia ramosissima</i>	Shrub	Wide	Pres	Rare	Higgins 23208 BRY (2001)
<i>Cylindropuntia whipplei</i> var. <i>whipplei</i> Whipple's cholla	<i>Opuntia whipplei</i> var. <i>whipplei</i> ; includes var. <i>enodis</i>	Shrub	RegEn	Pres	Unc	Hodgson & Palmer 4579 DES (1987). AZ: Salvage Restricted
<i>Echinocactus polycephalus</i> var. <i>polycephalus</i> Manyhead barrel cactus	<i>E. polycephalus</i>	PerF	Wide	Pres	Unc	Gierisch 4778 ASD (1978). According to Chamberland (1995), PARA material may all be var. <i>xeranthemoides</i> . AZ: Salvage Restricted.
<i>Echinocactus polycephalus</i> var. <i>xeranthemoides</i> Kaibab barrel cactus	<i>E. xeranthemoides</i>	PerF	RegEn	Pres	Rare	Gierisch, Coombs, & Bundy 4425 ASD (1978). AZ: Salvage Restricted
<i>Echinocereus coccineus</i> var. <i>coccineus</i> Claretcup	<i>E. triglochidiatus</i> var. <i>melanacanthus</i> . Includes var. <i>inermis</i> .	PerF	Wide	Pres	Unc	Brown & Parfitt 827 ASD (1978). AZ: Salvage Restricted
<i>Echinocereus engelmannii</i> Engelmann's hedgehog cactus	Includes vars. <i>chrysocentrus</i> , <i>decumbens</i> , <i>purpureus</i> , & <i>variegatus</i> .	PerF	Wide	Pres	Unc	Higgins, Atwood, & Furniss 21105 BRY (1987). AZ: Salvage Restricted (all varieties).
<i>Echinomastus johnsonii</i> Johnson's neolloydia	<i>Sclerocactus johnsonii</i> , <i>Neolloydia johnsonii</i>	PerF	RegEn	Pres	Unc	Brown & Parfitt 338 ASD (1978). Type locality: near St. George, UT (Johnson s.n. MO). AZ: Salvage Restricted.
<i>Escobaria vivipara</i> var. <i>arizonica</i> Arizona pincushion cactus	<i>Coryphantha vivipara</i> var. <i>arizonica</i> , <i>Mammillaria arizonica</i>	PerF	Wide	Pres	Unc	Neese & Cronquist 16873 NY (1985)
<i>Escobaria vivipara</i> var. <i>rosea</i> Rosy pincushion cactus	<i>Coryphantha vivipara</i> var. <i>rosea</i>	PerF	Periph	Pres	Unc	Brown & Parfitt 298 ASD (1978). AZ: Salvage Restricted
<i>Ferocactus cylindraceus</i> var. <i>lecontei</i> Desert barrel cactus	<i>F. acanthodes</i> var. <i>lecontei</i> , <i>F. lecontei</i> .	PerF	Wide	Pres	Com	Gierisch 4792 ASD (1978). AZ: Salvage Restricted.
<i>Grusonia emoryi</i> Devil club-cholla	<i>G. parishii</i> , <i>Opuntia stanlyi</i> , <i>O. parishii</i>	PerF	Wide	Pres	Rare	Gierisch 5063 ASD (1979)

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Cactaceae						
<i>Mammillaria tetrancistra</i> Pincushion cactus		PerF	Wide	Pres	Com	Atwood & Higgins 26824 BRY (2001)
<i>Opuntia basilaris</i> var. <i>basilaris</i> Beavertail cactus		PerF	Wide	Pres	Com	Higgins, Atwood, & Furniss 21148 BRY (2000)
<i>Opuntia macrorhiza</i> var. <i>macrorhiza</i> Twist-spine prickly-pear		PerF	Wide	Pres	Unc	Atwood 27205 BRY (1953)
<i>Opuntia phaeacantha</i> Berry pricklypear	Vars not recognized by some authors	PerF	Wide	Pres	Unc	Brown & Parfitt 828 ASD (1978)
<i>Opuntia pinkavae</i> Pinkava's pricklypear	<i>O. basilaris</i> var. <i>woodburyi</i>	PerF	RegEn	Pres	Rare	Brown & Parfitt 851 ASD, ASU (1978)
<i>Opuntia polyacantha</i> var. <i>erinacea</i> Common pricklypear	<i>O. erinacea</i> var. <i>erinacea</i> , includes var. <i>ursina</i>	PerF	Wide	Pres	Unc	Brown & Parfitt 812 ASD (1969)
<i>Opuntia polyacantha</i> var. <i>polyacantha</i> Plains pricklypear		PerF	Wide	Pres	Unc	Higgins 21538 BRY (2000)
Campanulaceae (Lobeliaceae)						
<i>Lobelia cardinalis</i> Cardinal-flower	<i>L. cardinalis</i> ssp. <i>graminea</i>	PerF	Wide	Pres	Rare	Hughes 2005-02 ASD (2000)
<i>Nemacladus glanduliferus</i> var. <i>orientalis</i> Slender nemacladus	<i>N. orientalis</i>	AnnF	Wide	Pres	Unc	Atwood, Welsh, & Higgins 26452 BRY, PARA (1941)
Cannabaceae (Celtidaceae, Ulmaceae)						
<i>Celtis laevigata</i> var. <i>reticulata</i> Netleaf hackberry	<i>C. reticulata</i>	Tree	Wide	Pres	Rare	Brown & Parfitt 375 ASD (1977)
Caprifoliaceae						
<i>Symphoricarpos longiflorus</i> Long-flower snowberry		Shrub	Wide	Pres	Unc	Yanskey 1419 PARA (1968)
<i>Symphoricarpos oreophilus</i> var. <i>utahensis</i> Mountain snowberry	<i>S. utahensis</i>	Shrub	Wide	Pres	Unc	Coombs & Bundy 2991 ASD (1979)
<i>Symphoricarpos rotundifolius</i> var. <i>parishii</i> Parish's mountain snowberry	<i>S. oreophilus</i> var. <i>parishii</i> , <i>S. parishii</i>	Shrub	Wide	Pres	Unc	Yanskey 1703 PARA (2005)

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Caryophyllaceae (Alsiniaceae)						
<i>Arenaria aberrans</i> Mount Dellenbaugh sandwort	<i>Eremogone aberrans</i>	PerF	LocEn	Pres	Unc	Leary 2191 AZ (1929). Type locality is Mount Dellenbaugh, AZ (Cottam 4159). USFS: Sensitive.
<i>Arenaria eastwoodiae</i> var. <i>eastwoodiae</i> Eastwood's sandwort	<i>Arenaria fendleri</i> var. <i>eastwoodiae</i> , <i>Eremogone eastwoodiae</i> var. <i>eastwoodiae</i>	PerF	Wide	Pres	Unc	Atwood 27245 BRY, PARA (1978)
<i>Arenaria lanuginosa</i> Spreading sandwort	<i>Spergulastrum lanuginosum</i> ssp. <i>saxosum</i> , <i>Arenaria saxosa</i> , <i>Arenaria lanuginosa</i> var. <i>saxosa</i>	PerF	Wide	Pres	Unc	Springer 2748 ASC, PARA (1997)
<i>Arenaria macradenia</i> Shrubby sandwort	<i>Eremogone macradenia</i> var. <i>macradenia</i>	PerF	Wide	Pres	Unc	Yanskey 1438 PARA (1968)
<i>Pseudostellaria jamesiana</i> James' chickweed	<i>Stellaria jamesiana</i>	PerF	Wide	Pres	Unc	Ojeda s.n. ASC, ASD (1997)
<i>Silene antirrhina</i> Sleepy catchfly		AnnF	Wide	Pres	Unc	Yanskey 1441 PARA (1978)
<i>Silene drummondii</i> Drummond's catchfly	Includes vars <i>striata</i> , <i>kruckebergii</i> , & <i>drummondii</i> , <i>Lychnis drummondii</i> , <i>Gastrolychnis drummondii</i>	PerF	Wide	Pres	Unc	Springer s.n. ASC (1996)
<i>Spergularia salina</i> Salt sandspurry	<i>Spergularia marina</i>	PerF	Intro	Pres	Rare	Higgins 22707 BRY (2001). Native to Europe.
<i>Stellaria longipes</i> Long-stalk starwort		PerF	Wide	Pres	Rare	West & Springer s.n. ASC (1996). Confirmation needed.
<i>Stellaria nitens</i> Shiny starwort		AnnF	Wide	Pres	Rare	Atwood, Higgins, & Welsh 26393 BRY, PARA (2001)
Celastraceae						
<i>Canotia holacantha</i> Canotia		Shrub	Wide	Pres	Rare	Atwood & Madsen 26669 BRY (2001)
<i>Mortonia utahensis</i> Mortonia	<i>M. scabrella</i> var. <i>utahensis</i>	Shrub	RegEn	Pres	Unc	Gierisch 4719 ASD (1974)

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Cleomaceae (Capparaceae)						
<i>Cleome lutea</i> Yellow beplant	<i>Peritoma lutea</i>	AnnF	Wide	Pres	Unc	Ojeda s.n. ASC, ASD (1946)
<i>Cleome serrulata</i> Rocky Mountain beplant	<i>Peritoma serrulata</i> . Includes vars. <i>angusta</i> & <i>serrulata</i>	AnnF	Wide	Pres	Unc	Beck & Labate 2104 ASC, PARA (1976)
<i>Polanisia dodecandra</i> var. <i>trachysperma</i> Clammyweed	<i>P. trachysperma</i>	AnnF	Wide	Pres	Unc	Atwood & Higgins 29073 BRY, PARA (1998)
Convolvulaceae (Cuscutaceae)						
<i>Calystegia longipes</i> Longstalk bindweed		PerF	Wide	Hist	NA	Mason & Phillips 2887 ASU (1969). Specimen has not been verified.
<i>Convolvulus arvensis</i> Field bindweed	<i>C. incanus</i>	PerF	Intro	Pres	Com	Atwood & Franklin 18006a BRY (1954). Native to Eura- sia. AZ state noxious weed.
<i>Convolvulus equitans</i> Perennial bindweed		PerF	Wide	Pres	Unc	Higgins, Atwood, & Welsh 20227 BRY (1999)
<i>Cuscuta californica</i> var. <i>breviflora</i> Chapparal dodder	<i>C. occidentalis</i> , <i>Grammica</i> <i>occidentalis</i>	AnnF	Periph	Rep	Rare	Atwood 33081 BRY (2010) - specimen could not be relo- cated in 2012 search. AZ state noxious weed.
<i>Cuscuta californica</i> var. <i>californica</i> California dodder		AnnF	Periph	Pres	Unc	Yanskey 1457 PARA (2003). Parasitic on <i>Ambrosia</i> <i>dumosa</i> . AZ state noxious weed.
<i>Cuscuta indecora</i> Large-seed dodder	<i>C. indecora</i> var. <i>neuropetala</i> , <i>Grammica indecora</i>	AnnF	Wide	Pres	Rare	Rink 10849 PARA (2011). AZ state noxious weed.
<i>Cuscuta pentagona</i> Field dodder		AnnF	Wide	Pres	Unc	Higgins 22683 BRY, PARA (2001). AZ state noxious weed.
<i>Cuscuta salina</i> Salt dodder		AnnF	Periph	Rep	Rare	Higgins 29029 BRY (2010) - could not be relocated in 2012 search. AZ state noxious weed.
<i>Ipomoea costellata</i> Crest-rib morning-glory		AnnF	Wide	Pres	Unc	Atwood 29909 BRY, PARA (2003). AZ state noxious weed.
Crossosomataceae						
<i>Crossosoma bigelovii</i> Ragged rockflower	<i>C. parviflorum</i>	Shrub	Wide	Pres	Unc	Higgins, Atwood, & Furniss 21147 BRY (1981)

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Crossosomataceae						
<i>Glossopetalon spinescens</i> var. <i>aridum</i> Spring greasebush	<i>Forsellesia nevadensis</i>	Shrub	Wide	Pres	Rare	Higgins 22798 BRY (2001)
Cucurbitaceae						
<i>Cucurbita palmata</i> Coyote gourd		PerF	Wide	Pres	Rare	Atwood & Higgins 26326 BRY (2000)
Cupressaceae						
<i>Hesperocyparis arizonica</i> Arizona cypress	<i>Cupressus arizonica</i>	Tree	Wide	Hist	NA	Sherbrooke s.n. ARIZ (1964). Specimen has not been verified.
<i>Juniperus monosperma</i> One-seed juniper	<i>Sabina monosperma</i>	Shrub	Wide	Pres	Rare	Atwood 26276 BRY (1964)
<i>Juniperus osteosperma</i> Utah juniper	<i>Sabina osteosperma</i>	Tree	Wide	Pres	Com	Yanskey 1773 PARA (1941)
Cyperaceae						
<i>Carex douglasii</i> Douglas' sedge		PerG	Wide	Pres	Unc	Hildebrand 3742 PARA (2011)
<i>Carex geophila</i> White Mountain sedge		PerG	Wide	Pres	Unc	Yanskey 2175 PARA (2008)
<i>Carex hassei</i> Salt sedge	Included in <i>C. aurea</i> by some authors	PerG	Wide	Pres	Unc	Brown & Parfitt 393 ASD (1978). Includes report of <i>C. aurea</i> (Stevens 708 ASC)
<i>Carex lenticularis</i> Lakeshore sedge		PerG	Wide	Pres	Rare	Stevens 728 ASC (2000). Confirmation needed.
<i>Carex nebrascensis</i> Nebraska sedge		PerG	Wide	Pres	Unc	Brown & Parfitt 391 ASD (1978)
<i>Carex occidentalis</i> Western sedge		PerG	Wide	Pres	Unc	Yanskey 2219 PARA (1977)
<i>Carex praegracilis</i> Blackcreeper sedge		PerG	Periph	Pres	Unc	Brown & Parfitt 372 ASD (1978)
<i>Carex rossii</i> Ross' sedge	<i>Carex deflexa</i> var. <i>boottii</i> , <i>C. brevipes</i> , <i>C. pityophila</i>	PerG	Wide	Pres	Rare	Yanskey 1713 PARA (2005)
<i>Carex vallicola</i> Valley sedge		PerG	Wide	Pres	Unc	Tweiten 1986 ASC, PARA (1978)
<i>Cyperus erythrorhizos</i> Redroot flat-sedge		AnnG	Wide	Pres	Unc	Higgins & Atwood 21905 BRY, ASD (2000)

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Cyperaceae						
<i>Cyperus odoratus</i> Rusty flat sedge		PerG	Wide	Pres	Unc	Atwood & Higgins 26347 BRY (2000)
<i>Cyperus schweinitzii</i> Sand flat-sedge	<i>Mariscus schweinitzii</i>	PerG	Periph	Pres	Rare	Bundy 170 ASC (1980).
<i>Cyperus strigosus</i> Strigose flat-sedge		PerG	Wide	Pres	Unc	Higgins & Atwood 21906 BRY, ASD (2000)
<i>Eleocharis acicularis</i> Slender spikerush		PerG	Wide	Pres	Rare	Stevens 729 ASC (2000). Confirmation needed
<i>Eleocharis palustris</i> Common spikerush	<i>E. macrostachya</i>	PerG	Wide	Pres	Unc	Higgins, Atwood, & Welsh 20071 ASD (1978)
<i>Eleocharis parishii</i> Parish's spikerush	<i>E. montevidensis</i> var. <i>parishii</i>	PerG	Wide	Pres	Unc	Coombs & Bundy 2751 ASD (1977)
<i>Eleocharis rostellata</i> Beaked spikerush		PerG	Wide	Pres	Rare	Coombs & Bundy 2577 ASD (1978)
<i>Schoenoplectus acutus</i> Hardstem bulrush	<i>Scirpus acutus</i>	PerG	Wide	Pres	Rare	Stevens 675 ASC (2002). Confirmation needed
<i>Schoenoplectus americanus</i> American bulrush	<i>Scirpus americanus</i> , <i>S. olneyi</i>	PerG	Wide	Pres	Unc	Higgins, Atwood, & Welsh 20069 ASD, BRY (1977)
<i>Schoenoplectus pungens</i> var. <i>longispicatus</i> Three-square bulrush	<i>Scirpus pungens</i> var. <i>polyphyllus</i> , <i>Sci. pungens</i> var. <i>longispicatus</i> , <i>Sch. pungens</i> var. <i>polyphyllus</i>	PerG	Wide	Pres	Rare	Coombs & Bundy 2575 ASD (1978)
<i>Schoenoplectus tabernaemontani</i> Softstem bulrush	<i>Scirpus validus</i>	PerG	Wide	Pres	Rare	Stevens 682 ASC (2002)
Dryopteridaceae Aspidiaceae, Aspleniaceae, Polypodiaceae)						
<i>Woodsia oregana</i> Oregon woodsia	<i>W. oregana</i> ssp. <i>oregana</i>	Fern	Wide	Pres	Rare	Hildebrand s.n. PARA (1941)
Elaeagnaceae						
<i>Shepherdia rotundifolia</i> Roundleaf buffaloberry		Shrub	RegEn	Pres	Unc	Atwood & Higgins 26819 BRY (1985)

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Ephedraceae						
<i>Ephedra aspera</i> Mohave jointfir	<i>E. fasciculata</i>	Shrub	Wide	Pres	Unc	Smith 1014 ASD (1989)
<i>Ephedra nevadensis</i> Nevada jointfir		Shrub	Wide	Pres	Unc	Gierisch 4722 ASD (1980)
<i>Ephedra torreyana</i> Torrey's jointfir		Shrub	Wide	Pres	Com	Atwood & Madsen 26612 BRY, PARA (1941)
<i>Ephedra trifurca</i> Long-leaf joint-fir		Shrub	Wide	Pres	Unc	Welsh & Atwood 27897 BRY (2001)
<i>Ephedra viridis</i> Green joint-fir	<i>E. viridis</i> var. <i>viridis</i>	Shrub	Wide	Pres	Com	Yanskey 1327 PARA (1999)
Equisetaceae						
<i>Equisetum hyemale</i> var. <i>affine</i> Tall scouring-rush	<i>Hippochaete hyemalis</i> ssp. <i>affinis</i> , <i>E. praealtum</i>	Fern	Wide	Pres	Rare	Higgins & Atwood 22455 BRY (2001). Specimen may be a hybrid with <i>E. laevigatum</i>
<i>Equisetum laevigatum</i> Smooth scouring-rush	<i>Hippochaetae laevigata</i> , <i>E. kansanum</i>	Fern	Wide	Pres	Rare	Coombs & Bundy 2728 ASC, BRY (1978)
Ericaceae						
<i>Arctostaphylos patula</i> Greenleaf manzanita	<i>A. platyphylla</i>	Shrub	Wide	Pres	Unc	Gierisch 4092 ASD (1941)
<i>Arctostaphylos pringlei</i> Pringle's manzanita		Shrub	Wide	Pres	Unc	Brown & Parfitt 804 ASD (1978)
<i>Arctostaphylos pungens</i> Mexican manzanita		Shrub	Wide	Pres	Unc	Clark 3811 ASD (1909)
Euphorbiaceae						
<i>Acalypha neomexicana</i> New Mexico copperleaf		AnnF	Wide	Pres	Unc	Atwood 29916 BRY, PARA (2003)
<i>Argythamnia cyanophylla</i> Charleston Mountain silverbush	<i>Ditaxis cyanophylla</i>	PerF	RegEn	Pres	Rare	Higgins & Atwood 5341 BRY (1972)
<i>Argythamnia neomexicana</i> New Mexico silverbush	<i>Ditaxis neomexicana</i>	PerF	Wide	Pres	Unc	Atwood 27204 BRY, PARA (1978)
<i>Bernardia myricifolia</i> Myrtle-croton	<i>B. incana</i>	Shrub	Wide	Pres	Unc	Higgins & Atwood 24612 BRY, PARA (1998)
<i>Chamaesyce albomarginata</i> Rattlesnake-weed	<i>Euphorbia albomarginata</i>	PerF	Wide	Pres	Com	Yanskey 1361 PARA (1941)
<i>Chamaesyce fendleri</i> Fendler's spurge	<i>Euphorbia fendleri</i>	PerF	Wide	Pres	Unc	Tweiten 1977 ASC, PARA (1977)

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Euphorbiaceae						
<i>Chamaesyce glyptosperma</i> Ridge-seeded spurge	<i>Euphorbia glyptosperma</i>	AnnF	Wide	Pres	Unc	Higgins 24015 BRY, PARA (2000)
<i>Chamaesyce micromera</i> Tiny spurge	<i>Euphorbia micromera</i>	AnnF	Wide	Pres	Unc	Higgins & Atwood 21868 BRY (1978)
<i>Chamaesyce ocellata</i> var. <i>arenicola</i> Eyed spurge	<i>Euphorbia ocellata</i> var. <i>arenicola</i>	AnnF	Periph	Pres	Unc	Higgins & Atwood 21826 BRY (2000)
<i>Chamaesyce polycarpa</i> Smallseed spurge	<i>Euphorbia polycarpa</i> var. <i>hirtella</i>	PerF	Wide	Pres	Unc	Higgins & Green 25441 BRY (2000)
<i>Chamaesyce revoluta</i> Revolute spurge	<i>Euphorbia revoluta</i>	AnnF	Wide	Pres	Unc	Atwood 29917 BRY, PARA (1980)
<i>Chamaesyce serpyllifolia</i> Thyme-leaved spurge	<i>Euphorbia serpyllifolia</i>	AnnF	Wide	Pres	Unc	Atwood 29999 BRY, PARA (1999)
<i>Chamaesyce setiloba</i> Yuma sandmat	<i>Euphorbia setiloba</i>	AnnF	Wide	Pres	Rare	Atwood 27886 BRY, PARA (2001)
<i>Croton californicus</i> Mohave croton		PerF	Wide	Pres	Unc	Yanskey 1872 PARA (1968)
<i>Croton texensis</i> var. <i>utahensis</i> Utah dove-weed		AnnF	RegEn	Pres	Rare	Bundy 163 ARIZ (1980). Specimen has not been verified.
<i>Euphorbia brachycera</i> Shorthorn spurge	<i>E. robusta</i> , <i>E. brachycera</i> var. <i>robusta</i> , <i>E. lurida</i> , <i>E. palmeri</i> , <i>Tithymalus brachyceras</i>	PerF	Wide	Pres	Unc	Tweiten 1998 ASC, PARA (1926)
<i>Euphorbia eriantha</i> Beetle spurge		AnnF	Wide	Pres	Rare	Higgins & Atwood 21790 BRY (2000). Confirmation needed.
<i>Euphorbia exstipulata</i> Square-seed spurge		AnnF	Wide	Pres	Rare	Atwood & Higgins 29066 BRY, NY, PARA (2001)
<i>Euphorbia schizoloba</i> Mojave spurge	<i>E. incisa</i>	PerF	Wide	Pres	Unc	Coombs & Bundy 2609 ASU (1941)
<i>Tragia ramosa</i> Noseburn	<i>T. stylaris</i>	PerF	Wide	Pres	Unc	Thorne 326 ASD, BRY (1877)
Fabaceae (Caesalpinaceae, Leguminosae, Mimosaceae)						
<i>Acacia greggii</i> Catclaw acacia	Includes vars. <i>greggii</i> & <i>arizonica</i>	Tree	Wide	Pres	Unc	Coombs, Gierisch, & Bundy 2563 ASD (1978)
<i>Alhagi maurorum</i> Camelthorn	<i>A. camelorum</i>	Shrub	Intro	Pres	Rare	Higgins & Atwood 22473 BRY (2001). Native to SW Asia. AZ state noxious weed.

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Fabaceae (Caesalpinaceae, Leguminosae, Mimosaceae)						
<i>Astragalus allochrous</i> var. <i>playanus</i> Halfmoon milkvetch	<i>A. wootonii</i>	PerF	Wide	Pres	Unc	Rink 8722 ASC (2009). Confirmation needed.
<i>Astragalus amphioxys</i> var. <i>amphioxys</i> Crescent milkvetch		PerF	Wide	Pres	Unc	Atwood 10938 BRY (1929)
<i>Astragalus amphioxys</i> var. <i>modestus</i> Modest milkvetch		PerF	RegEn	Pres	Rare	Atwood, Higgins & Welsh 26385 BRY (1978). Type locality: E side Vulcan's Throne, AZ, McClintock 52-193 CAS)
<i>Astragalus amphioxys</i> var. <i>vespertinus</i> Sheldon's milkvetch		PerF	RegEn	Pres	Rare	Atwood & Franklin 18011 BRY (1983)
<i>Astragalus argophyllus</i> var. <i>panguicensis</i> Silver-leaved milkvetch		PerF	RegEn	Pres	Rare	Springer 784 ASC (1969). Mistakenly cited as var. <i>argophyllus</i> (Fertig 2010)
<i>Astragalus calycosus</i> var. <i>scaposus</i> Scapose milkvetch		PerF	Wide	Pres	Unc	Yanskey 1322 PARA (1952). Type locality: Mokiak Pass, AZ (Palmer 107 GH)
<i>Astragalus castaneiformis</i> Chestnut milkvetch		PerF	RegEn	Pres	NA	Brown & Henke 949 ASU (1979). Specimen has not been confirmed. Type locality: near Williams Station, AZ (Lemmon 3262 GH).
<i>Astragalus ensiformis</i> Pagumpa milkvetch	Includes vars. <i>ensiformis</i> & <i>gracilior</i>	PerF	RegEn	Pres	Unc	Atwood & Madson 26624 BRY, PARA (1978). Type locality: 4 miles above Pagumpa, AZ (Jones 5095ah POM)
<i>Astragalus eremiticus</i> Hermit milkvetch	<i>A. eremiticus</i> var. <i>eremiticus</i>	PerF	Wide	Pres	Com	Brown & Parfitt 295 ASD (1974). Type locality: Beaver Dam Mountains, UT (Parry 45 MINN)
<i>Astragalus humistratus</i> var. <i>humivagans</i> Groundcover milkvetch		PerF	Wide	Pres	Unc	Coombs & Bundy 2604 ASD (1940). Type locality: Mokiak Pass, AZ (Palmer 108 GH, 1877)
<i>Astragalus humistratus</i> var. <i>tenerrimus</i> Groundcover milkvetch		PerF	LocEn	Pres	Rare	Atwood & Higgins 24909 BRY (1999). Type locality: Buckskin Mountains, AZ (Jones 6064 POM)
<i>Astragalus lentiginosus</i> var. <i>fremontii</i> Fremont's milkvetch		PerF	Periph	Pres	Rare	Atwood, Higgins, & Furniss 25160 BRY (2000) Type locality: Banks of Rio Virgin, [Clark Co., NV] (Fremont s.n. NY)
<i>Astragalus lentiginosus</i> var. <i>palans</i> Straggling milkvetch		PerF	RegEn	Pres	Unc	Atwood 6087 BRY (1974)

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Fabaceae (Caesalpinaceae, Leguminosae, Mimosaceae)						
<i>Astragalus lentiginosus</i> var. <i>stramineus</i> Straw milkvetch		PerF	RegEn	Pres	Unc	Atwood & Madsen 26609 BRY, PARA (1999). Type locality: 'S. Utah', Washington Co, UT (Palmer s.n. NY).
<i>Astragalus lentiginosus</i> var. <i>trumbullensis</i> Mount Trumbull milkvetch	Included in <i>A. mokiakensis</i> by some authors	PerF	LocEn	Pres	Unc	Atwood 6029 BRY (1974). Type locality: Andrus Canyon, AZ (Atwood & Furniss 24293 BRY)
<i>Astragalus lentiginosus</i> var. <i>vitreus</i> Glass milkvetch		PerF	RegEn	Pres	Unc	Higgins & Atwood 5343 BRY (1969). Type locality: W of Leeds, UT (Maguire & Blood 4413 POM)
<i>Astragalus mokiakensis</i> Mokiak milkvetch	<i>A. lentiginosus</i> var. <i>mokiakensis</i>	PerF	RegEn	Pres	Unc	Smith & Gierisch 1091 ASD (1974). Type locality : Mokiak Pass, NW AZ (Palmer 105 GH)
<i>Astragalus newberryi</i> var. <i>castoreus</i> Beaver Dam milkvetch		PerF	Periph	Pres	Unc	Atwood & Madsen 26623 BRY (2001). Type locality: Beaver Dam Mountains, UT (Jones 5006 POM)
<i>Astragalus newberryi</i> var. <i>newberryi</i> Newberry's milkvetch	Includes var. <i>escalantinus</i>	PerF	Wide	Pres	Unc	Atwood & Furniss 24245 BRY (1987). Type locality: near Laguna Lake, Hualapai Indian Reservation, AZ (Newberry s.n. GH)
<i>Astragalus nuttallianus</i> var. <i>imperfectus</i> Coliche milkvetch		AnnF	Wide	Pres	Unc	Atwood & Higgins 30160 BRY (1978)
<i>Astragalus nuttallianus</i> var. <i>micranthiformis</i> Small-flowered milkvetch		AnnF	Wide	Pres	Unc	Atwood 25592 BRY, NY (2000)
<i>Astragalus oophorus</i> var. <i>caulescens</i> Egg milkvetch		PerF	Wide	Pres	Unc	Atwood 9453 BRY (1969). Includes reports of var. <i>clokeyanus</i>
<i>Astragalus praelongus</i> var. <i>praelongus</i> Stinking milkvetch		PerF	Wide	Pres	Unc	Yanskey 2055 PARA (1988). Type locality: near St. Thomas, NV (Palmer 112 GH)
<i>Astragalus preussii</i> var. <i>laxiflorus</i> Littlefield milkvetch		PerF	RegEn	Pres	Unc	Higgins, Atwood, & Welsh 20023 ASD, BRY (1978). Type locality: Beaver Dam, NW AZ (Palmer 104)
<i>Astragalus preussii</i> var. <i>preussii</i> Preuss' milkvetch	<i>A. preussii</i> var. <i>latus</i>	PerF	RegEn	Pres	Unc	Atwood & Furniss 24284 BRY (1997)
<i>Astragalus sabulonum</i> Gravel milkvetch		AnnF	Wide	Pres	Unc	Atwood & Madsen 26606 BRY, PARA (2001)

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Fabaceae (Caesalpinaceae, Leguminosae, Mimosaceae)						
<i>Astragalus straturensis</i> Pine Valley milkvetch		PerF	RegEn	Pres	Unc	Gould 1716 ARIZ (1877). Type locality: Silver Reef, UT (Jones 5175 POM)
<i>Astragalus subcinereus</i> Siler's milkvetch	<i>A. sileranus</i>	PerF	RegEn	Pres	Unc	Atwood & Higgins 27954 BRY, PARA (1978). ype locality: Mokiatic Pass, AZ (Palmer 117 GH)
<i>Astragalus tetrapterus</i> Four-wing milkvetch		PerF	Wide	Pres	Rare	Brown & Parfitt 782 ASD (1978). Type locality: 25 miles N of St. George, UT (Palmer 111 GH)
<i>Calliandra humilis</i> var. <i>reticulata</i> Dwarf stick-pea		Shrub	RegEn	Pres	Unc	Holland 706 DES (1975)
<i>Cercis orbiculata</i> Western redbud	<i>C. canadensis</i> var. <i>orbiculata</i> , <i>C. occidentalis</i> var. <i>orbiculata</i>	Shrub	Wide	Pres	Unc	Atwood 26273 BRY (1952). Type locality: Diamond Valley, UT (Goodding s.n. RM).
<i>Dalea brachystachya</i> Fort Bowie prairie-clover	<i>D. brachystachys</i>	PerF	Wide	Pres	Unc	Atwood 29912 BRY, PARA (2003)
<i>Dalea candida</i> var. <i>oligophylla</i> White prairie-clover	<i>D. oligophylla</i> , <i>D. occidentalis</i> , <i>Petalostemon candidum</i> , <i>P. occidentale</i>	PerF	Wide	Pres	Unc	Atwood 29944 BRY, PARA (1926)
<i>Dalea lanata</i> var. <i>terminalis</i> Woolly dalea	<i>D. terminalis</i>	PerF	Wide	Pres	Rare	Atwood 27076 BRY, NY (2001)
<i>Dalea mollis</i> Hairy prairie-clover	<i>D. mollissima</i>	PerF	RegEn	Pres	Unc	Higgins 22746 BRY, PARA (1941)
<i>Dalea searlsiae</i> Searls' prairie-clover	<i>Petalostemon searlsiae</i>	PerF	Wide	Pres	Unc	Ojeda s.n. ASC, ASD (1941)
<i>Desmanthus cooleyi</i> Cooley's bundle-flower		PerF	Wide	Pres	Unc	Rink 8699 ASC (2009)
<i>Glycyrrhiza lepidota</i> Nuttall's licorice	<i>G. lepidota</i> var. <i>lepidota</i>	PerF	Wide	Pres	Unc	Hildebrand 3984 PARA (2011)
<i>Hedysarum boreale</i> ssp. <i>boreale</i> Northern sweetvetch		PerF	Wide	Pres	Rare	Coombs & Bundy 2633 ASD (1978)
<i>Lathyrus brachycalyx</i> ssp. <i>zionis</i> Zion sweetpea		PerF	RegEn	Pres	Unc	Atwood & Thorne 12662 BRY (1977). Type locality: 10 miles E of Zion NP, UT (Hitchcock 19013 isotype NY)
<i>Lathyrus eucosmus</i> Seemly sweetpea	<i>L. brachycalyx</i> var. <i>eucosmus</i>	PerF	Wide	Pres	Unc	Atwood 29902 BRY, NY, PARA (1987)

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<i>Lathyrus graminifolius</i> Grassleaf pea		PerF	Wide	Pres	Rare	Atwood, Higgins, & Furniss 25042 ASD, BRY (2000)
<i>Lathyrus lanszwertii</i> var. <i>leucanthus</i> Whiteflower sweetpea	<i>L. leucanthus</i> , <i>L. lanszwertii</i> var. <i>arizonicus</i> ; includes reports of <i>L. laetivirens</i>	PerF	Wide	Pres	Rare	Brown & Parfitt 777 ASD (1978). Collection may be from just outside PARA.
<i>Lotus denticulatus</i> River-bar trefoil		AnnF	Wide	Pres	Unc	Yanskey 1731 PARA (1978)
<i>Lotus humistratus</i> Low trefoil		AnnF	Wide	Pres	Unc	Atwood 27278 BRY, NY, PARA (1978)
<i>Lotus mearnsii</i> Mearns' bird's-foot trefoil		PerF	RegEn	Pres	Rare	Mason & Reeder 3277 ARIZ (1977). Confirmation needed
<i>Lotus plebeius</i> Longbracted trefoil	<i>L. longibracteatus</i>	PerF	Wide	Pres	Unc	Tweiten 1916 ASC, PARA (1941)
<i>Lotus salsuginosus</i> Coastal bird's-foot trefoil		AnnF	Wide	Pres	Rare	Atwood, Welsh, & Higgins 26499 BRY, PARA (2001)
<i>Lotus strigosus</i> var. <i>tomentellus</i> Strigose bird's-foot trefoil	<i>L. tomentellus</i>	AnnF	Wide	Pres	Unc	Atwood & Madsen 26615 BRY (2001)
<i>Lotus utahensis</i> Utah trefoil		PerF	RegEn	Pres	Unc	West 616 ASC (1978). Type locality: W of Carmel, UT (Ferguson & Ottley 5613 NY)
<i>Lotus wrightii</i> Wright's trefoil		PerF	Wide	Pres	Com	Yanskey 1721 PARA (1973)
<i>Lupinus brevicaulis</i> Shortstem lupine		AnnF	Wide	Pres	Unc	Yanskey 1397 PARA (1969)
<i>Lupinus caudatus</i> Silverleaf lupine	<i>L. argenteus</i> var. <i>argophyllus</i> , <i>L. caudatus</i> var. <i>cutleri</i>	PerF	Wide	Pres	Unc	Springer s.n. ASC, ASD (1996)
<i>Lupinus concinnus</i> Elegant lupine		AnnF	Wide	Pres	Unc	Higgins, Atwood, & Welsh 22080 BRY (2001)
<i>Lupinus flavoculatus</i> Yellow-eye lupine		AnnF	RegEn	Pres	Unc	Brown & Parfitt 809 ASD (1978)
<i>Lupinus hillii</i> var. <i>hillii</i> Hill's lupine	<i>L. argenteus</i> var. <i>hillii</i>	PerF	RegEn	Pres	Unc	Coombs & Bundy 2624 ASD (1973)
<i>Lupinus kingii</i> King's lupine	<i>L. kingii</i> var. <i>kingii</i>	AnnF	Wide	Pres	Unc	Yanskey 1696 PARA (1926)
<i>Lupinus latifolius</i> Broad-leaved lupine		PerF	Wide	Pres	Rare	Brown & Parfitt 776 ASD (1978)

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Fabaceae (Caesalpinaceae, Leguminosae, Mimosaceae)						
<i>Lupinus palmeri</i> Palmer's lupine	<i>L. argenteus</i> var. <i>palmeri</i>	PerF	Wide	Pres	Unc	Phillips, Phillips, & Downs 77-212 ASD (1946)
<i>Lupinus pusillus</i> ssp. <i>pusillus</i> Dwarf lupine	<i>L. pusillus</i>	AnnF	Wide	Pres	Unc	Atwood 27277 BRY (2001)
<i>Lupinus sparsiflorus</i> Mohave lupine		AnnF	Wide	Pres	Com	Welsh & Atwood 27907 BRY (1978)
<i>Medicago arabica</i> Spotted medick		AnnF	Intro	Pres	Rare	Atwood & Welsh 26984 BRY (2001). Native to Eurasia. May be <i>M. polymorpha</i>
<i>Medicago lupulina</i> Black medic		AnnF	Intro	Pres	Unc	Higgins, Atwood, & Welsh 22212 BRY, PARA (2001). Native to Europe.
<i>Medicago polymorpha</i> Bur clover		PerF	Intro	Pres	Rare	Yanskey 2201 PARA (2009). Native to Europe. AZ state noxious weed.
<i>Medicago sativa</i> Alfalfa		PerF	Intro	Pres	Unc	Hildebrand 3862 PARA (2011). Native to Eurasia.
<i>Melilotus albus</i> White sweet-clover	<i>M. alba</i> , Included in <i>M. officinalis</i> by some authors	AnnF	Intro	Pres	Unc	Coombs & Bundy 2618 ASD (1978). Native to Europe.
<i>Melilotus indicus</i> India sour-clover	<i>M. indica</i>	AnnF	Intro	Pres	Rare	Higgins 23198 BRY, PARA (1978). Native to Eurasia.
<i>Melilotus officinalis</i> Yellow sweet-clover		PerF	Intro	Pres	Unc	Henry 1970 ASC, PARA (1978). Native to Europe
<i>Pediomelum castoreum</i> Beaver breadroot	<i>Psoralea castorea</i>	PerF	RegEn	Pres	Rare	Atwood & Madsen 26607 BRY, PARA (2001). Type locality: between Beaver Dam AZ and St. Thomas, NV (Palmer 96 US). USFWS: former C2.
<i>Pediomelum megalanthum</i> var. <i>retrosum</i> Large-flowered breadroot	<i>P. retrosum</i>	PerF	RegEn	Hist	NA	Mason & Phillips 2888 ARIZ (1969). Type locality: Peach Spring, AZ (Lemmon s.n. NY)
<i>Pediomelum mephiticum</i> Skunk breadroot	<i>Psoralea mephitica</i> var. <i>mephitica</i>	PerF	RegEn	Pres	Unc	Yanskey 2076 PARA (1968). Type locality: near St. George, UT (Palmer 97 US)
<i>Pediomelum pauperitense</i> Poverty Mountain breadroot		PerF	LocEn	Pres	Unc	Anderson & Hughes 2011-26 (1993). Type locality: SW of Poverty Mountain, AZ Higgins 23135 BRY)

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Fabaceae (Caesalpinaceae, Leguminosae, Mimosaceae)						
<i>Peteria thompsoniae</i> Thompson's peteria		PerF	Periph	Pres	Unc	Atwood & Higgins 29501 BRY, PARA (1974). Type locality: Kanab, UT (Thompson s.n. GH)
<i>Phaseolus angustissimus</i> Narrow-leaflet bean		PerF	Wide	Pres	Rare	Atwood 1749 BRY (1969)
<i>Prosopis glandulosa</i> var. <i>torreyana</i> Honey mesquite	<i>P. velutina</i> , <i>P. juliflora</i>	Tree	Wide	Pres	Unc	Phillips 77-241 ASD (1977). AZ: Highly Safeguarded
<i>Prosopis pubescens</i> Screwbean mesquite	<i>P. odorata</i>	Tree	Wide	Pres	Unc	Hildebrand 3516 PARA (2011). AZ: Highly Safeguarded
<i>Psoralidium tenuiflorum</i> Slender-flowered scurf-pea	<i>Psoralea tenuiflora</i>	PerF	Wide	Pres	Com	Laughlin 3203 ASC, PARA (1952)
<i>Psorothamnus arborescens</i> var. <i>pubescens</i> Mojave dalea	<i>Dalea amoena</i> var. <i>pubescens</i>	Shrub	RegEn	Pres	Unc	Phillips 77-254 ASD (1977). BLM: Sensitive.
<i>Psorothamnus fremontii</i> Fremont's indigo-bush	<i>Dalea fremontii</i>	Shrub	Wide	Pres	Com	Brown & Parfitt 345 ASD (1941)
<i>Robinia neomexicana</i> New Mexico locust		Tree	Wide	Pres	Com	Yanskey 1716 PARA (1929)
<i>Senna bauhinoides</i> Shrubby wild sensitive-plant	<i>Cassia bauhinoides</i>	PerF	Wide	Pres	Unc	Higgins 28354 BRY (2000)
<i>Senna covesii</i> Hairy wild sensitive-plant	<i>Cassia covesii</i>	PerF	RegEn	Pres	Unc	Gierisch 4031 ASD (1977)
<i>Sophora nuttalliana</i> Silky sophora	<i>S. sericea</i>	PerF	Wide	Pres	Rare	Atwood & Higgins 27546 BRY, PARA (2001)
<i>Sophora stenophylla</i> Silvery sophora		PerF	Periph	Pres	Rare	Atwood 33401 BRY (2010). Specimen has not been verified.
<i>Trifolium kingii</i> ssp. <i>macilentum</i> Lean clover	<i>T. macilentum</i>	PerF	RegEn	Pres	Rare	Brown & Parfitt 800 ASD (1978). Type locality: S Utah, UT (Palmer s.n. US)
<i>Vicia americana</i> American vetch	<i>V. americana</i> var. <i>americana</i>	PerF	Wide	Pres	Unc	Ojeda s.n. ASC, ASD (1976)
<i>Vicia ludoviciana</i> ssp. <i>ludoviciana</i> Louisiana vetch	<i>V. ludoviciana</i> , <i>V. exigua</i>	AnnF	Wide	Pres	Unc	Yanskey 1631 PARA (1952)

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Fagaceae						
<i>Quercus gambelii</i> var. <i>gambelii</i> Gambel's oak	<i>Q. gambelii</i>	Tree	Wide	Pres	Unc	Brown & Parfitt 379 ASD (1941)
<i>Quercus turbinella</i> Turbinella live-oak		Shrub	Wide	Pres	Com	Coombs & Bundy 2652 ASD (1927)
<i>Quercus x pauciloba</i> Hybrid oak		Shrub	Wide	Pres	Unc	Hildebrand 3538 PARA (1997). Hybrid between <i>Quercus gambelii</i> x <i>Q. turbinella</i>
Fouquieriaceae						
<i>Fouquieria splendens</i> Ocotillo		Shrub	Wide	Pres	Rare	Smith 1042 ASD (1941)
Garryaceae						
<i>Garrya flavescens</i> Silktassel-bush		Shrub	Wide	Pres	Unc	Casey 1483 ASC, PARA (1941). Type locality: "southern Utah" (Palmer s.n. GH).
Gentianaceae						
<i>Centaurium calycosum</i> Buckley's centaury	<i>C. arizonicum</i>	AnnF	Wide	Pres	Rare	Coombs & Bundy 2722 ASD (1978)
<i>Frasera albomarginata</i> White-margined swertia	<i>Swertia albomarginata</i>	PerF	Wide	Pres	Unc	Phillips & Phillips 77-193 ASD (1926). Type locality: near St. George, UT (Palmer s.n. US)
<i>Frasera speciosa</i> Elkweed	<i>Swertia radiata</i>	PerF	Wide	Pres	Unc	Higgins 23529 BRY (2001)
Geraniaceae						
<i>Erodium cicutarium</i> Stork's-bill		AnnF	Intro	Pres	Com	Yanskey 1307 PARA (1997). Native to Europe.
<i>Erodium texanum</i> Texas stork's-bill		AnnF	Wide	Pres	Unc	Yanskey 1607 PARA (2001)
<i>Geranium caespitosum</i> Small-leaf geranium	Includes vars. <i>atropurpureum</i> & <i>marginale</i>	PerF	Wide	Pres	Unc	Springer s.n. ASC (1877)
<i>Geranium richardsonii</i> Richardson's geranium		PerF	Wide	Pres	Rare	Coombs & Bundy 2964 ASU (1877)

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Grossulariaceae (Saxifragaceae)						
<i>Ribes cereum</i> Wax currant	<i>R. cereum</i> var. <i>pedicellare</i> , <i>R. cereum</i> var. <i>inebrians</i>	Shrub	Wide	Pres	Unc	Phillips 77-186 ASD (1949)
<i>Ribes velutinum</i> Desert gooseberry	<i>R. velutinum</i> var. <i>velutinum</i>	Shrub	Wide	Pres	Unc	Atwood & Furniss 24163 BRY (1963). Includes reports of <i>R. quercetorum</i>
Hydrangeaceae (Saxifragaceae)						
<i>Fendlera rupicola</i> Cliff fendler-bush	<i>F. falcata</i>	Shrub	Wide	Pres	Unc	Higgins 22797 PARA (1894)
<i>Fendlerella utahensis</i> Yerba desierto		Shrub	Wide	Pres	Rare	Rink 8356 ASC (2008) Type locality: Kanab, UT Thompson s.n. GH), but probably collected farther to the east.
<i>Philadelphus microphyllus</i> Littleleaf mock-orange	<i>P. microphyllus</i> var. <i>occidentalis</i> , <i>P. occidentalis</i> var. <i>occidentalis</i>	Shrub	Wide	Pres	Unc	Atwood 25586 BRY, ASD (2000)
Iridaceae						
<i>Sisyrinchium demissum</i> Stiff blue-eyed grass		PerF	Wide	Pres	Rare	Higgins 23200 BRY (2001)
Juncaceae						
<i>Juncus arcticus</i> Baltic rush	<i>J. arcticus</i> var. <i>balticus</i> , <i>J. balticus</i> var. <i>montanus</i> , <i>J. arcticus</i> ssp. <i>ater</i> , includes var. <i>mexicanus</i>	PerG	Wide	Pres	Unc	Brown & Parfitt 374 ASD (1978)
<i>Juncus bufonius</i> Toad rush	Includes vars <i>bufonius</i> , <i>halophilus</i> , <i>occidentalis</i> , & <i>ambiguus</i>	AnnG	Wide	Pres	Rare	Smith 1082 ASD (1978)
<i>Juncus interior</i> Inland rush		PerG	Wide	Pres	Rare	Coombs & Bundy 2566 ARIZ (1978). Confirmation needed—may be <i>J. dudleyi</i>
<i>Juncus longistylis</i> Longstyle rush		PerG	Wide	Pres	Rare	Rink 10848 PARA (2011).
<i>Juncus nodosus</i> Knotted rush		PerG	Periph	Pres	Unc	Coombs & Bundy 2580 ASD (1978)

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Juncaceae						
<i>Juncus saximontanus</i> Mountain rush	<i>J. ensifolius</i> var. <i>brunnescens</i>	PerG	Wide	Pres	Unc	Coombs & Bundy 2718 ASD (1978). Includes reports of <i>J. xiphoides</i> .
<i>Juncus torreyi</i> Torrey's rush		PerG	Wide	Pres	Unc	Bundy 199 ASD (1978)
Krameriaceae (Fabaceae)						
<i>Krameria erecta</i> Range ratany	<i>K. parvifolia</i>	Shrub	Wide	Pres	Com	Yanskey 1485b PARA (2000)
<i>Krameria grayi</i> White ratany		Shrub	Wide	Pres	Unc	Yanskey 1458a PARA (1985)
Lamiaceae (Labiatae)						
<i>Dracocephalum parviflorum</i> Smallflower dragonhead	<i>Moldavica parviflora</i>	PerF	Wide	Pres	Unc	Higgins 23519 BRY, PARA (1946)
<i>Hedeoma drummondii</i> Mock pennyroyal		PerF	Wide	Pres	Unc	Atwood & Higgins 29497 BRY, PARA (1978)
<i>Hedeoma nana</i> Dwarf pennyroyal	<i>H. nanum</i>	PerF	Wide	Pres	Unc	Higgins, Atwood, & Welsh 20051 BRY (1981)
<i>Hedeoma oblongifolia</i> Oblong-leaf false pennyroyal	<i>H. oblongifolium</i>	PerF	RegEn	Pres	Rare	Higgins & Atwood 24820 ASC, BRY (2003)
<i>Leonurus cardiaca</i> Motherwort		PerF	Intro	Pres	Unc	Buckley 3008 ASC, PARA (1951). Native to Asia.
<i>Marrubium vulgare</i> Common horehound		PerF	Intro	Pres	Unc	Atwood 25583 BRY (1963). Native to Eurasia
<i>Mentha arvensis</i> Field mint	Includes vars. <i>canadensis</i> & <i>glabrata</i>	PerF	Wide	Pres	Rare	Coombs & Bundy 2719 ASD (1978)
<i>Mentha spicata</i> Spearmint		PerF	Intro	Pres	Rare	Higgins 26133 BRY (2004). Native to Europe
<i>Monardella glauca</i> Stinking horsemint	<i>M. odoratissima</i> var. <i>glauca</i>	PerF	Wide	Pres	Rare	Casey 1531 ASC (1996)
<i>Poliomintha incana</i> Purple sage		Shrub	Wide	Pres	Rare	Bundy 172 ASD (1980)
<i>Salazaria mexicana</i> Bladder-sage		Shrub	Wide	Pres	Unc	Atwood 27266 BRY (2000)
<i>Salvia columbariae</i> var. <i>columbariae</i> Chia	<i>S. columbariae</i>	AnnF	Wide	Pres	Com	Higgins & Green 26243 ASD, BRY (1978)
<i>Salvia dorrii</i> Dorr's sage	<i>S. carnosa</i>	Shrub	Wide	Pres	Com	Yanskey 1914 PARA (1974)

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Lamiaceae (Labiatae)						
<i>Salvia reflexa</i> Annual sage		AnnF	Wide	Pres	Unc	Atwood 29913 BRY, PARA (2003)
<i>Trichostema brachiatum</i> Bluecurls		AnnF	Sparse	Rep	Rare	Powell 2002, Bangle 2007 (NA). Confirmation needed.
Liliaceae (Calochortaceae)						
<i>Calochortus flexuosus</i> Sinuous mariposa		PerF	Wide	Pres	Unc	Welsh & Atwood 27946 BRY (1973). Type locality: near Kanab, UT (Thompson s.n. GH).
<i>Calochortus nuttallii</i> Sego-lily		PerF	Wide	Pres	Unc	Yanskey 1412 PARA (1999)
<i>Fritillaria atropurpurea</i> Leopard-lily		PerF	Wide	Pres	Unc	Gierisch 4353 ASD (1978)
Linaceae						
<i>Linum aristatum</i> Broom-flax	<i>Mesynium aristatum</i>	AnnF	Wide	Pres	Unc	Atwood 29903 PARA (1952)
<i>Linum australe</i> Southern flax	<i>Mesynium australe</i>	AnnF	Wide	Pres	Rare	Rink 8653 ASC (1954)
<i>Linum lewisii</i> Blue flax	<i>L. perenne</i> ssp. <i>lewisii</i> , <i>Adenolinum lewisii</i>	PerF	Wide	Pres	Com	Yanskey 1705 PARA (1941)
<i>Linum puberulum</i> Red-eye flax	<i>Mesynium puberulum</i>	AnnF	Wide	Pres	Rare	Atwood 29932 PARA (1978)
Loasaceae						
<i>Eucnide urens</i> Desert rock-nettle		Shrub	RegEn	Pres	Unc	Higgins, Atwood, & Welsh 19974 ASD, BRY (1992). Type locality: near St. George, UT (Parry 79 ISC)
<i>Mentzelia affinis</i> Hydra stickleaf		AnnF	Wide	Pres	Unc	Kuenzi s.n. PARA (1978). Reports may be <i>M. albicaulis</i> .
<i>Mentzelia albicaulis</i> White-stem blazingstar	<i>Acrolasia albicaulis</i> , <i>A. gracilis</i> , <i>M. obscura</i>	AnnF	Wide	Pres	Com	Higgins 24218 BRY, PARA (1941)
<i>Mentzelia dispersa</i> Nevada blazingstar		AnnF	Periph	Pres	Rare	Ojeda & Springer 700 ASC, PARA (1997)
<i>Mentzelia jonesii</i> Jones' blazingstar	<i>M. nitens</i> var. <i>jonesii</i>	AnnF	Wide	Pres	Unc	Atwood, Higgins, & Welsh 26365 BRY, NY, PARA (1978)

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Loasaceae						
<i>Mentzelia multiflora</i> var. <i>integra</i> Virgin stickleaf	<i>M. integra</i> , <i>M. pumila</i> var. <i>integra</i>	PerF	Wide	Pres	Unc	Atwood 27210 BRY, PARA (1969). Type locality: Rockville, UT (Jones 6082c)
<i>Mentzelia multiflora</i> var. <i>multiflora</i> Desert stickleaf	<i>M. pumila</i> var. <i>multiflora</i> , <i>Nuttallia multiflora</i>	PerF	Wide	Pres	Unc	Atwood 29934 BRY, PARA (1998)
<i>Mentzelia pterosperma</i> Wing-seed stickleaf	<i>Nuttallia pterosperma</i>	PerF	Wide	Pres	Unc	Higgins, Atwood, & Welsh 20041 BRY (1985)
<i>Mentzelia tricuspis</i> Glorious blazingstar		AnnF	RegEn	Pres	Unc	Brown & Parfitt 353 ASD (1941). Type locality: S of St. George, UT (Parry s.n. GH)
<i>Petalonyx nitidus</i> Shiny-leaf sandpaper-plant		Shrub	Periph	Pres	Rare	Atwood & Goodrich 13365 BRY (1988)
<i>Petalonyx parryi</i> Parry's sandpaper-plant		Shrub	RegEn	Pres	Unc	Yanskey 2040 PARA (1988). Type locality: St. George, UT (Parry 75 GH)
<i>Petalonyx thurberi</i> Thurber's sandpaper-plant		Shrub	Wide	Pres	Unc	Gierisch 4021 ASD (1969)
Lythraceae						
<i>Lythrum californicum</i> California loosestrife		PerF	Wide	Pres	Rare	Coombs & Bundy 2723 ASD (1978)
Malpighiaceae (Burseraceae)						
<i>Janusia gracilis</i> Slender janusia		PerF	Wide	Pres	Rare	Atwood & Higgins 29174 BRY (2003)
Malvaceae						
<i>Abutilon incanum</i> Bush mallow		Shrub	Wide	Pres	Rare	Thorne 331 ASD, BRY (1977)
<i>Abutilon parvulum</i> Small Indian mallow		PerF	Wide	Pres	Rare	Higgins & Atwood 25340 BRY (2000)
<i>Eremalche exilis</i> White mallow	<i>Malvastrum exile</i>	AnnF	Wide	Pres	Unc	Higgins 22734 BRY (1978)
<i>Eremalche rotundifolia</i> Desert fivespot		AnnF	Wide	Pres	Unc	Atwood, Higgins, & Welsh 26488 BRY, PARA (2001)
<i>Malva neglecta</i> Dwarf mallow		AnnF	Intro	Pres	Unc	Higgins & Atwood 25368 BRY (1953). Native to Eurasia.
<i>Malva parviflora</i> Small-whorl mallow		PerF	Intro	Pres	Unc	Higgins, Atwood, & Welsh 22211 BRY, PARA (2001). Native to Europe

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Malvaceae						
<i>Sphaeralcea ambigua</i> ssp. <i>ambigua</i> Mohave globemallow		PerF	Wide	Pres	Com	Atwood 27136 BRY (1941). Type locality is Grand Canyon, AZ (Newberry s.n. GH)
<i>Sphaeralcea coccinea</i> Scarlet globemallow	Includes ssp. <i>elata</i> , <i>coccinea</i> , & <i>dissecta</i>	PerF	Wide	Pres	Unc	Coombs & Bundy 2880 ASD (1979)
<i>Sphaeralcea gierischii</i> Gierisch's globemallow		PerF	LocEn	Pres	Rare	Welsh & Atwood 27902 BRY, NY (2000). USFWS: Candidate. Type locality is N of Black Rock Gulch, AZ (Atwood & Furniss 25293 BRY).
<i>Sphaeralcea grossulariifolia</i> Gooseberry-leaf globemallow	<i>S. grossulariifolia</i> var. <i>grossulariifolia</i>	PerF	Wide	Pres	Unc	Coombs & Bundy 2593 ASD (1977)
<i>Sphaeralcea laxa</i> Caliche globemallow		PerF	Wide	Pres	Unc	Atwood & Furniss 25075 BRY (2000)
<i>Sphaeralcea parvifolia</i> Small-leaf globemallow		PerF	Wide	Pres	Unc	Yanskey 1866 PARA (1941). PARA material intergrades with <i>S. ambigua</i>
<i>Sphaeralcea rusbyi</i> Rusby's globemallow		PerF	Wide	Pres	Unc	Atwood & Furniss 30860 BRY (1978). Type locality: near Prescott, AZ (Rusby 537)
Martyniaceae (Pedaliaceae)						
<i>Proboscidea parviflora</i> Devil's claw		AnnF	Wide	Pres	Rare	Higgins & Atwood 21788 BRY (2000)
Molluginaceae (Aizoaceae)						
<i>Glinus radiatus</i> Spreading sweetjuice		AnnF	Wide	Pres	Rare	Atwood & Higgins 29044 BRY (2002)
<i>Mollugo cerviana</i> Slender carpetweed		AnnF	Intro	Pres	Rare	Thorne 266 BRY, AZStrip BLM (1977). Native to the tropics.
Montiaceae (Portulacaceae)						
<i>Cistanthe monandra</i> Roseate calyptidium	<i>Calyptidium monandrum</i>	AnnF	Wide	Pres	Rare	Higgins 22758 BRY, PARA (2001)
<i>Claytonia perfoliata</i> Miner's lettuce	<i>Montia perfoliata</i>	AnnF	Periph	Pres	Unc	Atwood 25572 BRY (2000)
<i>Phemeranthus parviflorus</i> Small-flowered fame-flower	<i>P. confertiflorus</i> , <i>Talinum parviflorum</i>	PerF	Wide	Pres	Rare	Fertig 26875 PARA (2011)

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Nyctaginaceae						
<i>Abronia elliptica</i> Fragrant sand-verbena	<i>A. fragrans</i> var. <i>elliptica</i>	PerF	Wide	Pres	Rare	Phillips 77-255 ASD (1977)
<i>Allionia incarnata</i> Trailing four-o'clock	includes vars. <i>incarnata</i> & <i>villosa</i>	PerF	Wide	Pres	Com	Yanskey 1870 PARA (1978)
<i>Boerhavia coulteri</i> Coulter's spiderling	<i>B. coulteri</i> var. <i>coulteri</i>	AnnF	Wide	Pres	NA	Atwood & Higgins 29067 BRY (2002)
<i>Boerhavia spicata</i> Spiderling	<i>B. torreyana</i> , <i>B. spicata</i> var. <i>torreyana</i>	AnnF	Sparse	Pres	Unc	Atwood & Higgins 29067 BRY, PARA (2000)
<i>Mirabilis albida</i> White four o'clock	<i>M. comata</i> , <i>Oxybaphus comatus</i>	PerF	Wide	Pres	Unc	Higgins 21836 BRY, NY (2000)
<i>Mirabilis coccinea</i> Red four-o'clock	<i>Oxybaphus coccineus</i>	PerF	Wide	Rep	Unc	Powell 2002, Bangle 2007 (NA). PARA somewhat of expected range—confirmation needed.
<i>Mirabilis decipiens</i> New Mexico umbrellawort	<i>M. linearis</i> var. <i>decipiens</i>	PerF	Wide	Pres	Rare	Higgins 23494 BRY, PARA (1996)
<i>Mirabilis laevis</i> var. <i>retrorsa</i> Bigelow's four-o'clock	<i>M. bigelovii</i> var. <i>retrorsa</i>	PerF	Periph	Pres	Unc	Smith 950 ASD (1976)
<i>Mirabilis laevis</i> var. <i>villosa</i> Hairy four-o'clock		PerF	Wide	Pres	Unc	Madsen & Atwood 1311 NY (1999)
<i>Mirabilis linearis</i> Narrow-leaf four-o'clock	<i>M. linearis</i> var. <i>linearis</i> , <i>Oxybaphus linearis</i> , <i>O. decumbens</i>	PerF	Wide	Pres	Unc	Yanskey 1475 PARA (1946)
<i>Mirabilis multiflora</i> Showy four-o'clock	Includes vars <i>multiflora</i> , <i>pubescens</i> , & <i>glandulosa</i>	PerF	Wide	Pres	Unc	Phillips & Phillips 77-222 ASD (1963)
<i>Mirabilis oxybaphoides</i> Spreading four-o'clock		PerF	Wide	Pres	Unc	Atwood 29908 BRY, PARA (1996)
<i>Mirabilis pumila</i> White four-o' clock	<i>M. albida</i> , <i>Oxybaphus pumilus</i>	PerF	Wide	Pres	Rare	Springer 2749 ASC, PARA (2001)
<i>Selinocarpus nevadensis</i> Moonpod	<i>S. diffusus</i> ssp. <i>nevadensis</i> , <i>Acleisanthes nevadensis</i>	PerF	RegEn	Pres	Rare	Atwood 27203 BRY, NY, PARA (2001)
Oleaceae						
<i>Fraxinus anomala</i> var. <i>anomala</i> Singleleaf ash		Shrub	Wide	Pres	Unc	Yanskey 1420 PARA (1968)
<i>Fraxinus anomala</i> var. <i>lowellii</i> Lowell's ash		Shrub	RegEn	Pres	Rare	Rink 10182 PARA (2011). Type locality: Oak Creek Canyon, AZ (Rehder 53 GH)

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Oleaceae						
<i>Fraxinus cuspidata</i> Fragrant ash	<i>F. cuspidata</i> var. <i>macropetala</i>	Tree	Wide	Pres	Unc	Higgins & Atwood 21873 ASD, BRY (1974)
<i>Fraxinus dipetala</i> California ash		Tree	Intro	Pres	Unc	Atwood & Higgins 27988 BRY, PARA (1993). Native to California.
<i>Fraxinus velutina</i> Velvet ash		Tree	Wide	Rep	Unc	Powell 2002, Bangle 2007 (NA). Known from vicinity of PARA.
<i>Menodora scabra</i> Rough menodora		PerF	Wide	Pres	Unc	Coombs & Bundy 2603 ASD (1977)
Onagraceae						
<i>Calylophus lavandulifolius</i> Lavender-leaf sundrops	<i>C. hartwegii</i> ssp. <i>lavandulifolius</i> , <i>Oenothera</i> <i>lavandulifolia</i>	PerF	Wide	Pres	Unc	Coombs & Bundy 2598 ASD (1978)
<i>Camissonia boothii</i> ssp. <i>alyssoides</i> Hairy camissonia	<i>C. boothii</i> var. <i>villosa</i> , <i>Oenothera</i> <i>boothii</i> , <i>Eremothera</i> <i>boothii</i> ssp. <i>alyssoides</i>	AnnF	Periph	Pres	Unc	Thorne 252 ASD, BRY (1977)
<i>Camissonia boothii</i> ssp. <i>condensata</i> Compact camissonia	<i>Oenothera boothii</i> , <i>Eremothera boothii</i> ssp. <i>condensata</i>	AnnF	Wide	Pres	Unc	Atwood 27120 BRY, PARA (1978)
<i>Camissonia brevipes</i> Yellow cups	<i>Oenothera brevipes</i> , <i>Chylismia brevipes</i> ; Includes ssp. <i>brevipes</i> & <i>pallidula</i>	AnnF	Wide	Pres	Unc	Atwood, Welsh, & Higgins 26366 BRY, PARA (1941). USFWS: former C2.
<i>Camissonia chamaenerioides</i> Slender-pod camissonia	<i>Oenothera</i> <i>chamaenerioides</i> <i>Eremothera</i> <i>chamaenerioides</i>	AnnF	Wide	Pres	Unc	Atwood, Welsh, & Higgins 26381 BRY, PARA (1978)
<i>Camissonia claviformis</i> ssp. <i>claviformis</i> Clubpod camissonia	<i>Oenothera</i> <i>clavaeformis</i> , <i>Chylismia</i> <i>claviformis</i>	AnnF	Wide	Pres	Unc	Atwood 27072 BRY, PARA (1978)
<i>Camissonia exilis</i> Meager camissonia	<i>Chylisma exilis</i>	AnnF	RegEn	Pres	Rare	Hughes 0001 ASD (1990). Type locality: near Cottonwood Spring, Virgin Mts, AZ (Munz 16779). USFWS: former C2. AZ: Salvage Restricted.
<i>Camissonia gouldii</i> Gould's camissonia	<i>Eremothera gouldii</i>	AnnF	RegEn	Pres	Rare	Higgins & Atwood 24994 BRY, PARA (1979)

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Onagraceae						
<i>Camissonia multijuga</i> Manylobe camissonia	<i>Oenothera multijuga</i> , <i>Chylismia multijuga</i>	AnnF	RegEn	Pres	Com	Smith 1055 ASD (1978). Type locality: "northern Arizona near Kanab" (Thompson s.n. GH)
<i>Camissonia parryi</i> Parry's camissonia	<i>Oenothera parryi</i> , <i>Chylismia parryi</i>	AnnF	RegEn	Pres	Unc	Hildebrand 3490 PARA (2011). Type locality: near St. George, UT (Parry 72 GH).
<i>Camissonia pusilla</i> Obscure camissonia		AnnF	Periph	Pres	Rare	Brown 929 ASU (1979), Specimen has not been confirmed.
<i>Camissonia refracta</i> Decurved camissonia	<i>Oenothera refracta</i> , <i>Eremothera refracta</i>	AnnF	Wide	Pres	Unc	Atwood, Welsh, & Higgins 26429 BRY, PARA (1941)
<i>Camissonia scapoidea</i> ssp. <i>scapoidea</i> Paiute suncup	<i>Oenothera scapoidea</i> , <i>Chylisma scapoidea</i>	AnnF	Wide	Rep	Unc	Atwood et al. 2005 (2003). Specimens could not be relocated at BRY in 2010 or 2012
<i>Camissonia walkeri</i> Walker's camissonia	includes ssp. <i>walkeri</i> & <i>tortilis</i> ; <i>Chylisma walkeri</i>	AnnF	Wide	Pres	Unc	Yanskey 1638 PARA (1941)
<i>Epilobium brachycarpum</i> Autumn willow-herb	<i>E. paniculatum</i> var. <i>paniculatum</i>	AnnF	Wide	Pres	Unc	Rink 8694a ASC (2009)
<i>Epilobium ciliatum</i> ssp. <i>ciliatum</i> Northern willowherb	<i>E. adenocaulon</i>	PerF	Wide	Pres	Unc	Coombs & Bundy 2715 ASD (1978)
<i>Gaura coccinea</i> Scarlet gaura	<i>Oenothera suffrutescens</i>	PerF	Wide	Pres	Unc	Brown & Parfitt 458 ASD (1975)
<i>Gaura hexandra</i> ssp. <i>gracilis</i> Harlequin gaura	<i>G. gracilis</i> , <i>Oenothera hexandra</i> ssp. <i>gracilis</i>	AnnF	Wide	Pres	Unc	Reichenbacher 649 ARIZ (1981)
<i>Gaura mollis</i> Small-flowered gaura	<i>G. parviflora</i> , <i>Oenothera curtiflora</i>	AnnF	Wide	Pres	Unc	Phillips & Phillips 77-243 ASD (1977). Includes records of var. <i>lachnocarpa</i>
<i>Gayophytum decipiens</i> Deceptive groundsmoke		AnnF	Wide	Pres	Rare	Smith 1062 ASU (1978)
<i>Gayophytum diffusum</i> ssp. <i>parviflorum</i> Diffuse groundsmoke	<i>G. difusum</i> var. <i>strictipes</i> , <i>G. lasiospermum</i> , <i>G. nuttallii</i>	AnnF	Wide	Pres	Rare	Brooks 1674 ASC, PARA (1998)
<i>Gayophytum racemosum</i> Raceme groundsmoke		AnnF	Wide	Pres	Rare	Hazlett 7073 ASD (1984)
<i>Gayophytum ramosissimum</i> Branching groundsmoke		AnnF	Wide	Pres	Com	Higgins 23510 BRY (1979)

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Onagraceae						
<i>Oenothera albicaulis</i> White-stem evening-primrose		AnnF	Wide	Pres	Unc	Smith 891 ASD (1978)
<i>Oenothera caespitosa</i> ssp. <i>marginata</i> Long-tube evening-primrose		PerF	Wide	Pres	Unc	Atwood 27307 BRY, PARA (1996)
<i>Oenothera caespitosa</i> ssp. <i>navajoensis</i> Paria evening-primrose		PerF	RegEn	Pres	Unc	Atwood 9418 BRY (1983). Type locality: Paria River, UT (Cronquist 10202 MO).
<i>Oenothera californica</i> California evening-primrose		PerF	Wide	Pres	Unc	Atwood 27306 BRY, NY, PARA (2001)
<i>Oenothera cavernae</i> Munz's evening-primrose		AnnF	RegEn	Pres	Rare	Atwood & Madsen 26637 BRY (2001). Type locality: Gypsum Cave 18 mi E of Las Vegas, NV (Munz 16376 POM)
<i>Oenothera coronopifolia</i> Hairy-throat evening-primrose		PerF	Wide	Pres	Unc	Springer 2804 ASC, PARA (1996)
<i>Oenothera deltoides</i> ssp. <i>ambigua</i> St. George evening-primrose	<i>O. deltoides</i> var. <i>decumbens</i>	AnnF	RegEn	Pres	Unc	Higgins, Atwood, & Welsh 20018 ASD, BRY (1941). Type locality: St. George, UT (Parry 63 GH)
<i>Oenothera flava</i> ssp. <i>flava</i> Yellow evening-primrose	<i>O. flava</i>	PerF	Wide	Pres	Unc	Rink 8676 ASC (1975)
<i>Oenothera pallida</i> var. <i>pallida</i> Pale evening-primrose	<i>O. pallida</i>	PerF	Wide	Pres	Unc	Atwood & Higgins 27542 BRY (1999). Includes reports of var. <i>trichocalyx</i> from Bangle (2007)
<i>Oenothera pallida</i> var. <i>runcinata</i> Pale evening-primrose	<i>O. runcinata</i> , included in var. <i>pallida</i> by some authors	PerF	Wide	Pres	Unc	Mason & Reeder 3289 ARIZ (1977). Specimen has not been verified.
<i>Oenothera primiveris</i> var. <i>bufonis</i> Early evening-primrose		AnnF	Periph	Pres	Unc	Atwood, Welsh, & Higgins 26439 BRY, PARA (2001)
Orchidaceae						
<i>Epipactis gigantea</i> Giant helleborine		PerF	Wide	Pres	Rare	Hughes s.n. ASD (1978)
Orobanchaceae (Scrophulariaceae)						
<i>Castilleja angustifolia</i> var. <i>dubia</i> Desert paintbrush	<i>C. chromosa</i> , <i>C. applegatei</i> ssp. <i>martinii</i>	PerF	Wide	Pres	Unc	Yanskey 1321 PARA (1942)
<i>Castilleja integra</i> Showy paintbrush		PerF	Wide	Pres	Rare	Yanskey 1727 PARA (1996)

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Orobanchaceae (Scrophulariaceae)						
<i>Castilleja linariifolia</i> Wyoming paintbrush	<i>C. linariaefolia</i>	PerF	Wide	Pres	Unc	Coombs & Bundy 2582 ASD (1953)
<i>Cordylanthus parviflorus</i> Smallflower bird's-beak		AnnF	Wide	Pres	Unc	McGlone & Springer 2811 ASC, PARA (1978)
<i>Cordylanthus wrightii</i> ssp. <i>tenuifolius</i> Slenderleaf bird's-beak	<i>C. tenuifolius</i>	AnnF	Wide	Pres	Unc	Phillips & Phillips 79-741 MNA (1979) . Type locality: Grand Canyon, AZ (Eggleston 15677a).
<i>Cordylanthus wrightii</i> ssp. <i>tenuifolius</i> Slenderleaf bird's-beak	<i>C. tenuifolius</i>	AnnF	Wide	Pres	Unc	Phillips & Phillips 79-741 MNA (1979) . Type locality: Grand Canyon, AZ (Eggleston 15677a).
<i>Cordylanthus wrightii</i> ssp. <i>wrightii</i> Wright's bird's-beak		AnnF	Wide	Pres	Unc	Atwood & Higgins 27960 BRY, PARA (1997)
<i>Orobanche fasciculata</i> Clustered broomrape	<i>Aphyllon fasciculatum</i>	PerF	Wide	Pres	Unc	Phillips 77-211 ASD (1941)
<i>Orobanche ludoviciana</i> Cooper's broomrape	Includes vars. <i>cooperi</i> & <i>arenosa</i> , <i>O. cooperi</i> , <i>O. multiflora</i>	PerF	Wide	Pres	Unc	Smith 957 ASD (1978)
<i>Orthocarpus purpureoalbus</i> Violet owl-clover	<i>O. purpureo-albus</i>	AnnF	Wide	Pres	Unc	Rink & Christie 8098 ASC (1979)
<i>Pedicularis centranthera</i> Dwarf lousewort		PerF	Wide	Pres	Rare	Higgins 25622 BRY (1997)
Papaveraceae (Fumariaceae)						
<i>Argemone munita</i> ssp. <i>rotundata</i> Armed prickly-poppy		PerF	Wide	Pres	Unc	Smith 886 ASD (1952)
<i>Corydalis aurea</i> Golden corydalis	<i>C. aurea</i> var. <i>occidentalis</i> , <i>C. curvisiliqua</i> ssp. <i>occidentalis</i>	PerF	Wide	Pres	Unc	Springer s.n. ASC, ASD (1952)
<i>Eschscholzia californica</i> ssp. <i>californica</i> California poppy	<i>E. californica</i>	AnnF	Wide	Pres	Rare	Welsh & Atwood 26758 BRY (1997)
<i>Eschscholzia californica</i> ssp. <i>mexicana</i> Mexican golden-poppy	<i>E. mexicana</i>	AnnF	Wide	Pres	Unc	Atwood, Higgins, & Furniss 25098a BRY, UVU (1978)
<i>Eschscholzia glyptosperma</i> Desert golden-poppy		AnnF	RegEn	Pres	Com	Atwood, Welsh, & Higgins 26447 BRY, PARA (2000)
<i>Eschscholzia minutiflora</i> Pygmy golden-poppy		AnnF	Wide	Pres	Unc	Atwood & Furniss 30903 BRY (1978)

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Phrymaceae (Scrophulariaceae)						
<i>Mimulus bigelovii</i> var. <i>bigelovii</i> Bigelow's monkeyflower	Includes <i>M. spissus</i>	AnnF	RegEn	Pres	Unc	Springer 2937 ASC, PARA (1941). Broad-leaved forms have been called var. <i>cuspidatus</i> in PARA, but co-occur with typical form
<i>Mimulus guttatus</i> Yellow monkeyflower		PerF	Wide	Pres	Unc	Coombs & Bundy 2714 ASD (1978)
<i>Mimulus parryi</i> Parry's monkey-flower		AnnF	RegEn	Pres	Unc	Brown & Parfitt 477 ASD (1978). Type locality: valley of the Virgin near St. George, UT (Parry 147 GH).
<i>Mimulus rubellus</i> Reddish monkeyflower		AnnF	Wide	Pres	Unc	Yanskey 1433 PARA (1941)
Pinaceae						
<i>Pinus edulis</i> Two-needle pinyon		Tree	Wide	Pres	Com	Madsen & Atwood 1371 BRY (1929)
<i>Pinus monophylla</i> Singleleaf pinyon		Tree	Wide	Pres	Unc	Phillips & Phillips 77-256 ASD (1941)
<i>Pinus ponderosa</i> var. <i>scopulorum</i> Ponderosa pine		Tree	Wide	Pres	Com	Atwood & Higgins 27961 BRY, PARA (1941)
Plantaginaceae (Scrophulariaceae)						
<i>Collinsia parviflora</i> Blue-eyed Mary		AnnF	Wide	Pres	Rare	Yanskey 2181 PARA (1978)
<i>Maurandella antirrhiniflora</i> Maurandya	<i>Maurandya antirrhiniflora</i>	PerF	Wide	Pres	Unc	Higgins & Atwood 24616 BRY, PARA (1977)
<i>Mohavea breviflora</i> Desert snapdragon		AnnF	Wide	Pres	Unc	Smith 1021 ASD (1978)
<i>Neogaerrhinum filipes</i> Yellow twining snapdragon	<i>Antirrhinum filipes</i>	PerF	Wide	Pres	Unc	Higgins & Green 26207 BRY, ASD (2001)
<i>Penstemon barbatus</i> Beardlip penstemon	Includes vars. <i>barbatus</i> & <i>torreyi</i>	PerF	Wide	Pres	Unc	Casey 1462 ASC, PARA (1926)
<i>Penstemon caespitosus</i> var. <i>desertipicti</i> Painted penstemon		PerF	RegEn	Pres	Unc	Rink 8296 ASC (1952). Type locality: near Cameron, AZ (Hanson A177 RM). Confirmation needed.
<i>Penstemon confusus</i> Mistaken penstemon		PerF	RegEn	Pres	Unc	Atwood 27287 BRY, PARA (1978)

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Species/Common Name	Synonym	Life form	Range	Status	Pop Size	Source (year)/Comments
Plantaginaceae (Scrophulariaceae)						
<i>Penstemon distans</i> Mount Trumbull penstemon		PerF	LocEn	Pres	Rare	Atwood 30115 BRY, NY (1974). Type locality: Whitmore Canyon (Holmgren, Holmgren, & Barneby 9173 NY). Salvage Restricted in Arizona. USFWS: former C2. BLM Sensitive.
<i>Penstemon eatonii</i> ssp. <i>undosus</i> Firecracker penstemon		PerF	Wide	Pres	Unc	Gierisch 4838 ASD (1941). Type locality: St. George, UT (Jones 5110h US).
<i>Penstemon linarioides</i> var. <i>sileri</i> Siler's penstemon	Includes var. <i>viridis</i>	PerF	RegEn	Pres	Unc	Yanskey 1697 PARA (1926). Some PARA material has glabrous leaves and fits var. <i>viridis</i> .
<i>Penstemon ophianthus</i> Loa penstemon	<i>P. jamesii</i> ssp. <i>ophianthus</i>	PerF	RegEn	Pres	Rare	Atwood & Furniss 24896 BRY (1941)
<i>Penstemon pachyphyllus</i> var. <i>congestus</i> Rockville penstemon		PerF	Wide	Pres	Unc	Atwood 27311 BRY, NY, PARA (1941). Type locality: near Rockville, UT (Jones 5262 POM).
<i>Penstemon palmeri</i> var. <i>palmeri</i> Palmer's penstemon		PerF	Wide	Pres	Unc	Casey 1553 ASC, PARA (1954)
<i>Penstemon rostriflorus</i> Beaked penstemon	<i>P. bridgesii</i>	PerF	Wide	Pres	Unc	Coombs & Bundy 2881 ASD (1941)
<i>Penstemon strictus</i> Rocky Mountain penstemon		PerF	Wide	Pres	Rare	Springer 1467 ASC, PARA (1998)
<i>Penstemon thompsoniae</i> Thompson's penstemon		PerF	RegEn	Pres	Unc	Yanskey 1734 PARA (1940). Type locality: near Kanab, UT (Thompson s.n. GH).
<i>Penstemon utahensis</i> Utah penstemon		PerF	Wide	Pres	Unc	Gierisch 4993 ASD (1978)
<i>Plantago major</i> Common plantain		PerF	Intro	Pres	Unc	Coombs & Bundy 2724 ASD (1977). Native to Europe.
<i>Plantago ovata</i> Insular plantain	<i>P. insularis</i>	AnnF	Wide	Pres	Com	Atwood & Madsen 26698 BRY (1978)
<i>Plantago patagonica</i> Woolly plantain	<i>P. purshii</i> . Vars not recognized	AnnF	Wide	Pres	Unc	Brown & Parfitt 323 ASD (1978)
<i>Sairocarpus kingii</i> King's snapdragon	<i>Antirrhinum kingii</i>	AnnF	Periph	Pres	Rare	Atwood, Welsh, & Higgins 26473 BRY, PARA (2001)
<i>Veronica americana</i> American brooklime		PerF	Wide	Pres	Unc	Atwood & Higgins 26332 BRY (2001)
<i>Veronica anagallis-aquatica</i> Water speedwell		PerF	Intro	Pres	Unc	Brown & Parfitt 381 ASD (1978). Native to Europe.

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Plantaginaceae (Scrophulariaceae)						
<i>Veronica peregrina</i> ssp. <i>xalapensis</i> Purslane speedwell		AnnF	Wide	Pres	Rare	Yanskey 2212 PARA (2000)
Poaceae (Gramineae)						
<i>Achnatherum aridum</i> Mormon needlegrass	<i>Stipa arida</i>	PerG	Wide	Pres	Unc	Hodgson & Palmer 4600 ASU (1987)
<i>Achnatherum hymenoides</i> Indian ricegrass	<i>Oryzopsis hymenoides</i> , <i>Stipa hymenoides</i>	PerG	Wide	Pres	Unc	Yanskey 1751 PARA (1941)
<i>Achnatherum parishii</i> var. <i>parishii</i> Crested needlegrass	<i>Stipa coronata</i> var. <i>depauperata</i> , <i>S. parishii</i> , <i>A. coronatum</i>	PerG	Wide	Pres	Rare	Atwood & Franklin 18005 BRY (1993)
<i>Achnatherum speciosum</i> Desert needlegrass	<i>Stipa speciosa</i> , <i>Jarava speciosa</i> , <i>Pappostipa speciosa</i>	PerG	Wide	Pres	Unc	Yanskey 1763 PARA (1978)
<i>Aegilops cylindrica</i> Jointed goatgrass		AnnG	Intro	Pres	Rare	Tweiten s.n. ASC (1984). Native to Eurasia. AZ state noxious weed.
<i>Agropyron cristatum</i> Crested wheatgrass	<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>	PerG	Intro	Pres	Unc	Yanskey 2090 PARA (1992). Native to Eurasia.
<i>Andropogon glomeratus</i> Bushy bluestem		PerG	Wide	Pres	Rare	Higgins & Atwood 22465 BRY (2002)
<i>Aristida adscensionis</i> Sixweeks three-awn		AnnG	Wide	Pres	Com	Gierisch 4831 ASC (1941)
<i>Aristida arizonica</i> Arizona three-awn		PerG	Wide	Pres	Unc	Atwood 27275 BRY, PARA (2001)
<i>Aristida californica</i> California three-awn		PerG	Wide	Pres	Rare	Brown & Parfitt 465 ASU (1978). Specimen has not been verified.
<i>Aristida purpurea</i> var. <i>fendleriana</i> Fendler's purple three-awn	<i>A. glauca</i> , <i>A. purpurea</i> var. <i>fendleriana</i> , <i>A. purpurea</i> var. <i>longiseta</i> , <i>A. purpurea</i> var. <i>glauca</i>	PerG	Wide	Pres	Unc	Springer s.n. ASC (1941)

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Poaceae (Gramineae)						
<i>Aristida purpurea</i> var. <i>nealleyi</i> Nealley's purple three-awn		PerG	Wide	Pres	Unc	Christie 1577 ASC, PARA (2003)
<i>Aristida purpurea</i> var. <i>parishii</i> Parish's threeawn	<i>A. parishii</i>	PerG	Wide	Pres	Unc	Christie 1594 PARA (2000)
<i>Aristida ternipes</i> var. <i>gentilis</i> Spider-grass	<i>A. ternipes</i> var. <i>hamulosa</i>	PerG	Wide	Pres	Rare	Atwood 26263 BRY (2000)
<i>Avena fatua</i> Wild oats	<i>A. fatua</i> var. <i>fatua</i>	AnnG	Intro	Pres	Unc	Stevens 1314 ASC (2001). Native to Eurasia
<i>Avena sativa</i> Oats	<i>A. fatua</i> var. <i>sativa</i>	AnnG	Intro	Pres	Unc	Atwood & Welsh 26975 BRY (2001). Native to Eurasia
<i>Blepharoneuron tricholepis</i> Pine dropseed		PerG	Wide	Pres	Unc	Anderson 2005-38 ASU (1999)
<i>Bothriochloa barbinodis</i> Cane bluestem		PerG	Wide	Pres	Unc	Atwood & Higgins 29062 BRY, PARA (2000)
<i>Bouteloua aristidoides</i> Needle grama		AnnG	Wide	Pres	Com	Yanskey 1874 PARA (1997)
<i>Bouteloua barbata</i> Sixweeks grama	<i>Chondrosum barbatum</i>	AnnG	Wide	Pres	Unc	Higgins & Atwood 21832 ASD, BRY (2000)
<i>Bouteloua curtipendula</i> Sideoats grama		PerG	Wide	Pres	Unc	Higgins & Atwood 21823 BRY (2000)
<i>Bouteloua eriopoda</i> Black grama	<i>Chondrosum eriopodum</i>	PerG	Wide	Pres	Unc	Atwood 29925 BRY, PARA (1955)
<i>Bouteloua gracilis</i> Blue grama	<i>Chondrosum gracilie</i>	PerG	Wide	Pres	Unc	Casey 1484 ASC, PARA (1973)
<i>Bouteloua simplex</i> Mat grama		AnnG	Wide	Pres	Unc	Atwood 29942 BRY, PARA (1953)
<i>Bouteloua trifida</i> Red grama		PerG	Wide	Pres	Rare	Higgins, Atwood, & Welsh 20053 BRY (1999)
<i>Bromus anomalus</i> Nodding brome	<i>Bromus porteri</i> , <i>Bromopsis porteri</i>	PerG	Wide	Pres	Rare	Springer 3230 ASC, PARA (2001)
<i>Bromus arizonicus</i> Arizona brome		AnnG	Wide	Pres	Unc	Atwood & Madsen 26593 BRY, PARA (2001)
<i>Bromus arvensis</i> Japanese chess	<i>B. japonicus</i> , Includes <i>B. commutatus</i>	AnnG	Intro	Pres	Rare	Springer 1882 ASC (1999). Native to Eurasia
<i>Bromus berterioanus</i> Chilean chess	<i>B. trinii</i>	AnnG	Intro	Pres	Unc	Brown & Parfitt 461 ASD (1978). Native to South America.

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Poaceae (Gramineae)						
<i>Bromus carinatus</i> Mountain brome	<i>B. marginatus</i> , <i>B. polyanthus</i> , <i>Ceratochloa carinata</i>	PerG	Wide	Pres	Com	Brown & Parfitt 834 ASD (1941)
<i>Bromus catharticus</i> Rescuegrass	<i>B. willdenowii</i>	PerG	Intro	Pres	Unc	Hildebrand 3508 PARA (2011). Native to South America.
<i>Bromus inermis</i> ssp. <i>inermis</i> Smooth brome	<i>Bromopsis inermis</i>	PerG	Intro	Pres	Unc	Laughlin 3228 ASC, PARA (1978). Native to Eurasia.
<i>Bromus rubens</i> Red brome	<i>B. madritensis</i> ssp. <i>rubens</i>	AnnG	Intro	Pres	Com	Springer & Daniels 2821 ASC, PARA (1978). Native to Eurasia.
<i>Bromus secalinus</i> Rye chess		AnnG	Intro	Pres	Rare	Smith 887 ASD (1978). Native to Eurasia.
<i>Bromus sterilis</i> Poverty brome	<i>Anisantha sterilis</i>	AnnG	Intro	Pres	Rare	Brown & Parfitt 787 ASD (1978). Native to Eurasia.
<i>Bromus tectorum</i> Cheatgrass	<i>Anisantha tectorum</i>	AnnG	Intro	Pres	Unc	Springer & Anderson 3176 ASC, PARA (1968). Native to Eurasia
<i>Cynodon dactylon</i> Bermuda grass		PerG	Intro	Pres	Rare	Smith 844 ASD (1941). Native to Africa.
<i>Dasyochloa pulchella</i> Fluffgrass	<i>Erioneuron pulchellum</i> , <i>Tridens pulchellum</i>	PerG	Wide	Pres	Com	Yanskey 18 PARA (1977)
<i>Dichanthelium oligosanthes</i> var. <i>scribnerianum</i> Scribner's panic-grass	<i>Panicum oligosanthes</i> var. <i>scribnerianum</i>	PerG	Wide	Hist	NA	Dickerman 451 ARIZ (1952). Confirmation needed
<i>Digitaria californica</i> California crabgrass	<i>Trichachne californica</i>	PerG	Wide	Rep	Rare	Atwood et al. 2000, Bangle 2007 (2000). Specimen at BRY could not be relocated in 2010
<i>Distichlis spicata</i> Desert saltgrass	<i>D. spicata</i> var. <i>stricta</i> , <i>D. stricta</i>	PerG	Wide	Pres	Unc	Yanskey 1901 PARA (2002)
<i>Echinochloa crus-galli</i> Barnyard-grass		AnnG	Intro	Pres	Unc	Hildebrand 3847 PARA (2011). Native to Eurasia.
<i>Elymus elymoides</i> Squirreltail	<i>E. elymoides</i> var. <i>elymoides</i> , <i>Sitanion hystrix</i>	PerG	Wide	Pres	Com	Phillips, Phillips, & Downs 77-213 ASD (1941)
<i>Elymus x hansenii</i> Hansen's wildrye	<i>Elysitanion hansenii</i> . Hybrid of <i>Elymus glaucus</i> x <i>E. elymoides</i>	PerG	Periph	Pres	Rare	Atwood & Higgins 27998 BRY, PARA (2001)

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Poaceae (Gramineae)						
<i>Elymus lanceolatus</i> Thickspike wheatgrass	<i>E. lanceolatus</i> var. <i>lanceolatus</i> , <i>Agropyron dasystachyum</i> vars. <i>dasystachyum</i> & <i>riparium</i> , <i>A. albicans</i> vars. <i>albicans</i> , & <i>griffithsii</i>	PerG	Wide	Pres	Unc	Gierisch 4576 ASD (1978)
<i>Elymus repens</i> Creeping wildrye	<i>Agropyron repens</i> , <i>Elytrigia repens</i>	PerG	Intro	Pres	Unc	Yanskey 2080 PARA (2008). Native to Eurasia. AZ state noxious weed.
<i>Elymus trachycaulus</i> Slender wheatgrass	<i>E. trachycaulus</i> var. <i>trachycaulus</i> , <i>E. alaskanus</i> ssp. <i>latiglumis</i> , <i>E. trachycaulus</i> var. <i>violaceus</i> , <i>Agropyron caninum</i> , <i>A. subsecundum</i> , <i>A. trachycaulum</i> , <i>A. latiglume</i>	PerG	Wide	Pres	Unc	Huisinga 3204 ASC, PARA (1978)
<i>Enneapogon desvauxii</i> Spike pappusgrass		PerG	Wide	Pres	Unc	Atwood & Higgins 29053 BRY, PARA (2000)
<i>Eragrostis cilianensis</i> Stinkgrass		AnnG	Intro	Pres	Unc	Atwood 29914 BRY, PARA (2001). Native to Eurasia
<i>Eragrostis mexicana</i> Mexican lovegrass	<i>E. orcuttiana</i>	AnnG	Wide	Hist	NA	Cottam 14261 UTC (1955). Confirmation needed.
<i>Eragrostis minor</i> Minor lovegrass		AnnG	Intro	Pres	Rare	Higgins & Atwood 25010 ASD, BRY (2003). Native to Eurasia
<i>Eragrostis pectinacea</i> Tufted lovegrass		PerG	Wide	Pres	Unc	Atwood 29897 BRY, PARA (2003)
<i>Erioneuron pilosum</i> Hairy tridens		PerG	Wide	Pres	Unc	Atwood & Furniss 24273 NY (1999)
<i>Festuca arizonica</i> Arizona fescue	<i>F. ovina</i> var. <i>arizonica</i>	PerG	Wide	Pres	Unc	Atwood & Higgins 29198 BRY (1996)
<i>Hesperostipa comata</i> Needle-and-thread	<i>Stipa comata</i> var. <i>comata</i>	PerG	Wide	Pres	Unc	Huisinga 2941 ASC, PARA (1946)
<i>Hesperostipa neomexicana</i> New Mexico feathergrass	<i>Stipa neomexicana</i>	PerF	Wide	Pres	Unc	Hodgson & Palmer 4599 ASU (1987). Confirmation needed
<i>Hordeum jubatum</i> Foxtail barley	<i>Critesion jubatum</i>	PerG	Wide	Pres	Unc	Springer 3171 ASC, PARA (2001)
<i>Hordeum murinum</i> Rabbit barley	<i>H. murinum</i> ssp. <i>leporinum</i> , <i>H. leporinum</i> , <i>Critesion glaucum</i>	AnnG	Intro	Pres	Unc	Atwood & Higgins 26940 BRY, PARA (1978). Native to Europe.
<i>Koeleria macrantha</i> Junegrass	<i>K. cristata</i> , <i>K. nitida</i> , <i>K. pyramidata</i>	PerG	Wide	Pres	Unc	Ojeda s.n. ASD (1941)

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Poaceae (Gramineae)						
<i>Leptochloa fusca</i> ssp. <i>fascicularis</i> Bearded sprangletop	<i>L. fascicularis</i>	AnnG	Wide	Pres	Rare	Atwood 27839 BRY, PARA (2001)
<i>Leymus cinereus</i> Great Basin wildrye	<i>Elymus cinereus</i>	PerG	Wide	Pres	Unc	Shultz & Kelly 19914a UTC (2000)
<i>Leymus triticoides</i> Beardless wildrye	<i>Elymus triticoides</i>	PerG	Wide	Rep	Unc	Bangle 2007 (NA)
<i>Lolium perenne</i> ssp. <i>multiflorum</i> Italian ryegrass	<i>L. multiflorum</i>	PerG	Intro	Pres	Unc	Springer 2892 ASC, PARA (2001). Native to Eurasia & Africa
<i>Lolium temulentum</i> Darnel ryegrass		AnnG	Intro	Pres	Rare	Brown 327 ASU (1978). Native to Mediterranean. Confirmation needed
<i>Muhlenbergia depauperata</i> Sixweeks muhly		AnnG	Wide	Pres	Rare	Atwood 29911 BRY, PARA (2003)
<i>Muhlenbergia microsperma</i> Littleseed muhly		AnnG	Wide	Pres	Unc	Atwood & Madsen 26563 BRY, PARA (1999)
<i>Muhlenbergia minutissima</i> Annual muhly		AnnG	Wide	Pres	Unc	Atwood 29915 BRY, PARA (1997)
<i>Muhlenbergia pauciflora</i> New Mexican muhly	Includes reports of <i>M. arsenei</i>	PerG	Wide	Pres	Rare	Gierisch 4741 ASD (1980)
<i>Muhlenbergia porteri</i> Bush muhly		PerG	Wide	Pres	Unc	Atwood & Higgins 29070 BRY, PARA (2000)
<i>Muhlenbergia repens</i> Creeping muhly		PerG	Wide	Pres	Unc	Atwood & Higgins 27549 BRY (1997)
<i>Muhlenbergia richardsonis</i> Mat muhly		PerG	Wide	Pres	Unc	Thorne 239 ASD (1977)
<i>Muhlenbergia rigens</i> Deergrass		PerG	Wide	Pres	Rare	Shultz & Kelly 19916 UTC (2005). Confirmation needed
<i>Muhlenbergia torreyi</i> Ringed muhly		PerG	Wide	Hist	NA	Parker et al. 6260 ARIZ, RM (1946). Confirmation needed
<i>Muhlenbergia wrightii</i> Spike muhly		PerG	Wide	Pres	Unc	Atwood & Higgins 27957 BRY, PARA (1979)
<i>Munroa squarrosa</i> False buffalograss	<i>Monroa squarrosa</i>	AnnG	Wide	Pres	Unc	Yanskey 1483 PARA (1926)
<i>Panicum hallii</i> Hall's panic-grass		PerG	Wide	Pres	Rare	Gierisch 4835 ASC, BRY (1981)
<i>Panicum hirticaule</i> Roughstalk witchgrass		AnnG	Wide	Pres	Rare	Atwood & Higgins 26214 BRY (2000)
<i>Panicum mohavense</i> Mohave panic-grass		AnnG	RegEn	Pres	Unc	Atwood 29919 BRY, PARA (2003)

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Poaceae (Gramineae)						
<i>Panicum obtusum</i> Vine mesquite	<i>Hopia obtusa</i>	PerG	Wide	Pres	Rare	Thorne 309 ASD (1977)
<i>Pascopyrum smithii</i> Western wheatgrass	<i>Agropyron smithii</i> , <i>Elymus smithii</i> , includes vars. <i>smithii</i> & <i>palmeri</i>	PerG	Wide	Pres	Unc	Anderson 3214 ASC, PARA (1999)
<i>Paspalum dilatatum</i> Golden crown-grass		PerG	Intro	Pres	Rare	Coombs & Bundy 2578 ASD (1978). Native to South America.
<i>Paspalum distichum</i> Knotgrass		PerG	Wide	Pres	Unc	Coombs & Bundy 2726 ASD (1978)
<i>Pennisetum glaucum</i> Pearl millet		AnnG	Intro	Pres	Rare	Higgins & Atwood 24353 ASC (2003). Native to Asia.
<i>Phalaris arundinacea</i> Reed canary grass	<i>Phalaroides arundinacea</i>	PerG	Wide	Pres	Unc	Nazaire ERI-4969 ASC (2006)
<i>Phragmites australis</i> Common reed	<i>P. communis</i>	PerG	Wide	Pres	Com	Gierisch 4030 ASD (1977)
<i>Piptatherum micranthum</i> Littleseed ricegrass	<i>Oryzopsis micrantha</i>	PerG	Wide	Pres	Rare	Reeder & Mason 6843 ARIZ (1977). Specimen has not been verified.
<i>Pleuraphis jamesii</i> Galleta	<i>Hilaria jamesii</i>	PerG	Wide	Pres	Unc	Yanskey 1359 PARA (1946)
<i>Pleuraphis rigida</i> Big galleta	<i>Hilaria rigida</i>	PerG	Wide	Pres	Unc	Atwood 27064 BRY (1978)
<i>Poa bigelovii</i> Bigelow's bluegrass		AnnG	Wide	Pres	Unc	Atwood & Higgins 29187 BRY, PARA (1978)
<i>Poa compressa</i> Canada bluegrass		PerG	Intro	Pres	Unc	Shultz & Kelly 19922 UTC (2005). Native to Eurasia. Specimen has not been verified.
<i>Poa fendleriana</i> Muttongrass	<i>P. longiligula</i> , <i>P. fendleriana</i> ssp. <i>longiligula</i>	PerG	Wide	Pres	Unc	Yanskey 1417 PARA (1941)
<i>Poa pratensis</i> Kentucky bluegrass		PerG	Intro	Pres	Unc	Yanskey 1699 PARA (1996). Native to Eurasia
<i>Poa secunda</i> Sandberg's bluegrass	Includes <i>P. gracilima</i> , <i>P. juncifolia</i> , <i>P. sandbergii</i> , <i>P. canbyi</i> , <i>P. scabrella</i> , <i>P. nevadensis</i> , <i>P. ampla</i> & all vars of <i>P. secunda</i>	PerG	Wide	Pres	Unc	Gierisch 4667 ASD (1979)
<i>Polypogon monspeliensis</i> Rabbitfoot-grass		AnnG	Intro	Pres	Unc	Atwood & Welsh 26974 BRY (2001). Native to Eurasia & Africa.

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Poaceae (Gramineae)						
<i>Polypogon viridis</i> Water bentgrass	<i>Agrostis semi-verticillata</i> , <i>A. viridis</i> , <i>P. semiverticillatus</i>	PerG	Intro	Pres	Unc	Coombs & Bundy 2750 ASD (1978). Native to Eurasia & Africa.
<i>Psathyrostachys juncea</i> Russian wildrye	<i>Elymus junceus</i>	PerG	Intro	Pres	Unc	Springer s.n. ASC (1997). Native to Russia.
<i>Pseudoroegneria spicata</i> Bluebunch wheatgrass	<i>Elymus spicatus</i>	PerG	Wide	Rep	Unc	Powell 2002, Bangle 2007 (NA)
<i>Puccinellia distans</i> Weeping alkaligrass		PerG	Intro	Pres	Rare	Rink 10858 PARA (2011)
<i>Puccinellia nuttalliana</i> Nuttall's alkaligrass	<i>P. airoides</i>	PerG	Wide	Pres	Rare	Brown & Parfitt 772 ASD (1978)
<i>Schismus arabicus</i> Arabian grass		AnnG	Intro	Pres	Unc	Atwood 27053 BRY, PARA (1978). Native to Mediterranean.
<i>Schismus barbatus</i> Mediterranean grass		AnnG	Intro	Pres	Com	Yanskey 1439 PARA (1941). Native to Mediterranean
<i>Schizachyrium scoparium</i> Little bluestem	<i>Andropogon scoparius</i> , <i>S. scoparium</i> var. <i>neomexicanum</i>	PerG	Wide	Pres	Rare	Higgins & Atwood 21844 ASD (1997)
<i>Scleropogon brevifolius</i> Burro grass		PerG	Wide	Pres	Rare	Atwood 27860 BRY, PARA (2001)
<i>Secale cereale</i> Cultivated rye		AnnG	Intro	Pres	Rare	Buckley 3233 ASC, PARA (1996). Native to Eurasia.
<i>Setaria leucopila</i> Streamside bristlegrass	<i>S. macrostachya</i>	PerG	Wide	Pres	Unc	Atwood, Higgins, & Furniss 25016 BRY, ASD (2000)
<i>Setaria pumila</i> ssp. <i>pumila</i> Yellow bristlegrass	<i>S. glauca</i>	PerG	Intro	Pres	Unc	Atwood 29186 BRY (2000). Native to Eurasia.
<i>Setaria viridis</i> Green bristlegrass		AnnG	Intro	Pres	Unc	Atwood & Higgins 30124 BRY (2000). Native to Eurasia.
<i>Sorghum halepense</i> Johnson-grass		PerG	Intro	Pres	Rare	Stevens 1064 MNA (2000). Native to Eurasia.
<i>Sporobolus contractus</i> Spike dropseed		PerG	Wide	Pres	Unc	Atwood & Higgins 29069 BRY, PARA (1978)
<i>Sporobolus cryptandrus</i> Sand dropseed		PerG	Wide	Pres	Unc	Higgins & Atwood 21824 ASD, BRY (1997)
<i>Sporobolus flexuosus</i> Mesa dropseed		PerG	Wide	Pres	Unc	Atwood 26264 BRY (2000)

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Poaceae (Gramineae)						
<i>Thinopyrum intermedium</i> Intermediate wheatgrass	<i>E. hispidus</i> var. <i>hispidus</i> , <i>Agropyron intermedium</i> , <i>Elytrigia intermedia</i>	PerG	Intro	Pres	Unc	Higgins 23497 BRY, PARA (1996). Native to Eurasia.
<i>Thinopyrum ponticum</i> Tall wheatgrass	<i>Elymus elongatus</i> var. <i>ponticus</i> , <i>Agropyron elongatum</i>	PerG	Intro	Pres	Unc	Parfitt 3708-b ASU, ARIZ (1987). Native to Eurasia.
<i>Tridens muticus</i> Slim tridens	<i>Tridens muticus</i> var. <i>elongatus</i>	PerG	Wide	Pres	Unc	Atwood & Higgins 29059 BRY, PARA (1977)
<i>Vulpia bromoides</i> Brome six-weeks grass	<i>Festuca bromoides</i>	AnnG	Intro	Pres	Rare	Yanskey 2097a PARA (2008). Native to Eurasia
<i>Vulpia microstachys</i> Small fescue	<i>Festuca microstachys</i>	AnnG	Wide	Pres	Rare	Brown & Parfitt 836 ASD (1978)
<i>Vulpia octoflora</i> Six-weeks fescue	Includes vars <i>glauca</i> , <i>hirtella</i> , & <i>octoflora</i> , <i>Festuca octoflora</i>	AnnG	Wide	Pres	Unc	Yanskey 1810 PARA (2001)
Polemoniaceae						
<i>Aliciella hutchinsifolia</i> Broadlobe gilia	<i>Gilia hutchinsifolia</i>	AnnF	Wide	Pres	Unc	Brown & Parfitt 348 ASD (1978)
<i>Aliciella latifolia</i> ssp. <i>latifolia</i> Spiny gilia	<i>Gilia latifolia</i>	AnnF	Wide	Pres	Unc	Smith 1025 ASD (1978). Type locality: valley of the Virgin River near St. George, UT (Parry 188 GH)
<i>Aliciella leptomeria</i> Common gilia	<i>Gilia leptomeria</i> var. <i>leptomeria</i>	AnnF	Wide	Pres	Unc	Brown & Parfitt 394 ASD (1978)
<i>Aliciella micromeria</i> Common gilia	<i>Gilia leptomeria</i> var. <i>micromeria</i> , <i>G. micromeria</i>	AnnF	Periph	Pres	Unc	Atwood & Higgins 27554 BRY, NY (2001). Not recognized as distinct from <i>A. leptomeria</i> by Wilken & Porter (2005)
<i>Collomia grandiflora</i> Large collomia		AnnF	Wide	Hist	NA	Gould 1715 ARIZ (1942)
<i>Eriastrum diffusum</i> Spreading eriastrum		AnnF	Wide	Pres	Unc	Yanskey 1418 PARA (1973)
<i>Eriastrum eremicum</i> Desert eriastrum		AnnF	Wide	Pres	Unc	Yanskey 2051 PARA (1977)
<i>Eriastrum sparsiflorum</i> Great Basin eriastrum		AnnF	Periph	Pres	Rare	Yanskey 1802 PARA (2005)

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Polemoniaceae						
<i>Gilia inconspicua</i> Floccose gilia	Includes vars <i>inconspicua</i> & <i>sinuata</i> , <i>G. ophthalmoides</i> , <i>G. sinuata</i> , <i>G. clokeyi</i> , <i>G. transmontana</i> , <i>G. minor</i> , <i>G. clokeyi</i>	AnnF	Wide	Pres	Com	Yanskey 1657 PARA (1929). Numerous segregate species recognized by Wilken & Porter (2005), including <i>G. clokeyi</i> , <i>G. minor</i> , <i>G. ophthalmoides</i> , & <i>G. transmontana</i> . Further investigation is needed of PARA material.
<i>Gilia scopulorum</i> Rock gilia		AnnF	Wide	Pres	Unc	Higgins 24205 BRY, PARA (1978). Type locality: St. George, Washington Co, UT (Jones 1659 POM)
<i>Gilia stellata</i> Longbranch gilia		AnnF	Wide	Pres	Rare	Welsh & Atwood 27936b BRY (1978)
<i>Ipomopsis aggregata</i> ssp. <i>formosissima</i> Scarlet gilia	<i>I. aggregata</i> var. <i>maculata</i> , <i>Gilia aggregata</i>	PerF	Wide	Pres	Unc	Atwood 29946 BRY, NY, PARA (1998)
<i>Ipomopsis arizonica</i> Scarlet gilia	<i>I. aggregata</i> var. <i>arizonica</i> , <i>Gilia aggregata</i> var. <i>arizonica</i>	PerF	RegEn	Pres	Unc	Yanskey 1388 PARA (1941)
<i>Ipomopsis longiflora</i> Long-flowered gilia	<i>Gilia longiflora</i>	PerF	Wide	Pres	Unc	Atwood 29926 BRY, PARA (1953)
<i>Ipomopsis multiflora</i> Manyflower gilia	<i>Gilia multiflora</i>	PerF	Wide	Pres	Unc	Atwood 29938 BRY, PARA (1946)
<i>Ipomopsis polycladon</i> Spreading gilia	<i>Gilia polycladon</i>	AnnF	Wide	Pres	Unc	Atwood 27200 BRY, PARA (1978)
<i>Langloisia setosissima</i> Mohave langloisia		AnnF	Wide	Pres	Unc	Atwood 27083 BRY, PARA (1974)
<i>Leptosiphon nuttallii</i> Nuttall's linanthus	<i>Linanthastrum nuttallii</i>	PerF	Wide	Pres	Rare	Brown & Parfitt 795 ASD (1978)
<i>Linanthus bigelovii</i> Bigelow's linanthus		AnnF	Wide	Pres	Unc	Yanskey 1654 PARA (2001)
<i>Linanthus demissus</i> Mat linanthus		AnnF	Wide	Pres	Unc	Atwood & Madsen 26617 BRY, PARA (1978)
<i>Linanthus dichotomus</i> Evening-snow		AnnF	Wide	Rep	Unc	Atwood & Higgins 26934 NY (2001). Confirmation needed; other reports have been <i>L. demissus</i>
<i>Linanthus filiformis</i> Yellow gilia	<i>Gilia filiformis</i>	AnnF	RegEn	Pres	Unc	Atwood 27189 BRY, NY, PARA (2001). Type locality: near St. George, UT (Parry 187 GH)
<i>Loeseliastrum schottii</i> Schott's calico	<i>Langloisia schottii</i>	AnnF	Wide	Pres	Unc	Hildebrand 3464 PARA (1978)

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Polemoniaceae						
<i>Microsteris gracilis</i> var. <i>humilior</i> Slender phlox	<i>Phlox gracilis</i> ssp. <i>humilis</i>	AnnF	Wide	Pres	Rare	Brown & Parfitt 799 ASD (1941)
<i>Phlox amabilis</i> Arizona phlox		PerF	RegEn	Pres	Rare	Rink 8646 PARA (2009). Type locality: Cottonwood Stage Station, AZ (Palmer 391). USFS: Sensitive.
<i>Phlox austromontana</i> ssp. <i>austromontana</i> Desert phlox		PerF	Wide	Pres	Unc	Higgins, Atwood, & Welsh 20066 ASD, BRY (1942). Type locality: Beaver Dam Mountains, UT (Fremont 447 US)
<i>Phlox longifolia</i> Longleaf phlox	<i>P. longifolia</i> var. <i>longifolia</i>	PerF	Wide	Pres	Unc	Higgins & Atwood 22547 BRY, PARA (1941)
<i>Phlox speciosa</i> ssp. <i>woodhousei</i> Star phlox	<i>P. woodhousei</i>	PerF	RegEn	Pres	Unc	Coombs & Bundy 2602 ASD (1929). Type locality: west of Fairview, AZ (Woodhouse s.n.)
<i>Phlox stansburyi</i> Stansbury's phlox	<i>P. longifolia</i> var. <i>stansburyi</i>	PerF	Wide	Pres	Unc	Yanskey 1522 PARA (2004). Not recognized as distinct from <i>P. longifolia</i> by Wilken & Porter (2005)
Polygalaceae						
<i>Polygala acanthoclada</i> Thorny milkwort	<i>P. acanthoclada</i> var. <i>acanthoclada</i>	Shrub	RegEn	Pres	Rare	Welsh & Atwood 27898 BRY (2001)
<i>Polygala subspinoso</i> Cushion milkwort		PerF	Wide	Pres	Unc	Yanskey 1738 PARA (1952)
Polygonaceae						
<i>Centrostegia thurberi</i> Thurber's spineflower	<i>Chorizanthe thurberi</i>	AnnF	Wide	Pres	Rare	Yanskey 1426 PARA (1987)
<i>Chorizanthe brevicornu</i> Short spineflower		AnnF	Wide	Pres	Com	Yanskey 1455 PARA (1978)
<i>Chorizanthe rigida</i> Devil's spineflower		AnnF	Wide	Pres	Unc	Atwood 27119 BRY, PARA (1978)
<i>Eriogonum alatum</i> Winged wild buckwheat	<i>E. alatum</i> var. <i>alatum</i> , <i>Pterogonum alatum</i>	PerF	Wide	Pres	Unc	Coombs & Bundy 2600 ASD (1977)
<i>Eriogonum brachypodum</i> Parry's wild buckwheat		AnnF	Wide	Pres	Unc	Higgins 22696 BRY, PARA (1978)
<i>Eriogonum cernuum</i> var. <i>cernuum</i> Nodding wild buckwheat	Includes ssp. <i>tenue</i>	AnnF	Wide	Pres	Unc	Yanskey 1486 PARA (1926). Yanskey 2163 PARA is atypically large, tending to var. <i>psammophilum</i>

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Polygonaceae						
<i>Eriogonum corymbosum</i> var. <i>corymbosum</i> Crisp-leaf wild buckwheat		Shrub	Wide	Pres	Rare	Atwood & Higgins 27973 BRY, PARA (2000)
<i>Eriogonum corymbosum</i> var. <i>glutinosum</i> Sticky wild buckwheat	Included in var. <i>aureum</i> by some authors	Shrub	RegEn	Pres	Unc	Yanskey 1484 PARA (2003)
<i>Eriogonum darrovii</i> Darrow's wild buckwheat		AnnF	RegEn	Pres	Rare	Atwood 29953 BRY, PARA (1978)
<i>Eriogonum davidsonii</i> Davidson's buckwheat		AnnF	Wide	Pres	Rare	Yanskey 1377 PARA (1969)
<i>Eriogonum deflexum</i> var. <i>deflexum</i> Skeletonweed wild buckwheat		AnnF	Wide	Pres	Com	Higgins & Atwood 21888 ASD, BRY (1980)
<i>Eriogonum divaricatum</i> Spreading wild buckwheat		AnnF	Wide	Pres	Rare	Gierisch 4714 BRY (1980)
<i>Eriogonum fasciculatum</i> var. <i>polifolium</i> Mojave wild buckwheat		Shrub	Wide	Pres	Com	Yanskey 1442 PARA (1978)
<i>Eriogonum fusiforme</i> Grand Valley desert trumpet	<i>E. inflatum</i> var. <i>fusiforme</i>	AnnF	RegEn	Pres	Com	Yanskey 2052 PARA (2008)
<i>Eriogonum heermannii</i> var. <i>argense</i> Heermann's grooved wild buckwheat		Shrub	RegEn	Pres	Rare	West s.n. ASC (1996). Specimen has not been verified.
<i>Eriogonum heermannii</i> var. <i>sulcatum</i> Heermann's grooved wild buckwheat	<i>E. sulcatum</i>	Shrub	RegEn	Pres	Unc	Coombs & Bundy 2754 ASD (1974). Type locality: near St. George, UT (Palmer 242 ISC)
<i>Eriogonum hookeri</i> Hooker's wild buckwheat		AnnF	Wide	Pres	Rare	Rink 10831 PARA (2011). Confirmation needed
<i>Eriogonum inflatum</i> Desert trumpet	<i>E. inflatum</i> var. <i>inflatum</i>	PerF	Wide	Pres	Unc	Yanskey 1852 PARA (1928)
<i>Eriogonum insigne</i> Ladder wild buckwheat	<i>E. exaltatum</i>	AnnF	RegEn	Pres	Unc	Atwood & Goodrich 13370 BRY (1988)
<i>Eriogonum jamesii</i> var. <i>flavescens</i> Baker's wild buckwheat	<i>E. arcuatum</i> var. <i>arcuatum</i>	PerF	Wide	Pres	Unc	Coombs & Gierisch 2694 ASD (1978)
<i>Eriogonum jonesii</i> Jones' wild buckwheat		Shrub	LocEn	Pres	Rare	Gierisch 4693 ASD (1974)
<i>Eriogonum maculatum</i> Spotted buckwheat		AnnF	Wide	Pres	Unc	Higgins 22760 BRY, PARA (1978)
<i>Eriogonum microthecum</i> var. <i>laxiflorum</i> Slender buckwheat		Shrub	Wide	Pres	Unc	Atwood 29945 BRY, PARA (2003)

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Polygonaceae						
<i>Eriogonum microthecum</i> var. <i>simpsonii</i> Slender buckwheat	<i>E. microthecum</i> var. <i>foliosum</i> , <i>E. simpsonii</i>	Shrub	Wide	Pres	Unc	Coombs & Bundy 2619 ASD (1978)
<i>Eriogonum nummularae</i> Coin wild buckwheat	<i>E. nummularae</i> var. <i>nummularae</i> , <i>E. kearneyi</i>	Shrub	Wide	Pres	Unc	Atwood 29936 BRY, PARA (1999)
<i>Eriogonum ovalifolium</i> var. <i>purpureum</i> Cushion wild buckwheat		PerF	Wide	Pres	Unc	Yanskey 1317 PARA (1940)
<i>Eriogonum palmerianum</i> Palmer's wild buckwheat		AnnF	Wide	Pres	Unc	Atwood 29948 ASD, BRY (1978)
<i>Eriogonum pharnaceoides</i> var. <i>cervinum</i> Wirestem buckwheat		AnnF	RegEn	Pres	Unc	Atwood 29947a BRY, PARA (1979)
<i>Eriogonum pusillum</i> Low buckwheat		AnnF	Wide	Pres	Unc	Higgins & Atwood 22454 BRY (2001)
<i>Eriogonum racemosum</i> Redroot wild buckwheat	<i>E. racemosum</i> var. <i>racemosum</i>	PerF	Wide	Pres	Unc	Atwood 29954 BRY, PARA (1946)
<i>Eriogonum thomasi</i> Thomas' wild buckwheat		AnnF	Wide	Pres	Unc	Atwood 27059 BRY, PARA (1941)
<i>Eriogonum trichopes</i> Little desert trumpet		AnnF	Wide	Pres	Com	Higgins 22697 BRY, PARA (1978)
<i>Eriogonum umbellatum</i> var. <i>juniporinum</i> Juniper wild buckwheat		PerF	RegEn	Pres	Rare	Rink 8738 ASC (2008). Specimen has not been verified
<i>Eriogonum umbellatum</i> var. <i>mohavense</i> Mohave wild buckwheat		PerF	LocEn	Pres	Unc	Yanskey 1323 PARA (1968). Type locality: NE side of Wolf Hole Mountain, AZ (Reveal 8384 NY)
<i>Eriogonum umbellatum</i> var. <i>subaridum</i> Arid wild buckwheat		PerF	Wide	Pres	Unc	Coombs & Bundy 2703 ASD (1953). Includes reports of var. <i>cognatum</i>
<i>Eriogonum wrightii</i> Wright's wild buckwheat	<i>Eriogonum wrightii</i> var. <i>wrightii</i>	Shrub	Wide	Pres	Unc	Atwood 29947 BRY, PARA (1978)
<i>Eriogonum zionis</i> var. <i>zionis</i> Zion buckwheat	<i>E. racemosum</i> var. <i>zionis</i>	PerF	RegEn	Pres	Rare	Higgins 23064 BRY (2001)
<i>Polygonum aviculare</i> Yard knotweed	<i>P. arenastrum</i> , <i>P. aviculare</i> ssp. <i>aviculare</i> , includes vars. <i>depressum</i> & <i>neglectum</i>	AnnF	Intro	Pres	Unc	Springer & Labate 2808 ASC, PARA (1978). Native to Eurasia.
<i>Polygonum convolvulus</i> Black bindweed	<i>Fallopia convolvulus</i>	PerF	Intro	Pres	Unc	Higgins 23493 BRY, PARA (1979). Native to Europe.

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Polygonaceae						
<i>Polygonum douglasii</i> var. <i>johnstonii</i> Sawatch knotweed	<i>P. sawatchense</i> var. <i>sawatchense</i>	AnnF	Wide	Pres	Unc	Coombs & Bundy 2990 ASD (1941)
<i>Pterostegia drymarioides</i> Pterostegia		AnnF	Wide	Pres	Unc	Higgins & Green 26258 ASD, BRY (1978)
<i>Rumex crispus</i> Curly dock		PerF	Intro	Pres	Rare	Coombs, Gierisch, & Bundy 2569 ASD (1978). Native to Eurasia.
<i>Rumex dentatus</i> Toothed dock		PerF	Intro	Pres	Rare	Yanskey 2195 PARA (2009). Native to Asia.
<i>Rumex hymenosepalus</i> Canaigre dock		PerF	Wide	Pres	Unc	Atwood, Welsh, & Higgins 26440 BRY, PARA (2001)
<i>Rumex maritimus</i> var. <i>fueginus</i> Golden dock	<i>R. fueginus</i>	AnnF	Periph	Pres	Rare	Stevens 1315 ASC (2001)
<i>Rumex stenophyllus</i> Narrowleaf dock		PerF	Intro	Pres	Unc	Yanskey 2020 PARA (2007). Native to Eurasia
Portulacaceae						
<i>Portulaca oleracea</i> Common purslane		AnnF	Intro	Pres	Com	Higgins 24025 ASD BRY (2000). Native to E North America. AZ state noxious weed.
Potamogetonaceae						
<i>Potamogeton foliosus</i> Leafy pondweed		PerF	Wide	Pres	Rare	Higgins 26132 BRY (1978)
<i>Potamogeton pusillus</i> var. <i>pusillus</i> Dwarf pondweed		PerF	Wide	Pres	Rare	Coombs & Bundy 2701 ASD (1978)
<i>Stuckenia pectinata</i> Sago pondweed	<i>Potamogeton pectinatus</i>	PerF	Wide	Pres	Rare	Rink 8732 ASC (2009)
Primulaceae						
<i>Anagallis arvensis</i> Scarlet pimpernel		AnnF	Intro	Pres	Unc	Hildebrand 3524 PARA (2001). Native to Mediterranean
<i>Androsace occidentalis</i> Western rock-jasmine		AnnF	Wide	Pres	Rare	Yanskey 1369 PARA (1987)
Pteridaceae (Adiantaceae, Polypodiaceae, Sinopteridaceae)						
<i>Argyrochosma jonesii</i> Jones' cloak-fern	<i>Pellaea jonesii</i> , <i>Notholaena jonesii</i>	Fern	Wide	Pres	Rare	Atwood 27244 BRY (2001)

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Pteridaceae (Adiantaceae, Polypodiaceae, Sinopteridaceae)						
<i>Argyrochosma limitanea</i> Border cloak-fern	<i>Pellaea limitanea</i> , <i>Notholaena limitanea</i>	Fern	Wide	Pres	Rare	Atwood & Furniss 24276 BRY (1999)
<i>Astrolepis cochisensis</i> ssp. <i>cochisensis</i> Cochise scaly cloak-fern	<i>Notholaena sinuata</i> var. <i>cochisensis</i> , <i>N. cochisensis</i>	Fern	Wide	Pres	Rare	Smith 1036 ASD (1978)
<i>Astrolepis sinuata</i> ssp. <i>sinuata</i> Wavy scaly cloak-fern	<i>Notholaena sinuata</i> var. <i>sinuata</i>	Fern	Wide	Pres	Unc	Atwood & Furniss 24278 BRY, RM (1999)
<i>Cheilanthes feei</i> Slender lip-fern		Fern	Wide	Pres	Rare	Yanskey 1660 PARA (1951)
<i>Cheilanthes parryi</i> Parry's cloak-fern	<i>Notholaena parryi</i>	Fern	Wide	Pres	Unc	Windham 349 ASC (1982)
<i>Pellaea truncata</i> Spiny cliff-brake		Fern	Wide	Pres	Unc	Brown & Parfitt 442 ASU (1978)
Ranunculaceae (Helleboraceae, Thalictraceae)						
<i>Anemone tuberosa</i> Desert anemone		PerF	Wide	Pres	Unc	Higgins Atwood & Welsh 20058 ADS, BRY (1978)
<i>Aquilegia chrysantha</i> Golden columbine		PerF	Wide	Pres	Rare	Atwood & Higgins 27525 BRY (1977). AZ: Salvage restricted
<i>Ceratocephala testiculata</i> Bur buttercup	<i>Ranunculus testiculatus</i> , <i>C. orthoceras</i>	AnnF	Intro	Pres	Unc	Atwood & Madsen 26621 BRY, PARA (2001). Native to Eurasia
<i>Delphinium nuttallianum</i> Nuttall's larkspur	<i>D. nelsonii</i>	PerF	Wide	Pres	Rare	Waltz sn, ASD, ASC (1941)
<i>Delphinium parishii</i> ssp. <i>parishii</i> Parish's larkspur	<i>D. amabile</i>	PerF	Wide	Pres	Unc	Yanskey 1807 PARA (1978)
<i>Delphinium scaposum</i> Pale larkspur	<i>D. andersonii</i> var. <i>scaposum</i> , includes <i>D. parishii</i>	PerF	Wide	Pres	Unc	Yanskey 1404 PARA (1969)
<i>Myosurus apetalus</i> var. <i>montanus</i> Bristly mousetail	<i>M. aristatus</i>	AnnF	Periph	Pres	Rare	Yanskey 2213 PARA (2009)
<i>Myosurus cupulatus</i> Horseshoe mousetail		AnnF	Wide	Pres	Rare	Yanskey 1405 PARA (1977)
<i>Ranunculus andersonii</i> var. <i>tenellus</i> Juniper buttercup	<i>R. andersonii</i> var. <i>juniperinus</i> , <i>R. juniperinus</i>	PerF	RegEn	Pres	Rare	Yanskey 1338 PARA (2003)

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Ranunculaceae (Helleboraceae, Thalictraceae)						
<i>Ranunculus cymbalaria</i> Marsh buttercup	<i>Halerpestes cymbalaria</i> ssp. <i>saximontana</i> , <i>R. cymbalaria</i> var. <i>saximontana</i>	PerF	Wide	Pres	Unc	Coombs, Gierisch & Bundy 2567 ASD (1978)
<i>Ranunculus glaberrimus</i> Sagebrush buttercup	<i>R. oreogenes</i> var. <i>ellipticus</i>	PerF	RegEn	Pres	Unc	Springer s.n. ASC, ASD (1949)
<i>Ranunculus sceleratus</i> Blister buttercup	<i>Hecatonia scelerata</i>	PerF	Wide	Pres	Unc	Higgins & Green 25455 BRY (2004)
<i>Thalictrum fendleri</i> Fendler's meadow-rue		PerF	Wide	Pres	Unc	Atwood 29905 BRY, PARA (1978)
Resedaceae						
<i>Oligomeris linifolia</i> Line-leaf whitepuff		AnnF	Wide	Pres	Unc	Atwood 27134 BRY, PARA (1978)
Rhamnaceae						
<i>Ceanothus fendleri</i> Fendler ceanothus		Shrub	Wide	Pres	Unc	West s.n. ASC (1996)
<i>Ceanothus greggii</i> var. <i>vestitus</i> Desert ceanothus	<i>C. vestitus</i>	Shrub	Wide	Pres	Unc	Hazlett 7032 ASD (1995)
<i>Ceanothus martinii</i> Utah ceanothus		Shrub	Wide	Pres	Rare	Higgins 23108 BRY (1996)
<i>Frangula betulifolia</i> Birchleaf buckthorn	<i>Rhamnus betulifolia</i>	Shrub	Wide	Pres	Rare	Atwood & Furniss 24251 BRY (1999)
<i>Ziziphus obtusifolia</i> var. <i>canescens</i> Lotebush	<i>Condalia lycioides</i>	Shrub	Wide	Pres	Rare	Atwood 33386 BRY (2010)
Rosaceae						
<i>Amelanchier alnifolia</i> var. <i>alnifolia</i> Western serviceberry		Shrub	Wide	Pres	Rare	Brown & Parfitt 781 ASD (1978)
<i>Amelanchier utahensis</i> Utah serviceberry		Shrub	Wide	Pres	Unc	Atwood & Higgins 27537 BRY, PARA (1953)
<i>Cercocarpus ledifolius</i> var. <i>intercedens</i> Curl-leaf mountain mahogany	<i>C. ledifolius</i> var. <i>intermontanus</i>	Shrub	Wide	Pres	Rare	Brown & Parfitt 794 ASD (1978). PARA specimens may be hybrids with <i>C. intricatus</i>
<i>Cercocarpus montanus</i> Alder-leaf mountain mahogany		Shrub	Wide	Pres	Unc	Higgins & Atwood 23073 BRY (1974)
<i>Chamaebatiaria millefolium</i> Fern bush		Shrub	Wide	Pres	Unc	Atwood 29907 BRY, PARA (1977)

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Species/Common Name	Synonym	Life form	Range	Status	Pop Size	Source (year)/Comments
Rosaceae						
<i>Coleogyne ramosissima</i> Blackbrush		Shrub	Wide	Pres	Com	Yanskey 1445 PARA (1974)
<i>Fallugia paradoxa</i> Apache plume		Shrub	Wide	Pres	Unc	Yanskey 1778 PARA (1974)
<i>Holodiscus dumosus</i> Bush oceanspray	<i>H. discolor</i> var. <i>dumosus</i>	Shrub	Wide	Pres	Unc	Coombs & Bundy 2708 ASD (1978)
<i>Ivesia sabulosa</i> Sevier ivesia	<i>Potentilla</i> <i>sabulosa</i>	PerF	RegEn	Pres	Rare	Gierisch 4469 ASD (1978)
<i>Petrophytum caespitosum</i> Rock spiraea	<i>Petrophyton</i> <i>caespitosum</i> , <i>Spiraea caespitosa</i>	PerF	Wide	Pres	Rare	Atwood 29951 BRY, PARA (1978)
<i>Prunus fasciculata</i> Desert almond	<i>P. fasciculata</i> var. <i>fasciculata</i>	Shrub	Wide	Pres	Unc	Atwood 27263 BRY (1952)
<i>Prunus virginiana</i> Western chokecherry		Shrub	Wide	Pres	Unc	Daniels 1669 ASC (1999)
<i>Purshia glandulosa</i> Desert bitterbrush	<i>P. tridentata</i> var. <i>glandulosa</i>	Shrub	Periph	Pres	Unc	Gierisch 4714 ASD (1980)
<i>Purshia stansburiana</i> Cliff-rose	<i>P. mexicana</i> var. <i>stansburyana</i> , <i>Cowania mexicana</i>	Shrub	Wide	Pres	Com	Yanskey1444 PARA (1941)
<i>Purshia tridentata</i> Antelope bitterbrush		Shrub	Wide	Pres	Unc	Hughes, A. 1996 ASC, PARA (1978)
<i>Rosa stellata</i> ssp. <i>abyssa</i> Desert rose		Shrub	LocEn	Pres	Rare	Phillips 79-742 ASU (1979). Type locality: W rim of Twin Point, Shivwits Plateau, AZ (Phillips 80-103). Salvage Restricted in Arizona. USFS Sensitive. BLM Sensitive.
<i>Rosa woodsii</i> Woods' rose	<i>R. woodsii</i> var. <i>ultra-</i> <i>montana</i> , includes <i>R.</i> <i>manca</i> , <i>R. arizonica</i>	Shrub	Wide	Pres	Unc	Ojeda s.n. ASD, ASC (1973)
<i>Rubus armeniacus</i> Himalayan blackberry	<i>R. discolor</i>	Shrub	Intro	Pres	Unc	Hildebrand 3514 PARA (2011). Native to Eurasia
<i>Sanguisorba minor</i> Garden burnet		PerF	Intro	Pres	Rare	McGlone 2942 ASC, ASD (1999). Native to Europe.
Rubiaceae						
<i>Galium aparine</i> Cleavers	<i>G. aparine</i> var. <i>echinospermon</i> , <i>G.</i> <i>spurium</i>	AnnF	Wide	Pres	Rare	Brown & Parfitt 830 ASD (1978)
<i>Galium bifolium</i> Twin-leaf bedstraw		AnnF	Periph	Pres	Unc	Springer 2767 ASC, PARA (1978)
<i>Galium multiflorum</i> Shrubby bedstraw	<i>G. multiflorum</i> var. <i>multiflorum</i>	PerF	Wide	Pres	Unc	Atwood & Madsen 26550 BRY (1985). Specimens may be <i>G. munzii</i> .

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Rubiaceae						
<i>Galium munzii</i> ssp. <i>ambivalens</i> Munz's bedstraw		PerF	RegEn	Pres	Rare	Atwood 9430 ASU (1983)
<i>Galium proliferum</i> Slender bedstraw		AnnF	Wide	Pres	Unc	Yanskey 1632 PARA (1999)
<i>Galium stellatum</i> Stellate bedstraw	<i>G. stellatum</i> var. <i>eremicum</i>	Shrub	Wide	Pres	Unc	Higgins, Atwood & Welsh 20050 BRY, ASD (1941)
<i>Galium wrightii</i> Wright's bedstraw		PerF	Wide	Pres	Unc	Coombs & Bundy 2711 BRY (1978)
<i>Kelloggia galioides</i> Kelloggia		PerF	Wide	Pres	Unc	West s.n. ASC (1996)
Rutaceae						
<i>Ptelea trifoliata</i> var. <i>lutescens</i> Hoptree	<i>P. pallida</i>	Shrub	RegEn	Pres	Unc	Atwood 27292 BRY, PARA (1877)
<i>Thamnosma montana</i> Desert-rue		Shrub	Wide	Pres	Unc	Yanskey 1788 PARA (1974)
Salicaceae						
<i>Populus fremontii</i> ssp. <i>fremontii</i> Fremont cottonwood	<i>Populus deltoides</i> var. <i>fremontii</i>	Tree	Wide	Pres	Unc	Higgins, Atwood, & Welsh 19990 BRY, ASD (1999)
<i>Populus tremuloides</i> Quaking aspen		Tree	Wide	Pres	Unc	Atwood & Higgins 28001 BRY, PARA (1941)
<i>Salix amygdaloides</i> Peach-leaf willow		Tree	Wide	Pres	Unc	Rink 10832 PARA (2011)
<i>Salix exigua</i> Coyote willow	Includes vars. <i>exigua</i> & <i>stenophylla</i>	Shrub	Wide	Pres	Unc	Brown & Parfitt 775 ASD (1978)
<i>Salix gooddingii</i> Goodding's black willow		Tree	Wide	Pres	Unc	Smith 971 ASD (1978)
<i>Salix laevigata</i> Red willow	<i>S. bonplandiana</i> var. <i>laevigata</i>	Shrub	Wide	Pres	Rare	Brown & Parfitt 377 ASU (1978)
<i>Salix lasiolepis</i> Arroyo willow		Shrub	Wide	Pres	Unc	Fertig & Fertig 27122 PARA (2011)
Santalaceae (Viscaceae)						
<i>Arceuthobium divaricatum</i> Pinyon dwarf-mistletoe	<i>A. campylopodum</i> f. <i>divaricatum</i>	PerF	Wide	Pres	Unc	Brown & Parfitt 716 ASD (1978)
<i>Arceuthobium vaginatum</i> Southwestern dwarf-mistletoe		PerF	Wide	Rep	Rare	Observed on Mt. Trumbull by Brian Geics of NAU (2004)

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Santalaceae (Viscaceae)						
<i>Comandra umbellata</i> ssp. <i>pallida</i> Bastard toadflax	<i>C. pallida</i>	PerF	Wide	Pres	Unc	Yanskey 1360 PARA (1942)
<i>Phoradendron californicum</i> Legume mistletoe		PerF	Wide	Pres	Com	Higgins, Atwood & Welsh 20063 BRY, ASD (1980)
<i>Phoradendron juniperinum</i> Juniper mistletoe		PerF	Wide	Pres	Com	Atwood 27145 BRY, PARA (1941)
Sapindaceae (Aceraceae)						
<i>Acer grandidentatum</i> Big-tooth maple		Tree	Wide	Pres	Unc	Brown & Parfitt 774 ASD (1978)
<i>Acer negundo</i> Box elder	<i>A. negundo</i> var. <i>interius</i> , <i>Negundo aceroides</i> ssp. <i>interius</i>	Tree	Wide	Rep	Unc	Powell 2002, Bangle 2007 (NA)
Saururaceae						
<i>Anemopsis californica</i> Yerba mansa		PerF	Wide	Pres	Unc	Yanskey 2014 PARA (1977)
Saxifragaceae						
<i>Heuchera rubescens</i> Red alumroot	Includes vars. <i>rubescens</i> & <i>versicolor</i>	PerF	Wide	Pres	Unc	Atwood 29950 BRY, PARA (1977)
<i>Lithophragma tenellum</i> Slender woodlandstar	<i>L. tenella</i>	PerF	Wide	Pres	Rare	Smith 784 ASD (1976)
Scrophulariaceae (Buddlejaceae, Loganiaceae)						
<i>Buddleja utahensis</i> Utah butterfly-bush		Shrub	RegEn	Pres	Unc	Hildebrand 3550 PARA (2011). Type locality: Beaver Dam Mtns near St. George, UT (Palmer 400 US).
<i>Verbascum thapsus</i> Woolly mullein		PerF	Intro	Pres	Unc	Coombs & Bundy 2696 ASD (1946). Native to Eurasia
Selaginellaceae						
<i>Selaginella leucobryoides</i> Mohave spike-moss		Fern	RegEn	Pres	Rare	Hildebrand 3552 PARA (2011)
<i>Selaginella underwoodii</i> Underwood's spike-moss		Fern	Wide	Pres	Rare	Atwood & Furniss 25191 ASC, BRY (2000)

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Selaginellaceae						
<i>Selaginella watsonii</i> Watson's spike-moss		Fern	Periph	Pres	Rare	Atwood, Higgins, & Welsh 26388 ASC, BRY, PARA (2001)
Solanaceae						
<i>Calibrachoa parviflora</i> Streamside petunia	<i>Petunia parviflora</i>	AnnF	Wide	Pres	Rare	Higgins 22721 BRY (2001)
<i>Chamaesaracha coronopus</i> False nightshade		PerF	Wide	Pres	Unc	Higgins 22724 BRY (1946)
<i>Datura wrightii</i> Angel's trumpet	<i>D. meteloides</i>	AnnF	Wide	Pres	Com	Thorne 245 ASD (1977)
<i>Lycium andersonii</i> Anderson's wolfberry		Shrub	Wide	Pres	Unc	Yanskey 2042 PARA (2000)
<i>Lycium cooperi</i> Cooper's wolfberry		Shrub	RegEn	Pres	Unc	Atwood 27202 BRY, PARA (1997)
<i>Lycium pallidum</i> Pale wolfberry		Shrub	Wide	Pres	Unc	Yanskey 1318 PARA (1978)
<i>Lycium torreyi</i> Torrey's wolfberry		Shrub	Wide	Pres	Unc	Higgins, Atwood, & Welsh 19991 BRY, ASD (1997)
<i>Nicotiana attenuata</i> Coyote tobacco		AnnF	Wide	Pres	Com	Casey 1504 ASC, PARA (1954)
<i>Nicotiana obtusifolia</i> Desert tobacco	<i>N. trigonophylla</i>	AnnF	Wide	Pres	Com	Yanskey 1755 PARA (1977)
<i>Physalis crassifolia</i> Thick-leaved ground-cherry		PerF	Wide	Pres	Unc	Gierisch 4015 ASD (1977)
<i>Physalis hederifolia</i> var. <i>fendleri</i> Fendler's ground-cherry	<i>P. fendleri</i> , <i>P. hederifolia</i> var. <i>cordifolia</i> , <i>P. hederiaefolia</i> var. <i>fendleri</i>	PerF	Wide	Pres	Unc	Higgins 24652 BRY, PARA (1968)
<i>Physalis hederifolia</i> var. <i>palmeri</i> Palmer's ground-cherry	<i>P. hederiaefolia</i> var. <i>palmeri</i>	PerF	RegEn	Pres	Unc	Atwood & Higgins 27975 BRY (1996)
<i>Solanum elaeagnifolium</i> Silverleaf nightshade		PerF	Wide	Pres	Rare	Clark 4011 ASD (1978). Native to C North America.
<i>Solanum jamesii</i> James' potato		PerF	Wide	Pres	Rare	Higgins 23518 BRY, PARA (1977)
<i>Solanum nigrum</i> Black nightshade	<i>S. ptycanthum</i> , <i>S. americanum</i> , <i>S. interius</i>	AnnF	Intro	Pres	Unc	Higgins & Atwood 21911 ASD, BRY (2000). Native to Europe.

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Species/Common Name	Synonym	Life form	Range	Status	Pop Size	Source (year)/Comments
Solanaceae						
<i>Solanum physalifolium</i> Hairy nightshade	<i>S. sarrachoides</i> , <i>S. villosum</i> , <i>S. physalifolium</i> var. <i>nitidibaccatum</i>	AnnF	Intro	Pres	Rare	Higgins 24010 BRY, PARA (2002). Native to South America.
<i>Solanum triflorum</i> Cut-leaf nightshade		AnnF	Wide	Pres	Unc	Higgins 23538 BRY, PARA (1953)
<i>Solanum xanti</i> Purple nightshade		PerF	Wide	Pres	Rare	Atwood 24915 BRY (1999)
Tamaricaceae						
<i>Tamarix aphylla</i> Athel tamarisk		Tree	Intro	Pres	Unc	Atwood & Higgins 26345 BRY (2000). Native to Africa and SW Asia.
<i>Tamarix chinensis</i> Five-stamen tamarisk	<i>T. pentandra</i> , <i>T. ramosissima</i>	Shrub	Intro	Pres	Com	Yanskey 1527 PARA (2000). Native to Eurasia
Typhaceae						
<i>Typha domingensis</i> Southern cattail		PerG	Wide	Pres	Unc	Atwood & Higgins 27529 BRY (2001)
Urticaceae						
<i>Parietaria hespera</i> var. <i>hespera</i> Rillita pellitory	<i>P. pensylvanica</i> var. <i>hespera</i> , <i>P. obtusa</i>	AnnF	Wide	Pres	Unc	Madsen & Atwood 1297 BRY, NY (2001)
<i>Parietaria pensylvanica</i> Pennsylvania pellitory	<i>P. pensylvanica</i> var. <i>pensylvanica</i>	AnnF	Wide	Pres	Unc	Higgins, Atwood & Welsh 20003 BRY, ASD (1894)
Verbenaceae						
<i>Aloysia wrightii</i> Oreganillo		Shrub	Wide	Pres	Unc	Atwood 29858 BRY, PARA (2000)
<i>Glandularia bipinnatifida</i> var. <i>ciliata</i> Dakota mock-vervain	<i>G. wrightii</i> , <i>Verbena bipinnatifida</i>	PerF	Wide	Pres	Unc	Mason et al. 2818 ASC (1968). Confirmation needed.
<i>Glandularia gooddingii</i> Goodding's mock-vervain	<i>Verbena gooddingii</i>	PerF	Wide	Pres	Unc	Coombs & Bundy 2620 ASD (1941)
<i>Phyla cuneifolia</i> Wedge-leaf frogfruit		PerF	Wide	Pres	Rare	Atwood 29940 BRY, PARA (2003)
<i>Verbena bracteata</i> Prostrate vervain		PerF	Wide	Pres	Unc	Beck & Labate 1962 ASC, PARA (1946)

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Species/Common Name	Synonym	Life form	Range	Status	Pop Size	Source (year)/Comments
Violaceae						
<i>Hybanthus verticillatus</i> Nodding green violet		PerF	Wide	Pres	Rare	Higgins & Atwood 21789 BRY (2000)
<i>Viola canadensis</i> Canadian white violet	<i>V. canadensis</i> var. <i>rugulosa</i> , <i>V. scopulorum</i> , <i>V. rydbergii</i>	PerF	Wide	Pres	Rare	Higgins 23097 BRY, PARA (1953)
<i>Viola purpurea</i> ssp. <i>venosa</i> Goose-foot yellow violet		PerF	Wide	Pres	Unc	Brown & Parfitt 792 ASD (1978)
<i>Viola vallicola</i> Valley violet	<i>V. nuttallii</i> var. <i>vallicola</i>	PerF	Wide	Pres	Unc	Yanskey 1368 PARA (1997)
Vitaceae						
<i>Vitis arizonica</i> Canyon grape		Shrub	Wide	Pres	Unc	Brown 334 ASD (1974)
Zygophyllaceae						
<i>Fagonia laevis</i> Fagonia	<i>F. californica</i>	PerF	Wide	Pres	Unc	Atwood 27065 BRY, PARA (1980)
<i>Kallstroemia parviflora</i> Orange kallstroemia		AnnF	Wide	Pres	Rare	Atwood & Higgins 29065 BRY, PARA (2000)
<i>Larrea tridentata</i> Creosote bush	<i>L. divaricata</i> ssp. <i>tridentata</i>	Shrub	Wide	Pres	Com	Yanskey 1453 PARA (1977)
<i>Tribulus terrestris</i> Puncture vine		AnnF	Intro	Pres	Com	Atwood 27840 BRY, NY (2001). Native to Eurasia. AZ state noxious weed.

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Species/Common Name	Synonym	Life form	Range	Comments
Aizoaceae				
<i>Trianthema portulacastrum</i> Horse purslane		AnnF	Wide	Beaver Dam Wash population just outside of PARA
Amaranthaceae (Chenopodiaceae)				
<i>Allenrolfea occidentalis</i> Iodine bush		Shrub	Wide	Known from vicinity of Littlefield outside PARA (Atwood et al. 2003).
<i>Amaranthus obcordatus</i> Trans-Pecos amaranth		AnnF	Wide	Known from Main Street Valley outside PARA (Atwood et al. 2003)
<i>Amaranthus torreyi</i> Torrey's amaranth		AnnF	Wide	Previously on reported list, but all collections are from just outside PARA in Grand Canyon NP and Arizona Strip.
<i>Atriplex lentiformis</i> Big saltbush		Shrub	Wide	Known from Virgin River outside PARA (Atwood et al. 2003).
<i>Atriplex polycarpa</i> Desert saltbush		Shrub	Wide	Known from Virgin River outside PARA (Atwood et al. 2003).
<i>Atriplex saccaria</i> var. <i>saccaria</i> Stalked orach	<i>A. saccaria</i> var. <i>caput-medusae</i>	AnnF	Wide	Known from AZ Strip outside PARA (Atwood et al. 2003).
<i>Atriplex torreyi</i> Torrey's saltbush		Shrub	Periph	Known from Beaver Dam outside PARA (Atwood et al. 2003).
<i>Atriplex tridentata</i> Basin saltbush	<i>A. gardneri</i> var. <i>utahensis</i> , includes <i>A.</i> <i>tridentata</i> var. <i>robusta</i>	Shrub	Periph	Reports from Atwood et al. (2003) outside PARA near Colorado City.
<i>Corispermum americanum</i> American bugseed		AnnF	Wide	Atwood et al. (2003) report of <i>C. villosum</i> from vicinity of Colorado City outside of PARA is probably <i>C. americanum</i> (<i>C. villosum</i> not known from AZ).
<i>Cycloloma atriplicifolium</i> Winged pigweed		AnnF	Wide	Known from vicinity of Colorado City outside of PARA (Atwood et al. 2003).
<i>Halogeton glomeratus</i> Halogeton		AnnF	Intro	Native to Eurasia. Known from AZ Strip outside PARA (Atwood et al. 2003).
<i>Suaeda moquinii</i> Torrey's seepweed	<i>S. nigra</i> var. <i>nigra</i> , <i>S.</i> <i>torreyana</i> var. <i>torreyana</i>	AnnF	Wide	Known from AZ Strip outside PARA (Atwood et al. 2003).
Anacardiaceae				
<i>Pistacia vera</i> Pistachio		Tree	Intro	Native to SW Asia. Known from Littlefield outside PARA (Atwood et al. 2003)

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Anacardiaceae				
<i>Rhus ovata</i> Sugar sumac		Shrub	Wide	Known from Littlefield outside PARA (Atwood et al. 2003)
Apiaceae (Umbelliferae)				
<i>Aletes macdougallii</i> Canyonland spring-parsley	<i>Cymopterus macdougallii</i>	PerF	RegEn	Type locality: Berry's Trail to Grand Canyon, Coconino Co., AZ (MacDougal 192 US). Known from Grand Canyon NP in Grand Wash area.
<i>Apium graveolens</i> Celery		PerF	Intro	Native to Eurasia. Known from Virgin River area outside PARA (Atwood et al. 2003)
<i>Berula erecta</i> Cutleaf water-parsnip	<i>B. erecta</i> var. <i>incisa</i>	PerF	Wide	Known from Beaver Dam outside PARA (Atwood et al. 2003)
<i>Cymopterus acaulis</i> var. <i>fendleri</i> Fendler's spring-parsley	<i>C. fendleri</i> , <i>C. glomeratus</i>	PerF	RegEn	Known from AZ Strip outside PARA (Atwood et al. 2003)
<i>Pseudocymopterus montanus</i> Lemmon's spring-parsley	<i>Cymopterus lemmonii</i>	PerF	Wide	Known from Black Rock area outside PARA (Atwood et al. 2005)
Apocynaceae (Asclepiadaceae)				
<i>Apocynum cannabinum</i> Indian hemp	<i>A. suksdorfii</i> , <i>A. sibiricum</i>	PerF	Wide	Known from Surprise Canyon area in Grand Canyon NP
<i>Asclepias cryptoceras</i> var. <i>cryptoceras</i> Pallid milkweed		PerF	Periph	Known from vicinity of Colorado City outside of PARA (Atwood et al. 2003).
Araceae (Lemnaceae)				
<i>Lemna minor</i> Lesser duckweed	Some authors include <i>L. turionifera</i>	PerF	Wide	Known from Beaver Dam outside PARA (Atwood et al. 2003).
<i>Lemna valdiviana</i> Valdiv's duckweed		PerF	Sparse	Known from Beaver Dam outside PARA (Atwood et al. 2003).
Arecaceae (Palmae)				
<i>Washingtonia filifera</i> California fan-palm		Tree	RegEn	Known from E NV outside PARA (Atwood et al. 2000)
Aristolochiaceae				
<i>Aristolochia watsonii</i> Watson's Dutchman's-pipe		PerF	RegEn	Known from Grand Canyon outside PARA (Atwood et al. 2003)

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Species/Common Name	Synonym	Life form	Range	Comments
Asteraceae (Compositae)				
<i>Artemisia ludoviciana</i> ssp. <i>ludoviciana</i> Louisiana wormwood	<i>A. ludoviciana</i> ssp. <i>typica</i>	PerF	Wide	Known from AZ Strip outside PARA (Atwood et al. 2000)
<i>Brickellia coulteri</i> Coulter's brickellbush		Shrub	Wide	Known from adjacent areas of Grand Canyon NP
<i>Carthamus tinctorius</i> Safflower		AnnF	Intro	Native to Europe. Known from vicin- ity of Beaver Dam - 2005 Higgins
<i>Centaurea solstitialis</i> Yellow star-thistle	<i>Leucantha solstitialis</i>	PerF	Intro	Known from vicinity of Littlefield. Native to Europe. Prohibited noxious weed.
<i>Cirsium rothrockii</i> Rothrock's thistle	<i>C. arizonicum</i> var. <i>rothrockii</i>	PerF	RegEn	Known from AZ Strip outside PARA (Atwood et al. 2003)
<i>Dicoria canescens</i> ssp. <i>canescens</i> Gray sandplant		AnnF	Wide	Known from AZ Strip outside PARA (Atwood et al. 2000)
<i>Ericameria cervina</i> Antelope goldenbush	<i>Haplopappus cervinus</i> , <i>Aplopappus cervinus</i>	Shrub	RegEn	Known from Virgin Mts outside PARA (Atwood et al. 2003)
<i>Ericameria nauseosa</i> var. <i>leiosperma</i> Smoothseed rabbitbrush	<i>Chrysothamnus</i> <i>nauseosus</i> var. <i>leiosper-</i> <i>mus</i>	Shrub	RegEn	Known from adjacent areas of Grand Canyon NP. Type locality is St. George, Washington Co, UT (Palmer s.n. NY)
<i>Ericameria watsonii</i> Watson's goldenbush	<i>Haplopappus watsonii</i> var. <i>watsonii</i> , <i>Aplopappus watsonii</i>	Shrub	Periph	Known from AZ Strip outside PARA (Atwood et al. 2003)
<i>Erigeron argentatus</i> Silver daisy		PerF	Periph	Known from AZ Strip outside PARA (Atwood et al. 2003)
<i>Erigeron eatonii</i> Eaton's daisy		PerF	Wide	Known from Virgin Mts outside PARA (Atwood et al. 2003)
<i>Eurybia pulchra</i> Modest aster	<i>Aster glaucodes</i> var. <i>pulcher</i> , <i>A. wasatchensis</i> var. <i>pulcher</i> , <i>Eucephalus</i> <i>pulcher</i> , <i>Herrickia</i> <i>glaucodes</i> var. <i>pulchra</i> ,	PerF	RegEn	Known from vicinity of Colorado City outside of PARA (Atwood et al. 2003)
<i>Euthamia occidentalis</i> Western goldenrod	<i>Solidago occidentalis</i>	PerF	Wide	Known from Beaver Dam outside PARA (Atwood et al. 2003)
<i>Glyptopleura setulosa</i> Setose crustweed		AnnF	Wide	Type locality: near St. George, UT (Palmer 6 GH). Known from else- where on Arizona Strip (Atwood et al. 2003)
<i>Hedypnois cretica</i> Cretanweed		AnnF	Intro	Native to Mediterranean. Known from Virgin River Gorge outside PARA

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Species/Common Name	Synonym	Life form	Range	Comments
Asteraceae (Compositae)				
<i>Helianthella microcephala</i> Purple-disk little sunflower		PerF	RegEn	Known from AZ Strip outside PARA (Atwood et al. 2003)
<i>Helianthus petiolaris</i> ssp. <i>fallax</i> Prairie sunflower	includes var. <i>petiolaris</i>	AnnF	Wide	Known from AZ Strip outside PARA (Atwood et al. 2003)
<i>Heterotheca grandiflora</i> Telegraph weed		PerF	Wide	Known from vicinity of Beaver Dam and Mesquite (Atwood et al. 2003)
<i>Machaeranthera grindelioides</i> var. <i>grindelioides</i> Gumweed aster	<i>Haplopappus nuttallii</i> , <i>Xanthisma grindelioides</i> var. <i>grindelioides</i> , <i>Aplopappus nuttallii</i>	PerF	Wide	Known from AZ Strip outside PARA (Atwood et al. 2003)
<i>Malacothrix sonchoides</i> Sowthistle desert-dandelion		AnnF	Wide	Known from vicinity of Beaver Dam and Mesquite
<i>Malacothrix torreyi</i> Torrey's desert-dandelion		AnnF	Wide	Known from AZ Strip outside PARA (Atwood et al. 2003)
<i>Oxytenia acerosa</i> Copperweed	<i>Iva acerosa</i>	Shrub	Wide	Known from vicinity of Colorado City outside of PARA (Atwood et al. 2003)
<i>Picrothamnus desertorum</i> Budsage	<i>Artemisia spinescens</i>	Shrub	Periph	Vague historical record for Arizona Strip cited by Atwood et al. (2000)
<i>Psathyrotes pilifera</i> Piliferous turtleback		AnnF	RegEn	Type locality: near Kanab, Kane Co, UT (Thompson s.n. GH). Known from AZ Strip outside PARA (Atwood et al. 2003)
<i>Solidago spectabilis</i> Basin goldenrod		PerF	Periph	Known from vicinity of Littlefield outside PARA (Atwood et al. 2003))
<i>Symphotrichum ciliatum</i> Ciliate aster	<i>Aster brachyactis</i>	PerF	Periph	Known from Beaver Dam outside PARA (Atwood et al. 2003)
<i>Symphotrichum welshii</i> Welsh's aster	<i>Aster welshii</i>	PerF	RegEn	Type locality: Zion Canyon, Washington Co, UT (Welsh & Hays 24379 BRY). Known from vicinity of Colorado City outside of PARA (Atwood et al. 2003)
<i>Tetradymia axillaris</i> Longspine horsebrush	<i>Tetradymia spinosa</i> var. <i>longispina</i>	Shrub	RegEn	Known from AZ Strip outside PARA (Atwood et al. 2003)
<i>Zinnia grandiflora</i> Little golden-zinnia		Shrub	Wide	Known from AZ Strip outside PARA (Atwood et al. 2003)
Boraginaceae (Hydrophyllaceae)				
<i>Cryptantha abata</i> Low cryptanth		PerF	RegEn	Known from Toroweap area of Grand Canyon NP
<i>Cryptantha capitata</i> Head cryptanth		PerF	RegEn	Type locality: Hermit Trail, Grand Canyon, AZ (Eastwood 5969). Reports from Atwood et al. (2000) from out of PARA

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Boraginaceae (Hydrophyllaceae)				
<i>Cryptantha crassisejala</i> Thick-sepaled cryptanth	<i>C. crassisejala</i> var. <i>elachantha</i>	AnnF	Wide	Known from AZ Strip outside PARA (Atwood et al. 2000)
<i>Cryptantha humilis</i> Dwarf cryptanth	<i>Oreocarya humilis</i>	PerF	Wide	Known from AZ Strip outside PARA (Atwood et al. 2000)
<i>Cryptantha muricata</i> Pointed cryptantha	<i>C. muricata</i> var. <i>denticulata</i>	AnnF	Wide	Known from AZ Strip outside PARA - Higgins 2004 coll
<i>Mertensia oblongifolia</i> Oblongleaf bluebells		PerF	Periph	Known from AZ Strip outside PARA
<i>Phacelia cephalotes</i> Chinle phacelia		AnnF	RegEn	Type locality: near St. George, UT (Parry 179 GH). Known from AZ Strip outside PARA (Atwood et al. 2003).
<i>Phacelia rafaensis</i> San Rafael phacelia	Included in <i>P. constancei</i> by some authors	PerF	RegEn	Known from vicinity of Fredonia outside PARA (Atwood et al. 2003).
Brassicaceae (Cruciferae)				
<i>Brassica elongata</i> Elongated mustard		PerF	Intro	Native to Europe. Known from vicinity of Beaver Dam (Atwood et al. 2003)
<i>Descurainia californica</i> California tansy-mustard		PerF	Wide	Known from Virgin River Canyon outside PARA (Atwood et al. 2003)
<i>Physaria chambersii</i> Chambers' twinpod	<i>P. chambersii</i> var. <i>chambersii</i>	PerF	Wide	Known from AZ Strip outside PARA (Atwood et al. 2003)
Cactaceae				
<i>Cylindropuntia spinosior</i> Cane cholla	<i>Opuntia spinosior</i>	Shrub	Wide	Known from Virgin Mountain area just outside PARA
<i>Cylindropuntia x multigeniculata</i> Blue Diamond cholla	<i>Opuntia whipplei</i> var. <i>multigeniculata</i> , Hybrid of <i>C. echinocarpa</i> x <i>C. whipplei</i>	Shrub	RegEn	Known from AZ Strip outside PARA (Atwood et al. 2003). USFWS: former C2. AZ: Salvage Restricted.
<i>Echinocereus fasciculatus</i> Bundle hedgehog cactus	<i>E. fendleri</i> var. <i>fasciculatus</i>	PerF	RegEn	Known from Lake Mead (Powell 2002). AZ: Salvage Restricted.
<i>Escobaria missouriensis</i> Missouri fox-tail cactus	<i>Coryphantha missouriensis</i> , included in <i>C. vivipara</i> in FNA	PerF	Wide	Known from AZ Strip outside PARA (Atwood et al. 2003). AZ: Salvage Restricted.
<i>Escobaria vivipara</i> var. <i>deserti</i> Mohave pincushion	<i>Coryphantha vivipara</i> var. <i>deserti</i> , <i>C. chlorantha</i> , <i>Mammillaria chlorantha</i>	PerF	RegEn	Known from Virgin Mts outside PARA (Atwood et al. 2003)

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Species/Common Name	Synonym	Life form	Range	Comments
Cactaceae				
<i>Escobaria vivipara</i> var. <i>vivipara</i> Pincushion cactus	<i>Coryphantha vivipara</i> var. <i>vivipara</i> , Vars not recognized in FNA	PerF	Wide	Known from AZ Strip outside PARA (Atwood et al. 2003)
<i>Opuntia aurea</i> Pipe Spring pricklypear	<i>O. erinacea</i> var. <i>aurea</i>	PerF	RegEn	Known from AZ Strip outside PARA (Atwood et al. 2003). AZ: Salvage Restricted.
<i>Opuntia chlorotica</i> Pancake pricklypear		PerF	Wide	Known from Lake Mead (Powell 2002)
<i>Opuntia engelmannii</i> Frying pan prickly-pear	<i>Opuntia phaeacantha</i> var. <i>discata</i>	PerF	Wide	Known from Grand Canyon NP
<i>Pediocactus peeblesianus</i> Navajo pincushion cactus	<i>P. peeblesianus</i> var. <i>fickeiseniae</i>	PerF	RegEn	USFWS: Candidate. USFS: Sensitive. AZ: Highly Safeguarded. Known from AZ Strip outside PARA (Atwood et al. 2003)
<i>Sclerocactus parviflorus</i> Small-flower fishhook cactus	<i>S. whipplei</i> var. <i>roseus</i> , <i>S. whipplei</i> var. <i>intermedius</i>	PerF	Wide	Known from AZ Strip outside PARA (Atwood et al. 2003)
Caryophyllaceae (Alsinaceae)				
<i>Scopulophila rixfordii</i> Rixford's rockwort		PerF	RegEn	Known from Virgin River Canyon outside PARA (Atwood et al. 2003)
Convolvulaceae (Cuscutaceae)				
<i>Evolvulus nuttallianus</i> Evolvulus		PerF	Wide	Known from AZ Strip outside PARA (Atwood et al. 2003)
<i>Ipomoea coccinea</i> Red morning-glory	<i>I. cristulata</i>	AnnF	Intro	Native to tropical America. Known from AZ Strip outside PARA
Cornaceae				
<i>Cornus sericea</i> ssp. <i>sericea</i> Red-osier dogwood	<i>C. stolonifera</i> , <i>C. alba</i> var. <i>alba</i> , <i>Swida sericea</i>	Shrub	Wide	Known from vicinity of Colorado City outside of PARA (Atwood et al. 2003)
Cucurbitaceae				
<i>Cucurbita foetidissima</i> Buffalo gourd		PerF	Wide	Known from AZ Strip outside PARA (Atwood et al. 2003)
Cupressaceae				
<i>Juniperus scopulorum</i> Rocky Mountain juniper	<i>Sabina</i> <i>scopulorum</i>	Tree	Wide	Known from Virgin Mts, just outside PARA (Atwood et al. 2003)

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Species/Common Name	Synonym	Life form	Range	Comments
Cyperaceae				
<i>Carex disperma</i> Soft-leaved sedge		PerG	Periph	Known from Black Rock area outside PARA
<i>Carex obtusata</i> Blunt sedge		PerG	Periph	Known from Lake Mead (Powell 2002)
<i>Schoenoplectus maritimus</i> Alkali bulrush	<i>Scirpus maritimus</i> var. <i>paludosus</i> , <i>Bolboschoenus maritimus</i> var. <i>paludosus</i>	PerG	Wide	Known from Beaver Dam outside PARA (Atwood et al. 2003)
Elaeagnaceae				
<i>Elaeagnus angustifolia</i> Russian olive		Tree	Intro	Native to Europe. Known from Virgin River outside PARA (Atwood et al. 2003)
Ericaceae (Monotropaceae)				
<i>Pterospora andromedea</i> Pinedrops		PerF	Wide	Reported from vicinity by Haber (1992).
Euphorbiaceae				
<i>Chamaesyce hyssopifolia</i> Hyssop spurge	<i>Euphorbia hyssopifolia</i>	AnnF	Wide	Native to E North America. Known from AZ Strip outside PARA (Atwood et al. 2003)
<i>Chamaesyce vermiculata</i> Worm-seed sandmat	<i>Euphorbia vermiculata</i>	AnnF	RegEn	Known from AZ Strip outside PARA (Atwood et al. 2003)
<i>Croton setigerus</i> Turkey-mullein	<i>Eremocarpus setigerus</i>	AnnF	Periph	Known from AZ Strip outside PARA (Atwood et al. 2003)
Fabaceae (Caesalpinaceae, Leguminosae)				
<i>Astragalus ampullarius</i> Gumbo milkvetch		PerF	RegEn	Type locality: near Kanab, Kane Co, UT (Thompson s.n. GH). Known from AZ Strip outside PARA (Atwood et al. 2003). USFWS: former C2. USFS: Sensitive.
<i>Astragalus brandegeei</i> Brandegee's milkvetch		PerF	RegEn	Known from AZ Strip outside PARA (Atwood et al. 2003)
<i>Astragalus ceramicus</i> var. <i>ceramicus</i> Painted milkvetch		PerF	Wide	Known from AZ Strip outside PARA (Atwood et al. 2003)
<i>Astragalus cremnophylax</i> var. <i>cremnophylax</i> Sentry milkvetch		PerF	LocEn	USFWS: Endangered. Type locality: S rim of Grand Canyon, Coconino Co., AZ (Ripley & Barneby 8473 CAS). Known from Grand Canyon outside PARA (Atwood et al. 2003)

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Fabaceae (Caesalpinaceae, Leguminosae)				
<i>Astragalus geyeri</i> var. <i>triquetrus</i> Sand milkvetch	<i>A. triquetrus</i>	PerF	RegEn	Type locality is confluence of Muddy River with the Virgin, NV (Palmer s.n. GH). Known from vicinity on AZ Strip. USFWS: former C2. BLM: Sensitive.
<i>Astragalus holmgreniorum</i> Holmgren's milkvetch		PerF	LocEn	USFWS: Endangered. AZ: Highly Safeguarded. Type locality: Mokiah Wash, AZ (Holmgren, Holmgren, & Barneby 9175 NY). Known from AZ Strip outside PARA (Atwood et al. 2003)
<i>Astragalus kentrophyta</i> Thistle milkvetch		PerF	Wide	Var. not reported. Known from AZ Strip outside PARA (Atwood et al. 2003)
<i>Astragalus lentiginosus</i> var. <i>diphysus</i> Freckled milkvetch		PerF	Wide	Known from Grand Canyon outside PARA (Atwood et al. 2003)
<i>Astragalus lonchocarpus</i> Great rushy milkvetch		PerF	Periph	Type locality: 'southern Utah', (Parry 32 ISC). Known from AZ Strip outside PARA (Atwood et al. 2003)
<i>Astragalus pattersonii</i> Patterson's milkvetch		PerF	RegEn	Known from AZ Strip outside PARA (Atwood et al. 2003)
<i>Astragalus toanus</i> var. <i>scidulus</i> Diamond Butte milkvetch		PerF	LocEn	Type locality: E flank of Diamond Butte, Mohave Co, AZ (Atwood & Welsh 13526 BRY). Known from AZ Strip outside PARA (Atwood et al. 2003). BLM: Sensitive.
<i>Hoffmannseggia drepanocarpa</i> Sickle-pod rush-pea	<i>Caesalpinia drepanocarpa</i>	PerF	Wide	Known from Arizona Strip outside PARA.
<i>Lotus rigidus</i> Bush trefoil		PerF	Wide	Known from Virgin Mts outside PARA (Atwood et al. 2003)
<i>Lupinus jonesii</i> Jones' lupine	<i>L. sericeus</i> var. <i>jonesii</i>	PerF	RegEn	Type locality: Silver Reef, UT (Jones 5143 NY). Reported from Virgin Mts outside PARA (Atwood et al. 2003)
<i>Pediomelum megalanthum</i> var. <i>epipsilum</i> Kane breadroot	<i>Psoralea epipsila</i> , <i>Pediomelum epipsilum</i>	PerF	RegEn	Type locality: 17 mi E of Kanab towards Jepson Spring, UT (Ripley & Barneby 4832 CAS). Known from Black Rock Gulch and Fredonia outside PARA (Atwood et al. 2003). USFWS: former C2.
<i>Phaseolus pedicellatus</i> var. <i>grayanus</i> Gray's bean	<i>P. grayanus</i>	PerF	Wide	Known from Grand Canyon NP
<i>Psoralidium lanceolatum</i> Lemon scurf-pea	<i>Psoralea lanceolata</i> , <i>Psoralidium lanceolatum</i> var. <i>lanceolatum</i>	PerF	Wide	Known from vicinity of Colorado City outside of PARA (Atwood et al. 2003)

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Species/Common Name	Synonym	Life form	Range	Comments
Fabaceae (Caesalpinaceae, Leguminosae)				
<i>Robinia pseudoacacia</i> Black locust		Tree	Intro	Native to E North America. Known from Beaver Dam
Fagaceae				
<i>Quercus havardii</i> var. <i>tuckeri</i> Shinnery oak	<i>Q. welshii</i> , <i>Q. undulata</i>	Shrub	RegEn	Known from AZ Strip outside PARA (Atwood et al. 2003)
Grossulariaceae (Saxifragaceae)				
<i>Ribes leptanthum</i> Trumpet gooseberry		Shrub	Wide	Known from Virgin Mts outside PARA (Atwood et al. 2003).
Haloragaceae				
<i>Myriophyllum sibiricum</i> Common water-milfoil	<i>M. exalbescent</i>	PerF	Wide	Known from Beaver Dam outside PARA (Atwood et al. 2003)
Juncaceae				
<i>Juncus acutus</i> Spiny rush		PerG	Periph	Known from eastern NV (Atwood et al. 2000)
Lamiaceae (Labiatae)				
<i>Mentha aquatica</i> Water mint	<i>Mentha citrata</i>	PerF	Intro	Native to Europe. Known from Beaver Dam outside PARA (Atwood et al. 2003)
Liliaceae (Calochortaceae)				
<i>Calochortus aureus</i> Golden mariposa	<i>C. nuttallii</i> var. <i>aureus</i>	PerF	RegEn	Type locality: near Kanab, UT (Thompson s.n. US). Known from AZ Strip outside PARA (Atwood et al. 2003).
Loasaceae				
<i>Mentzelia memorabilis</i> 9/11 blazingstar	Includes reports of <i>M. polita</i>	PerF	LocEn	Type locality is Uinkaret Plateau, AZ (Holmgren & Holmgren 14580 NY). Known from AZ Strip outside PARA (Atwood et al. 2005). BLM: Sensitive
<i>Mentzelia oreophila</i> Argus blazingstar	<i>M. puberula</i>	PerF	Wide	Known from AZ Strip outside PARA (Atwood et al. 2003)
Malvaceae				
<i>Sphaeralcea emoryi</i> Emory's globemallow		PerF	Wide	Known from AZ Strip outside PARA (Atwood et al. 2003)

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Melanthiaceae (Liliaceae)				
<i>Zigadenus paniculatus</i> Foothills death camas	<i>Toxicoscordion paniculatum</i>	PerF	Wide	Known from AZ Strip outside PARA (Atwood et al. 2003).
Montiaceae (Portulacaceae)				
<i>Claytonia parviflora</i> Streambank springbeauty		AnnF	Wide	Known from vicinity in Lake Mead NRA. Erroneously cited as present by Fertig (2010).
<i>Lewisia brachycalyx</i> Shortsepal lewisia		PerF	Wide	Known from Black Rock area outside PARA (Phillips 81-112 MNA)
Moraceae				
<i>Morus alba</i> White mulberry		Tree	Intro	Native to China. Known from Virgin River area outside PARA (Atwood et al. 2003)
Nyctaginaceae				
<i>Abronia nana</i> Low sand-verbena	<i>A. nana</i> var. <i>nana</i>	PerF	RegEn	Known from AZ Strip outside PARA (Atwood et al. 2003)
<i>Abronia villosa</i> var. <i>villosa</i> Sticky sand-verbena		AnnF	Wide	Known from vicinity of Littlefield outside PARA (Atwood et al. 2003))
<i>Boerhavia coccinea</i> Scarlet spiderling		PerF	Wide	Known from Virgin River Gorge out- side PARA (Atwood et al. 2003)
<i>Boerhavia purpurascens</i> Purple spiderling		AnnF	Wide	Reported from Arizona Strip outside PARA (Atwood 30720 BRY)
<i>Boerhavia wrightii</i> Largebract spiderling		AnnF	Wide	Known from Grand Canyon NP
Onagraceae				
<i>Camissonia dominguez- escalantorum</i> Escalante Trail camissonia		AnnF	LocEn	Known from just outside PARA boundary. Type locality: Rim of Hur- ricane Cliffs, near Old Escalante His- toric Trail, AZ (Atwood 30030 BRY)
<i>Epilobium canum</i> ssp. <i>garrettii</i> Hummingbird-flower	<i>Zauschneria latifolia</i> var. <i>PerF garrettii</i> , <i>Z. garrettii</i>	PerF	Periph	Known from vicinity of Colorado City outside of PARA (Atwood et al. 2003)
<i>Epilobium nevadense</i> Nevada willowherb		PerF	RegEn	Known from adjacent areas of Grand Canyon NP
<i>Oenothera longissima</i> Bridges evening-primrose		PerF	RegEn	Known from Beaver Dam and Fredo- nia areas outside PARA (Atwood et al. 2003)

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Species/Common Name	Synonym	Life form	Range	Comments
Orobanchaceae (Scrophulariaceae)				
<i>Castilleja exserta</i> ssp. <i>exserta</i> Purple owl's-clover	<i>Orthocarpus purpurascens</i>	PerF	Wide	Known from AZ Strip outside PARA (Atwood et al. 2003).
<i>Castilleja flava</i> Yellow paintbrush	<i>C. flava</i> var. <i>flava</i>	PerF	Periph	Known from Virgin Mts outside PARA (Atwood et al. 2003).
Papaveraceae (Fumariaceae)				
<i>Arctomecon californica</i> Golden bearclaw poppy		PerF	RegEn	Known from adjacent Nevada and Grand Canyon NP (Atwood et al. 2000). USFWS: former C2. AZ: Salvage Restricted
<i>Argemone pleiakantha</i> ssp. <i>ambigua</i> Southwestern prickly-poppy		PerF	Wide	Known from Grand Canyon NP
Phrymaceae (Scrophulariaceae)				
<i>Mimetanthe pilosa</i> Hairy mimetanthe	<i>Mimulus pilosus</i>	AnnF	Wide	Atwood et al. (2003) report from E NV (Cabin Canyon).
Pinaceae				
<i>Abies concolor</i> White fir	<i>A. concolor</i> var. <i>concolor</i>	Tree	Wide	Known from Virgin Mts outside PARA (Atwood et al. 2003)
Plantaginaceae (Scrophulariaceae)				
<i>Penstemon leonardii</i> var. <i>higginsii</i> Higgins' penstemon	<i>P. higginsii</i>	PerF	RegEn	Type locality: Pine Valley, Browse Road to guard station, UT (Higgins 13578 BRY). Known from Virgin Mts outside PARA (Atwood et al. 2003).
<i>Penstemon petiolatus</i> Crevice penstemon		PerF	RegEn	Known from Virgin River Gorge outside PARA (Atwood et al. 2003).
<i>Penstemon virgatus</i> Upright blue penstemon		PerF	Wide	Known from AZ Strip outside PARA (Atwood et al. 2003) Specimen at ASD is <i>P. pseudoputus</i> .
<i>Plantago lanceolata</i> English plantain		PerF	Intro	Native to Eurasia. Known from Lees Ferry and Grand Canyon
Poaceae (Gramineae)				
<i>Achnatherum lettermanii</i> Letterman's needlegrass	<i>Stipa lettermanii</i>	PerG	Wide	Known from AZ Strip outside PARA (Atwood et al. 2003)

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Poaceae (Gramineae)				
<i>Agrostis scabra</i> Ticklegrass	<i>A. hiemalis</i> , <i>A. geminata</i>	PerG	Wide	Known from Virgin Mts outside PARA (Atwood et al. 2003)
<i>Agrostis stolonifera</i> Creeping bentgrass	<i>A. alba</i> , <i>A. gigantea</i>	PerG	Intro	Native to Eurasia & Africa. Known from Virgin Mts outside PARA
<i>Chloris virgata</i> Showy windmill grass		AnnG	Wide	Known from AZ Strip outside PARA (Atwood & Merkley 30610 from 2004)
<i>Dactylis glomerata</i> Orchard grass		PerG	Intro	Native to Eurasia & Africa. Known from Virgin Mts outside PARA (Atwood et al. 2003)
<i>Deschampsia elongata</i> Slender hairgrass		PerG	Wide	Known from Grand Canyon and Virgin Mts outside PARA (Atwood et al. 2003)
<i>Eragrostis curvula</i> Weeping lovegrass		PerG	Intro	Native to Africa. Known from Beaver Dam outside PARA (Atwood et al. 2003)
<i>Eragrostis intermedia</i> Plains lovegrass		PerG	Wide	Known from Littlefield outside PARA (Atwood et al. 2003)
<i>Eragrostis lehmanniana</i> Lehmann's lovegrass		PerG	Intro	Native to Africa. Known from Beaver Dam outside PARA (Atwood et al. 2003)
<i>Leymus salinus</i> Salina wildrye	<i>Elymus salinus</i> , <i>E. salina</i> , <i>E. ambiguus</i> , <i>L. salina</i> , <i>L. ambiguus</i>	PerG	Wide	Known from vicinity of Colorado City outside of PARA (Atwood et al. 2003)
<i>Lycurus phleoides</i> Wolftail	<i>L. setosus</i>	PerG	Wide	Known from Toroweap area outside PARA (Atwood et al. 2003)
<i>Muhlenbergia andina</i> Foxtail muhly		PerG	Wide	Known from vicinity of Colorado City outside of PARA (Atwood et al. 2003)
<i>Muhlenbergia asperifolia</i> Scratchgrass		PerG	Wide	Known from Virgin River & vicinity of Colorado City outside PARA (Atwood et al. 2003)
<i>Muhlenbergia pungens</i> Sandhill muhly		PerG	Wide	Known from AZ Strip outside PARA
<i>Muhlenbergia thurberi</i> Thurber's muhly	Includes <i>M. curtifolia</i>	PerG	Wide	Known from Virgin Mts outside PARA (Atwood et al. 2003)
<i>Panicum capillare</i> Witchgrass		AnnG	Wide	Known from Beaver Dam outside PARA (Atwood et al. 2003)
<i>Panicum virgatum</i> Switchgrass		PerG	Wide	Known from AZ Strip outside PARA (Atwood 30617)
<i>Saccharum ravennae</i> Ravenna grass	<i>Erianthus ravennae</i>	PerG	Intro	Native to Eurasia. Known from Virgin River outside PARA (Atwood et al. 2003)

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Poaceae (Gramineae)				
<i>Sporobolus airoides</i> Alkali sacaton	<i>S. airoides</i> var. <i>airoides</i>	PerG	Wide	Known from vicinity of Colorado City outside of PARA (Atwood et al. 2003)
<i>Sporobolus giganteus</i> Giant dropseed		PerG	Wide	Known from AZ Strip outside PARA (Atwood et al. 2003)
Polemoniaceae				
<i>Aliciella lottiae</i> Lott's gilia	<i>Gilia lottiae</i>	AnnF	Periph	Known from Virgin River Gorge area outside PARA (Wilken & Porter 2005)
<i>Gilia flavocincta</i> ssp. <i>australis</i> Yellow-throat gilia		AnnF	Wide	Known from Virgin River Gorge area outside PARA (Wilken & Porter 2005)
<i>Ipomopsis congesta</i> ssp. <i>frutescens</i> Shrubby gilia	<i>Gilia congesta</i> var. <i>frutescens</i>	PerF	Sparse	Known from vicinity of PARA in Arizona Strip
<i>Linanthus pungens</i> Prickly-phlox	<i>Leptodactylon pungens</i>	Shrub	Wide	Known from Virgin Mts outside PARA (Atwood et al. 2003)
<i>Phlox cluteana</i> Navajo phlox		PerF	RegEn	Reported from the Black Rock area (Atwood et al. 2000), but well out of range
Polygonaceae				
<i>Eriogonum shockleyi</i> Shockley's buckwheat		PerF	Wide	Known from AZ Strip outside PARA (Atwood et al. 2003)
<i>Eriogonum subreniforme</i> Kidney-shaped wild buckwheat		AnnF	RegEn	Type locality is Virgin River Valley, UT (Parry 237 ISC). Known from AZ Strip outside PARA
<i>Eriogonum viscidulum</i> Sticky wild buckwheat		AnnF	RegEn	Known from E NV and vicinity on AZ Strip. USFWS: former C2. BLM: Sensitive.
<i>Eriogonum zionis</i> var. <i>coccineum</i> Red Zion wild buckwheat	<i>E. racemosum</i> var. <i>coccineum</i>	PerF	LocEn	Type locality: Point Sublime, Grand Canyon, AZ. Known from AZ Strip outside PARA
<i>Polygonum lapathifolium</i> Willow-weed	<i>Persicaria lapathifolia</i>	AnnF	Intro	Native to Eurasia. Known from vicinity of Beaver Dam outside PARA (Atwood et al. 2003)
Portulacaceae				
<i>Portulaca halimoides</i> Dwarf purslane	<i>P. parvula</i>	AnnF	Wide	Known from AZ Strip outside PARA (Atwood et al. 2003)

Appendix B. Potential vascular plant taxa of
Grand Canyon Parashant National Monument

Species/Common Name	Synonym	Life form	Range	Comments
Primulaceae (Theophrastaceae)				
<i>Samolus valerandi</i> ssp. <i>parviflorus</i> Water-pimpernel	<i>S. floribundus</i> , <i>S. parviflorus</i>	PerF	Wide	Known from the Virgin River outside PARA.
Pteridaceae (Adiantaceae, Polypodiaceae, Sinopteridaceae)				
<i>Adiantum capillus-veneris</i> Southern maidenhair fern		Fern	Wide	Known from the Virgin River and Cottonwood Spring outside PARA (Atwood et al. 2003).
<i>Cheilanthes covillei</i> Coville's lip-fern		Fern	Wide	Known from Virgin Mts, just outside PARA (Atwood et al. 2003).
Ranunculaceae				
<i>Clematis ligusticifolia</i> White virgin's-bower		PerF	Wide	Known from Virgin Mts outside PARA (Atwood et al. 2003)
Rosaceae				
<i>Cercocarpus intricatus</i> Dwarf mountain mahogany	<i>C. ledifolius</i> var. <i>intricatus</i>	Shrub	Wide	Known from Toroweap area outside PARA (Atwood et al. 2003)
<i>Potentilla crinita</i> Bearded cinquefoil		PerF	Wide	Known from AZ Strip outside PARA
Rubiaceae				
<i>Galium coloradoense</i> Colorado bedstraw	<i>G. multiflorum</i> var. <i>coloradoense</i>	PerF	RegEn	Known from Toroweap Area outside PARA (Atwood et al. 2000). Reports may represent <i>G. munzii</i>
Salicaceae				
<i>Salix scouleriana</i> Scouler's willow		Shrub	Wide	Known from Virgin Mts outside PARA (Atwood et al. 2003)
Sarcobataceae (Chenopodiaceae)				
<i>Sarcobatus vermiculatus</i> Greasewood		Shrub	Wide	Known from vicinity of Colorado City outside of PARA (Atwood et al. 2003).
Solanaceae				
<i>Lycium barbarum</i> Matrimony-vine		Shrub	Intro	Native to Eurasia. Atwood et al. (2003) report from Beaver Dam, out of area

Appendix C. Rejected (falsely reported or questionable) vascular plant taxa of
Grand Canyon Parashant National Monument

Species/Common Name	Synonym	Life form	Range	Comments
Amaranthaceae (Chenopodiaceae)				
<i>Amaranthus californicus</i> California amaranth		AnnF	Periph	Reports based on misidentified specimen of <i>A. blitoides</i> (Atwood & Higgins 27982)
<i>Amaranthus powellii</i> Powell's amaranth		AnnF	Wide	Report based on a misidentified specimen of <i>Amaranthus albus</i> (Coombs & Bundy 2963)
<i>Amaranthus retroflexus</i> Redroot pigweed		AnnF	Intro	Report based on misidentified specimen of <i>A. hybridus</i> (Atwood 27835). Native to Central America.
<i>Chenopodium ambrosioides</i> Mexican-tea	<i>Dysphania ambrosioides</i>	AnnF	Intro	Native to Mexico. Reports all based on misidentified specimens of <i>C. graveolens</i> .
<i>Chenopodium watsonii</i> Watson's goosefoot		AnnF	Wide	Report based on a misidentified specimen of <i>C. incanum</i> (Gierisch 2690 ARIZ)
Apiaceae (Umbelliferae)				
<i>Cymopterus rosei</i> Rose's spring-parsley	<i>C. purpureus</i> var. <i>rosei</i>	PerF	RegEn	Reported (Springer 560 ASC), but PARA well outside expected range, probably represents <i>C. purpureus</i> .
<i>Daucus carota</i> ssp. <i>carota</i> Queen Anne's lace		PerF	Intro	Reports (Bangle 2007) apparently based on misidentified <i>Yabea microcarpa</i> or <i>D. pusillus</i> . Native to Eurasia.
Asteraceae (Compositae)				
<i>Ambrosia psilostachya</i> Western ragweed		PerF	Wide	Report based on a misidentified specimen of <i>A. acanthicarpa</i> (Atwood & Higgins 27941 BRY).
<i>Artemisia ludoviciana</i> ssp. <i>sulcata</i> Louisiana wormwood		PerF	RegEn	Questionable report from Powell (2002) and Bangle (2007), as Mohave County is well out of the species' range in SE AZ
<i>Baccharis wrightii</i> Wright's seepweed		Shrub	Wide	Known from AZ Strip outside PARA (Atwood et al. 2003). Higgins coll 23158 from vicinity of Mt Trumbull schoolhouse is actually <i>Aster spinosus</i> .
<i>Ericameria parryi</i> var. <i>nevadensis</i> Nevada rabbitbrush	<i>Chrysothamnus parryi</i> var. <i>nevadensis</i>	Shrub	Wide	Report based on misidentified specimen of <i>C. nauseosus</i> (Atwood & Higgins 27991 BRY).
<i>Erigeron bellidiastrum</i> Pretty daisy		AnnF	Wide	Report based on a misidentified specimen of <i>E. divergens</i> (Cottam 8696).

Appendix C. Rejected (falsely reported or questionable) vascular plant taxa of
Grand Canyon Parashant National Monument

Species/Common Name	Synonym	Life form	Range	Comments
Asteraceae (Compositae)				
<i>Erigeron engelmannii</i> Engelmann's daisy		PerF	Wide	Reported by Powell (2002), Bangle (2007), and Atwood et al. (2005). All specimens examined have been misidentified <i>Erigeron concinnus</i> .
<i>Eriophyllum lanatum</i> Common woolly-sunflower		PerF	Periph	Report based on Atwood 32992 (BRY) which is probably a mislabeled specimen of <i>E. lanosum</i> . Not known from Arizona.
<i>Eurybia glauca</i> Blueleaf aster	<i>Aster glaucodes</i> var. <i>glaucodes</i> , <i>Eucephalus glaucus</i> , <i>Herrickia glauca</i> var. <i>glauca</i>	PerF	Wide	Report based on misidentified specimen of <i>Machaeranthera canescens</i> var. <i>aristata</i> (Bundy 191 BRY)
<i>Gaillardia spathulata</i> Canyonlands blanketflower		PerF	RegEn	Report from Tuweep Area (Clark 3658) is based on a misidentified specimen of <i>Gaillardia parryi</i>
<i>Heliopsis parvifolia</i> Mountain oxeye		PerF	Periph	Reported by Atwood et al. (2002), Powell (2002), and Bangle (2007) based on Atwood 26292 (BRY) which could not be relocated at BYU in 2010 or 2012. PARA is well out of the expected range.
<i>Malacothrix fendleri</i> Fendler's desert-dandelion		AnnF	Wide	Questionable; report based on specimen of Higgins & Atwood 24335 (ASC); duplicate could not be relocated at BRY in 2012 search; not cited for PARA or Arizona Strip by Atwood et al. (2005); somewhat out of range.
<i>Solidago multiradiata</i> Low goldenrod	<i>S. ciliosa</i>	PerF	Wide	Report based on misidentified specimen of <i>Solidago velutina</i> (Atwood 29898)
<i>Symphyotrichum falcatum</i> var. <i>falcatum</i> Falcate aster	<i>Aster falcatus</i>	PerF	Wide	Reports based on misidentified specimens of <i>Aster ascendens</i> (Atwood 29941 & 29896 at PARA & BRY)
<i>Tetrandeum acaulis</i> var. <i>caespitosa</i> Caespitose hymenoxys	<i>Hymenoxys acaulis</i> var. <i>caespitosa</i>	PerF	Wide	Report based on misidentified <i>H. acaulis</i> var. <i>arizonica</i> (Shultz & Kelly 19912 UTC)
<i>Townsendia florifer</i> Showy townsendia	<i>T. florifera</i>	PerF	Wide	Reported from Shultz & Kelly (19911 UTC) has not been relocated; PARA well outside expected range
Berberidaceae				
<i>Mahonia haematocarpa</i> Red Oregon-grape	<i>Berberis haematocarpa</i>	Shrub	Wide	Report based on misidentified specimen of <i>M. fremontii</i> (Mason 2829 ASC)

Appendix C. Rejected (falsely reported or questionable) vascular plant taxa of
Grand Canyon Parashant National Monument

Species/Common Name	Synonym	Life form	Range	Comments
Boraginaceae (Hydrophyllaceae)				
<i>Cryptantha cinerea</i> var. <i>jamesii</i> Bow-nut cryptanth	<i>C. jamesii</i> , <i>C. cinerea</i> var. <i>disticha</i> , <i>Oreocarya</i> <i>suffruticosa</i>	PerF	Wide	Reports are based on misidentified specimens of <i>C. cinerea</i> var. <i>cinerea</i> (Tweiten 1960 from Mt Trumbull)
<i>Nemophila breviflora</i> Great Basin nemophila		AnnF	Periph	Report based on misidentified specimen of <i>Pholistoma auritum</i> (Atwood & Madsen 26568 BRY). Not in AZ according to Kartesz.
<i>Phacelia constancei</i> Constance's phacelia		PerF	RegEn	Previous reports are all <i>Phacelia hughesii</i> .
<i>Plagiobothrys leptocladus</i> Hairy popcorn-flower		AnnF	NA	Reported by Powell (2002) and Bangle (2007) but unlikely; PARA well outside expected range (not known from Arizona).
Brassicaceae (Cruciferae)				
<i>Alyssum alyssoides</i> Pale alyssum		AnnF	Intro	Report from Atwood et al. (2005) based on a misidentified specimen of <i>A. desertorum</i> . Native to Europe.
<i>Arabis pulchra</i> var. <i>pallens</i> Desert rockcress	<i>Boechea pulchra</i> var. <i>pallens</i> , <i>B. formosa</i>	PerF	Wide	Report from Atwood et al. (2005) and Powell (2002) based on a misidentified specimen of <i>A. perennans</i> (Higgins et al. 20056 BRY, NY).
<i>Lepidium alyssoides</i> var. <i>alyssoides</i> Mesa pepperwort		PerF	Wide	Based on a misidentified specimen of <i>L. eastwoodiae</i> .
<i>Lepidium integrifolium</i> var. <i>heterophyllum</i> Cedar Canyon pepperwort	<i>L. montanum</i> var. <i>heterophyllum</i>	PerF	RegEn	Atwood 32956 (BRY) well out of expected range (SW UT endemic); probably var. <i>glabrum</i> .
<i>Lesquerella gordonii</i> Gordon's bladderpod	<i>Physaria gordonii</i>	PerF	Wide	Reports based on misidentified <i>Physaria tenella</i> (such as Gierisch 4135 ASD).
Cactaceae				
<i>Grusonia kunzei</i> Devil's cholla	<i>Opuntia kunzei</i>	PerF	RegEn	Report based on misidentified specimen of <i>Grusonia parishii</i> (Gierisch 5063 ASU)
<i>Opuntia polyacantha</i> var. <i>hystericina</i> Utah pricklypear	<i>O. erinacea</i> var. <i>utahensis</i> , <i>O. hystericina</i>	PerF	Wide	Report based on misidentified specimen of <i>O. pinkavae</i> (Brown & Parfitt 851 ASD)
<i>Pediocactus simpsonii</i> Simpson's pincushion cactus		PerF	Wide	Cited by Powell (2002) and Bangle (2007) but PARA is well outside the known range of this species. AZ: Salvage Restricted.

Appendix C. Rejected (falsely reported or questionable) vascular plant taxa of
Grand Canyon Parashant National Monument

Species/Common Name	Synonym	Life form	Range	Comments
Cyperaceae				
<i>Cyperus fendlerianus</i> Fendler's flat sedge	<i>Mariscus fendlerianus</i>	PerG	Wide	Report based on misidentified specimen of <i>C. schweinitzii</i> (Bundy 170 ASC).
<i>Eleocharis parvula</i> Dwarf spikerush		PerG	Wide	Reports based on misidentified specimens of <i>E. parishii</i> (Atwood 27208 BRY).
Euphorbiaceae				
<i>Chamaesyce parryi</i> Dune spurge	<i>Euphorbia parryi</i>	AnnF	Wide	Reports are based on misidentified specimens of <i>C. revoluta</i> (Gierisch 4902 ASD, Bundy 162 ASD). Type locality: St. George, UT (Parry 247 MO).
<i>Euphorbia nephradenia</i> Utah spurge		AnnF	RegEn	Type locality: Cottonwood Canyon, UT (Barneby 14434 NY). Not in AZ acc to Kartesz. Reports based on misidentified specimens of <i>E. exstipulata</i> .
Fabaceae (Leguminosae)				
<i>Astragalus humistratus</i> var. <i>hosackiae</i> Flagstaff groundcover milkvetch		PerF	RegEn	Reported by Powell (2002) and Bangle (2007) but unlikely, taxon known only from Flagstaff area.
<i>Astragalus lentiginosus</i> var. <i>ambiguus</i> Freckled milkvetch		PerF	LocEn	Report based on misidentified specimen of <i>A. lentiginosus</i> var. <i>stramineus</i> (Atwood & Madsen 26609). USFWS: former C2.
<i>Astragalus lentiginosus</i> var. <i>oropedii</i> Freckled milkvetch		PerF	LocEn	Report based on misidentified specimen of <i>A. lentiginosus</i> var. <i>vitreus</i> (Atwood & Higgins 29136 BRY). Type locality: Kaibab Trail, Grand Canyon NP, AZ (Eastwood & Howell 7064 CAS).
<i>Astragalus lentiginosus</i> var. <i>yuccanus</i> Yucca milkvetch		PerF	RegEn	Report based on misidentified specimen of <i>A. preussii</i> var. <i>laxiflorus</i> (Gierisch 4138).
<i>Astragalus nothoxys</i> Sheep milkvetch		PerF	Wide	Report (Reichenbacher & Wilson 1713 ARIZ) from PARA area is well outside expected range - confirmation needed.
<i>Astragalus oophorus</i> var. <i>clokeyanus</i> Clokey's egg milkvetch		PerF	Periph	Report based on misidentified specimen of <i>A. oophorus</i> var. <i>caulescens</i> (Atwood & Thorne 12644 BRY).
<i>Astragalus striatiflorus</i> Escarpment milkvetch		PerF	RegEn	Reported by Atwood et al. (2005), but PARA is outside its known range and cited specimens could not be relocated in 2010 or 2012 searches at BRY and SEINet. Type locality: above Springdale, UT (Jones 6080k POM).

Appendix C. Rejected (falsely reported or questionable) vascular plant taxa of
Grand Canyon Parashant National Monument

Species/Common Name	Synonym	Life form	Range	Comments
Fabaceae (Leguminosae)				
<i>Astragalus tephrodes</i> Ashen milkvetch		PerF	RegEn	Reports based on misidentified specimens of <i>A. newberryi</i> var. <i>castoreus</i> or <i>A. amphioxys</i> .
<i>Lupinus polyphyllus</i> Meadow lupine		PerF	NA	Reported by Powell (2002) and Bangle (2007), but PARA well outside expected range. Not known from Arizona.
Gentianaceae				
<i>Centaurium nudicaule</i> Santa Catalina Mountain centaury		AnnF	RegEn	Mapped in vicinity of PARA by Mason (1998), but well out of range and probably an error (not cited for Mohave Co in text).
<i>Frasera paniculata</i> Utah swertia	<i>Swertia utahensis</i>	PerF	RegEn	Report based on a misidentified specimen of <i>Frasera albomarginata</i> (Mason et al. 2826 ARIZ, ASC).
Grossulariaceae (Saxifragaceae)				
<i>Ribes aureum</i> Golden currant	<i>R. aureum</i> var. <i>aureum</i>	Shrub	Wide	Report based on misidentified specimen of <i>R. cereum</i> (Atwood & Furniss 24231 BRY).
<i>Ribes inerme</i> Whitestem gooseberry		Shrub	Wide	Report based on misidentified specimen of <i>R. cereum</i> (Atwood 33357 BRY)
Hydrangeaceae (Saxifragaceae)				
<i>Fendlera wrightii</i> Wright's fendlerbush		Shrub	Periph	Reports based on misidentified <i>F. rupicola</i>
Linaceae				
<i>Linum subteres</i> Utah yellow flax		PerF	RegEn	Based on a misidentified specimen of <i>L. puberulum</i> (Smith & Gierisch s.n.)
Loasaceae				
<i>Mentzelia pumila</i> Wyoming stickleaf	<i>M. pumila</i> var. <i>pumila</i>	PerF	Wide	Reports from Bangle (2007) and others based on misidentified specimens of <i>M. multiflora</i> (Atwood 27291 BRY)
Onagraceae				
<i>Camissonia breviflora</i> Fewflower camissonia	<i>Oenothera breviflora</i>	PerF	NA	Reported (Atwood 33080), but well out of expected range
<i>Epilobium hornemannii</i> Hornemann's willow-herb	<i>E. hornemannii</i> var. <i>hornemannii</i>	PerF	Sparse	Report based on misidentified specimen of <i>E. ciliatum</i> (Coombs & Bundy 2715 ASD)

Appendix C. Rejected (falsely reported or questionable) vascular plant taxa of
Grand Canyon Parashant National Monument

Species/Common Name	Synonym	Life form	Range	Comments
Onagraceae				
<i>Gayophytum humile</i> Low groundsmoke		AnnF	Wide	Report based on misidentified specimen of <i>G. racemosum</i> (Hazlett 7073). Not in Arizona according to Kartesz.
<i>Oenothera caespitosa</i> ssp. <i>caespitosa</i> Tufted evening-primrose		PerF	NA	Report from Atwood 33403 (BRY) probably misidentified as to variety; var. <i>caespitosa</i> well out of range in Arizona.
Plantaginaceae (Scrophulariaceae)				
<i>Antirrhinum majus</i> Garden snapdragon		PerF	Intro	Report apparently based on misidentified specimens of <i>Neogaerrhinum filipes</i>
<i>Penstemon carnosus</i> Fleshy penstemon		PerF	RegEn	Report based on misidentified specimen of <i>P. pachyphyllus</i> var. <i>congestus</i> Atwood 25607 (RM) from just outside PARA.
<i>Penstemon humilis</i> Low penstemon		PerF	NA	Report based on misidentified specimen of <i>P. distans</i> (Gierisch 4992)
<i>Penstemon laevis</i> Smooth penstemon		PerF	RegEn	Type locality: Springdale, Washington Co, UT (Jones 5250 in part US). Reports based on misidentified <i>P. confusus</i> .
<i>Penstemon nudiflorus</i> Flagstaff penstemon		PerF	RegEn	Reported by Powell (2002) and Bangle (2007), but no specimens have been relocated; endemic to Flagstaff area, outside of PARA. Type locality: near Flagstaff, AZ (Lemmon s.n.). USFS: Sensitive.
<i>Penstemon subulatus</i> Hackberry penstemon		PerF	RegEn	Reports based on misidentified specimens of <i>P. confusus</i> (Atwood & Furniss 24875 BRY). Type locality: Hackberry, AZ (Jones).
Poaceae (Gramineae)				
<i>Blepharidachne kingii</i> King's desert-grass		PerG	NA	Reported by Powell (2002) and Bangle (2007), but not otherwise known from Arizona (FNA vol 25).
<i>Bothriochloa ischaemum</i> Yellow bluestem	<i>B. ischaemum</i> var. <i>songarica</i> , <i>Andropogon ischaemum</i>	PerG	Intro	Reports (Bangle 2007) probably based on misidentified specimen of <i>Schizachyrium scoparium</i> (Higgins & Atwood 21844 ASD). Native to Eurasia.
<i>Bromus vulgaris</i> Columbia brome	<i>B. purgans</i> , <i>B. pubescens</i>	PerG	Sparse	Not in Arizona according to FNA vol 24.

Appendix C. Rejected (falsely reported or questionable) vascular plant taxa of
Grand Canyon Parashant National Monument

Species/Common Name	Synonym	Life form	Range	Comments
Poaceae (Gramineae)				
<i>Elymus canadensis</i> Canada wildrye	<i>E. canadensis</i> var. <i>canadensis</i>	PerG	Wide	Reported by Bangle (2007), probably based on misidentified specimen of <i>Elymus elymoides</i> (Higgins 23514).
<i>Elymus virginicus</i> Virginia wildrye		PerG	Wide	Report based on misidentified specimen of <i>E. trachycaulus</i> (Brown & Parfitt 728 ASD).
<i>Hordeum brachyantherum</i> Meadow barley	<i>Critesion</i> <i>brachyantherum</i>	PerG	Wide	Report based on misidentified specimen of <i>Hordeum murinum</i> (Atwood & Madsen 26940 BRY).
<i>Muhlenbergia arenicola</i> Sand muhly		PerG	Wide	Report based on misidentified specimen of <i>M. microsperma</i> (Higgins & Atwood 21855 ASD)
<i>Muhlenbergia glomerata</i> Spiked muhly		PerG	NA	Report based on a misidentified specimen of <i>M. minutissima</i> (Atwood 29884 BRY)
<i>Muhlenbergia racemosa</i> Green muhly		PerG	Wide	Reported by Bangle (2007) based on misidentified specimen of <i>Polypogon semiverticillatus</i> (Atwood & Furniss 25149)
<i>Poa annua</i> Annual bluegrass		AnnF	Intro	Reports from BRY based on misidentified specimens of <i>P. bigelovii</i> and <i>Schismus barbatus</i> . Native to Eurasia.
Polemoniaceae				
<i>Aliciella pinnatifida</i> Sticky gilia	<i>Gilia pinnatifida</i>	PerF	NA	Report probably based on a misidentified specimen of <i>Ipomopsis multiflora</i> (Atwood 27544 BRY). Not known from Arizona.
<i>Ipomopsis polyantha</i> Small-flower gilia	<i>I. polyantha</i> var. <i>whitingii</i> , <i>Gilia</i> <i>polyantha</i> var. <i>whitingii</i>	PerF	RegEn	Report based on misidentified specimen of <i>I. multiflora</i> (Atwood & Furniss 24867 BRY)
<i>Phlox aculeata</i> Snake River Plains phlox		PerF	NA	Report based on Shultz 19566 (UTC), but probably a misidentification of <i>P. longifolia</i> or allies.
Polygonaceae				
<i>Eriogonum ericifolium</i> Yavapai County wild buckwheat		Shrub	LocEn	Report from Phillips & Phillips 79-749 (MNA) is well out of range; may be misidentified <i>E. microthecum</i> . BLM: Sensitive.
<i>Eriogonum gordonii</i> Gordon's buckwheat		AnnF	Wide	Reported by Atwood et al. (2003) and Bangle (2007), but later dropped by Atwood et al. (2005). Specimens could not be relocated at BYU in search in 2010 and 2012. PARA outside expected range.

Appendix C. Rejected (falsely reported or questionable) vascular plant taxa of
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Species/Common Name	Synonym	Life form	Range	Comments
Polygonaceae				
<i>Eriogonum reniforme</i> Kidney-leaf wild buckwheat		AnnF	Wide	Reported by Atwood et al. (2002), but dropped by Atwood et al. (2005); known from just outside PARA.
<i>Eriogonum thompsoniae</i> var. <i>albiflorum</i> Virgin wild buckwheat	<i>E. corymbosum</i> var. <i>albiflorum</i>	Shrub	RegEn	Type locality: 3 miles W of Virgin, Washington Co, UT (Holmgren & Reveal 2991 UTC). Reports based on misidentified specimens of <i>E. jonesii</i> .
Pteridaceae (Adiantaceae, Polypodiaceae, Sinopteridaceae)				
<i>Pellaea atropurpurea</i> Purple cliff-brake	Western populations included in <i>P. gastonyi</i> by some authors	Fern	Wide	Report based on misidentified specimen of <i>P. truncata</i> (Higgins 22787).
Ranunculaceae				
<i>Myosurus minimus</i> Tiny mousetail		AnnF	Wide	Report based on a misidentified specimen of <i>M. cupulatus</i> (Neese 16549)
<i>Ranunculus alismifolius</i> var. <i>montanus</i> Plantain buttercup		PerF	Periph	Report based on misidentified specimen of <i>R. glaberrimus</i> (McClintock 52-367 ARIZ)
Rosaceae				
<i>Amelanchier alnifolia</i> var. <i>semiintegrifolia</i> Saskatoon serviceberry	<i>A. florida</i>	Shrub	NA	Pacific coast variety, not known from AZ
Simaroubaceae				
<i>Castela emoryi</i> Crucifixion thorn	<i>Holacantha emoryi</i>	Shrub	RegEn	Reported by Powell (2002) and Bangle (2007), but PARA is well outside the known range. AZ: Salvage Restricted.
<i>Ivesia multifoliolata</i> Many-leaf ivesia	<i>Potentilla multifoliolata</i>	PerF	RegEn	Report based on misidentified specimen of <i>Ivesia sabulosa</i> (Atwood & Higgins 27961 BRY)
Solanaceae				
<i>Nicotiana clevelandii</i> Cleveland's tobacco		AnnF	Wide	Reports based on misidentified specimens of <i>N. obtusifolia</i>
Violaceae				
<i>Viola nuttallii</i> Nuttall's violet		PerF	Wide	Reports are based on misidentified <i>Viola vallicola</i>

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of
Grand Canyon Parashant National Monument

Species/Common Name	Flower- ing	Wet	Moj Scrb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Adoxaceae (Caprifoliaceae)										
<i>Sambucus nigra</i> ssp. <i>cerulea</i> Blue elderberry	May-Jul	x			x	x	x	x		
Amaranthaceae (Chenopodiaceae)										
<i>Amaranthus albus</i> Tumble pigweed	Jun-Oct								x	
<i>Amaranthus blitoides</i> Prostrate pigweed	Jun-Sep								x	
<i>Amaranthus fimbriatus</i> Fringed amaranth	Jun-Sep	x	x						x	
<i>Amaranthus hybridus</i> Slim amaranth	Aug-Oct								x	
<i>Amaranthus palmeri</i> Palmer's amaranth	Jun-Sep		x							
<i>Atriplex canescens</i> var. <i>canescens</i> Four-wing saltbush	May-Sep		x		x	x	x			
<i>Atriplex confertifolia</i> Shadscale	May-Sep				x	x				
<i>Atriplex elegans</i> var. <i>elegans</i> Wheelscale saltbush	Apr-Jun		x						x	
<i>Atriplex hymenelytra</i> Desert holly	Mar-May		x							
<i>Atriplex micrantha</i> Two-seed amaranth	Jun-Sep	x							x	
<i>Atriplex navajoensis</i> Navajo saltbush	Jun-Sep		x							Sandstone or lime- stone rimrock
<i>Atriplex rosea</i> Tumbling orach	Jul-Sep	x							x	
<i>Bassia scoparia</i> Summer-cypress	Aug-Oct	x			x	x			x	
<i>Chenopodium album</i> Lambsquarter	Jun-Sep								x	
<i>Chenopodium atrovirens</i> Mountain goosefoot	Jul-Sep				x	x	x	x		
<i>Chenopodium berlandieri</i> Berlandier's goosefoot	Jul-Sep	x			x	x	x			

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of Grand Canyon Parashant National Monument

Species/Common Name	Flower- ing	Wet	Moj Scrb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Amaranthaceae (Chenopodiaceae)										
<i>Chenopodium botrys</i> Jerusalem-oak	Aug-Oct		x						x	
<i>Chenopodium desiccatum</i> Desert goosefoot	Jun-Sep			x	x	x	x	x		
<i>Chenopodium fremontii</i> Fremont's goosefoot	Aug-Oct		x		x	x	x	x		
<i>Chenopodium graveolens</i> Fetid goosefoot	Jul-Sep								x	
<i>Chenopodium incanum</i> Silvery goosefoot	Jun-Aug		x		x	x	x	x		
<i>Chenopodium leptophyllum</i> Narrowleaf goosefoot	Jul-Sep	x			x					
<i>Chenopodium murale</i> Nettleleaf goosefoot	Aug-Sep								x	
<i>Grayia spinosa</i> Spiny hopsage	Apr-Jul		x		x	x				
<i>Krascheninnikovia lanata</i> Winterfat	May-Jul		x		x	x				
<i>Monolepis nuttalliana</i> Nuttall's poverty-weed	Apr-Jul		x		x	x	x			
<i>Salsola paulsenii</i> Barbwire Russian-thistle	Jun-Sep								x	
<i>Salsola tragus</i> Russian thistle	Jun-Sep		x		x				x	
<i>Suaeda calceoliformis</i> American sea-blite	Jul-Sep	x								
<i>Tidestromia lanuginosa</i> Woolly tidestromia	Apr-Oct		x							
<i>Tidestromia oblongifolia</i> Honeysweet tidestromia	Apr-Sep		x							
Amaryllidaceae (Alliaceae, Liliaceae)										
<i>Allium acuminatum</i> Taper-tip onion	May-Jul				x	x		x		
<i>Allium bisceptrum</i> Aspen onion	May-Jul				x	x	x			

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of
Grand Canyon Parashant National Monument

Species/Common Name	Flower- ing	Wet	Moj Srb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Amaryllidaceae (Alliaceae, Liliaceae)										
<i>Allium nevadense</i> Nevada onion	Apr-Jul		x		x	x	x			
Anacardiaceae										
<i>Rhus glabra</i> Smooth sumac	Jun-Jul	x				x	x			
<i>Rhus trilobata</i> var. <i>simplicifolia</i> Squawbush	May-Jul		x			x				Rock outcrops
<i>Rhus trilobata</i> var. <i>trilobata</i> Squawbush	May-Jul	x								
Apiaceae (Umbelliferae)										
<i>Bowlesia incana</i> Hoary bowlesia	Feb-May		x							
<i>Cymopterus multinervatus</i> Striate spring-parsley	Mar-Apr		x		x					
<i>Cymopterus purpurascens</i> Basin white-cup spring-parsley	Mar-May		x		x	x		x		
<i>Cymopterus purpureus</i> Colorado Plateau spring-parsley	Apr-Jun		x		x	x	x	x		
<i>Daucus pusillus</i> American wild carrot	Jul-Aug								x	
<i>Hydrocotyle verticillata</i> Water pennywort	Jun-Jul	x								
<i>Lomatium dissectum</i> Fernleaf biscuitroot	Apr-Jun						x	x		
<i>Lomatium foeniculaceum</i> ssp. <i>macdougalii</i> Desert-parsley	Apr-Jun				x	x	x			
<i>Lomatium nevadense</i> var. <i>parishii</i> Nevada lomatium	Apr-May		x		x	x	x	x		
<i>Lomatium scabrum</i> var. <i>tripinnatum</i> Rough lomatium	Apr-Jun		x			x				Sandstone
<i>Pteryxia petraea</i> Rock spring-parsley	Apr-May		x			x				Rock outcrops

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of
Grand Canyon Parashant National Monument

Species/Common Name	Flower- ing	Wet	Moj Srb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Apiaceae (Umbelliferae)										
<i>Pteryxia terebinthina</i> var. <i>albiflora</i> Aromatic spring-parsley	Apr-Jun				x	x				Rock outcrops
<i>Yabea microcarpa</i> California hedge-parsley	Apr-May		x							Rock outcrops
Apocynaceae (Asclepiadaceae)										
<i>Amsonia jonesii</i> Jones' amsonia	Apr-Jun		x		x	x	x			
<i>Amsonia palmeri</i> Palmer's bluestar	Mar-Jun		x							
<i>Amsonia tomentosa</i> Tomentose amsonia	Apr-May		x							
<i>Asclepias asperula</i> var. <i>asperula</i> Spider milkweed	May-Jul		x		x	x	x	x		
<i>Asclepias erosa</i> Desert milkweed	Apr-Aug		x							
<i>Asclepias latifolia</i> Broadleaf milkweed	Jun-Aug	x	x		x	x				
<i>Asclepias rusbyi</i> Rusby's milkweed	Jun-Jul				x	x				
<i>Asclepias subverticillata</i> Whorled milkweed	May-Sep		x		x	x	x		x	
<i>Asclepias tuberosa</i> var. <i>interior</i> Orange milkweed	May-Sep	x			x	x	x			
<i>Cynanchum utahense</i> Swallow-wort	May-Sep		x		x					
<i>Funastrum cynanchoides</i> ssp. <i>heterophyllum</i> Climbing milkweed	Apr-Sep	x	x							
<i>Matelea producta</i> Texas milkvine	May-Aug		x							
Asparagaceae (Agavaceae, Anthericaceae, Convallariaceae, Laxmanniaceae, Liliaceae, Ruscaceae, Themidaceae)										
<i>Agave utahensis</i> var. <i>kaibabensis</i> Kaibab century-plant	Jun-Jul		x			x				Limestone & sand- stone outcrops
<i>Agave utahensis</i> var. <i>utahensis</i> Utah century-plant	Jun-Jul		x			x				Limestone & sand- stone outcrops

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of
Grand Canyon Parashant National Monument

Species/Common Name	Flower- ing	Wet	Moj Srb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Asparagaceae (Agavaceae, Anthericaceae, Convallariaceae, Laxmanniaceae, Liliaceae, Ruscaceae, Themidaceae)										
<i>Androstephium breviflorum</i> Pink funnel-lily	Apr-May		x		x	x				
<i>Dichelostemma capitatum</i> ssp. <i>pauciflorum</i> Bluedicks	Mar-May		x			x	x			
<i>Hesperoyucca whipplei</i> Our-Lord's-candle	Apr-May		x							
<i>Leucocrinum montanum</i> Star lily	Apr-Jun				x	x		x		
<i>Maianthemum racemosum</i> ssp. <i>amplexicaule</i> False Solomon's-seal	Jun-Jul	x								
<i>Maianthemum stellatum</i> Starry false Solomon's-seal	Apr-Jun	x			x	x	x	x		
<i>Nolina microcarpa</i> Beargrass	May-Jul					x	x			
<i>Yucca angustissima</i> var. <i>angustissima</i> Narrowleaved yucca	May-Jul		x		x	x		x		
<i>Yucca angustissima</i> var. <i>kanabensis</i> Kanab yucca	May-Jul				x	x				Sandy areas
<i>Yucca baccata</i> Datil yucca	Apr-Jun		x		x	x	x	x		
<i>Yucca brevifolia</i> Joshua tree	Apr-May		x							
<i>Yucca elata</i> Utah yucca	Apr-Jun		x		x	x		x		
<i>Yucca schidigera</i> Splinter yucca	Mar-May		x							
Asteraceae (Compositae)										
<i>AcampTOPappus</i> <i>sphaerocephalus</i> Goldenhead	Apr-May		x							
<i>Acourtia wrightii</i> Wright's perezia	May-Nov		x			x				
<i>Acroptilon repens</i> Russian knapweed	Jun-Sep								x	

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of Grand Canyon Parashant National Monument

Species/Common Name	Flower- ing	Wet	Moj Srb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Asteraceae (Compositae)										
<i>Adenophyllum cooperi</i> Cooper's dogweed	May-Jul		x							
<i>Adenophyllum porophylloides</i> San Felipe dogweed	Mar-Oct									Rock outcrops
<i>Ageratina herbacea</i> White thoroughwort	Aug-Oct				x		x	x		
<i>Agoseris glauca</i> var. <i>glauca</i> Pale agoseris	May-Sep	x								
<i>Agoseris glauca</i> var. <i>laciniata</i> Cutleaf agoseris	May-Sep				x	x	x	x		
<i>Agoseris heterophylla</i> Annual agoseris										
<i>Ambrosia acanthicarpa</i> Bur ragweed	Jul-Oct	x	x			x				x
<i>Ambrosia artemisiifolia</i> Common ragweed	Jul-Oct		x							x
<i>Ambrosia confertiflora</i> Mexican ragweed	Sep-Oct		x							x
<i>Ambrosia dumosa</i> White bursage	Apr-May		x							
<i>Ambrosia eriocentra</i> Woolly bursage	Apr-May	x	x							
<i>Amphipappus fremontii</i> var. <i>spinosus</i> Chaff-bush	Apr-May		x							
<i>Antennaria dimorpha</i> Low pussytoes	Apr-Jun				x	x	x	x		
<i>Antheropeas lanosum</i> Gray's woollyleaf	Mar-May		x							
<i>Antheropeas wallacei</i> Wallace's woollyleaf	Apr-Jun		x							
<i>Arctium minus</i> Burdock	Jul-Sep									x
<i>Artemisia biennis</i> Biennial wormwood	Aug-Oct	x								x
<i>Artemisia bigelovii</i> Bigelow's sagebrush	Aug-Oct					x				Rimrock

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of Grand Canyon Parashant National Monument

Species/Common Name	Flower- ing	Wet	Moj Scrb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Asteraceae (Compositae)										
<i>Artemisia campestris</i> var. <i>scouleriana</i> Sand wormwood	Jul-Sep				x	x	x	x		Sandy areas
<i>Artemisia carruthii</i> Carruth's wormwood	Aug-Sep						x	x		
<i>Artemisia dracunculus</i> Tarragon	Jul-Oct	x			x	x		x		
<i>Artemisia filifolia</i> Sand sagebrush	Aug-Oct		x		x	x				Sandy areas
<i>Artemisia frigida</i> Fringed sagebrush	Jul-Sep		x		x	x	x	x		
<i>Artemisia ludoviciana</i> ssp. <i>albula</i> Louisiana wormwood	Jul-Oct	x			x					
<i>Artemisia nova</i> Black sagebrush	Sep-Oct		x		x	x	x			
<i>Artemisia tridentata</i> ssp. <i>tridentata</i> Basin big sagebrush	Jul-Oct				x	x				
<i>Artemisia tridentata</i> ssp. <i>vaseyana</i> Mountain big sagebrush	Jul-Oct				x	x	x	x		
<i>Artemisia tridentata</i> ssp. <i>wyomingensis</i> Wyoming big sagebrush	Jul-Oct				x					
<i>Atrichoseris platyphylla</i> Tobacco-weed	Apr-May		x							Gravelly alluvium
<i>Baccharis salicifolia</i> Sticky seepwillow	Jun-Oct	x								
<i>Baccharis salicina</i> Rio Grande seepwillow	May-Nov	x								
<i>Baccharis sergiloides</i> Squaw waterweed	Mar-May	x								
<i>Bahia dissecta</i> Cutleaf	Jul-Sep				x	x	x	x		
<i>Baileya multiradiata</i> Desert-marigold	Apr-Sep		x		x					
<i>Baileya pleniradiata</i> Woolly desert-marigold	Apr-Sep		x		x	x				
<i>Balsamorhiza hookeri</i> var. <i>hispidula</i> Hooker's balsamroot	Apr-Jul				x	x	x			

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of
Grand Canyon Parashant National Monument

Species/Common Name	Flower- ing	Wet	Moj Srb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Asteraceae (Compositae)										
<i>Bebbia juncea</i> var. <i>aspera</i> Sweetbush	Apr-Jul		x							Limestone gravel
<i>Brickellia atrectyloides</i> Spiny brickellbush	Apr-May		x							Rock outcrops
<i>Brickellia californica</i> California brickellbush	Aug-Sep									Rock outcrops
<i>Brickellia eupatorioides</i> var. <i>corymbulosa</i> False boneset	Aug-Sep				x	x	x	x		
<i>Brickellia grandiflora</i> Tasselflower	Jul-Oct					x	x	x		
<i>Brickellia incana</i> Woolly brickellbush	Apr-Jun	x	x							Sandy washes
<i>Brickellia longifolia</i> Longleaf brickellbush	Aug-Sep	x								
<i>Brickellia microphylla</i> var. <i>scabra</i> Rough brickellbush	Aug-Oct		x		x	x				Sandstone
<i>Brickellia oblongifolia</i> var. <i>linifolia</i> Mohave brickellbush	Jun-Aug		x			x	x	x		
<i>Calycoseris parryi</i> Purple tackplant	Apr-May		x							
<i>Calycoseris wrightii</i> Pale tackplant	Apr-May		x							
<i>Centaurea melitensis</i> Maltese star-thistle	May-Sep								x	
<i>Chaenactis carphoclinia</i> Gray's chaenactis	Apr-Jun		x							
<i>Chaenactis douglasii</i> Hoary dusty-maiden	May-Sep		x		x	x	x	x		
<i>Chaenactis fremontii</i> Fremont's dusty-maiden	Apr-May		x							
<i>Chaenactis macrantha</i> Showy dusty-maiden	Apr-Jun		x			x				
<i>Chaenactis stevioides</i> Stevia dusty-maiden	Apr-Jul		x		x	x				
<i>Chaetopappa ericoides</i> Rose-heath	May-Sep		x		x	x	x			

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of Grand Canyon Parashant National Monument

Species/Common Name	Flower- ing	Wet	Moj Scrb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Asteraceae (Compositae)										
<i>Chloracantha spinosa</i> Mexican devilweed	Mar-Oct	x								
<i>Chrysothamnus depressus</i> Dwarf rabbitbrush	Jul-Sep				x	x	x	x		
<i>Chrysothamnus Greenei</i> Greene's rabbitbrush	Jul-Sep				x	x				
<i>Chrysothamnus viscidiflorus</i> var. <i>lanceolatus</i> Lanceleaf rabbitbrush	Jul-Sep				x	x	x			
<i>Chrysothamnus viscidiflorus</i> var. <i>puberulus</i> Puberulent rabbitbrush	Jul-Sep				x	x		x		
<i>Chrysothamnus viscidiflorus</i> var. <i>stenophyllus</i> Slenderleaf rabbitbrush	Jul-Sep		x		x	x				
<i>Chrysothamnus viscidiflorus</i> var. <i>viscidiflorus</i> Green rabbitbrush	Jul-Sep				x	x	x	x		
<i>Cirsium arizonicum</i> Arizona thistle	Jun-Aug	x				x	x			
<i>Cirsium calcareum</i> Pretty thistle	Jun-Sep				x	x				
<i>Cirsium mohavense</i> Mojave thistle	May-Jun	x								
<i>Cirsium neomexicanum</i> New Mexico thistle	May-Jun		x		x	x				
<i>Cirsium ochrocentrum</i> ssp. <i>ochrocentrum</i> Yellow-spine thistle	Jul-Sep				x	x				
<i>Cirsium vulgare</i> Bull thistle	Jul-Aug	x			x				x	
<i>Cirsium wheeleri</i> Wheeler's thistle	Jul-Sep					x	x	x		
<i>Conyza canadensis</i> var. <i>glabrata</i> Canadian horseweed	Jul-Sep	x							x	
<i>Crepis intermedia</i> Gray hawksbeard	May-Jul				x	x	x			
<i>Crepis occidentalis</i> Western hawksbeard	May-Jul				x	x	x			

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of
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Species/Common Name	Flower- ing	Wet	Moj Srb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Asteraceae (Compositae)										
<i>Eclipta prostrata</i> False daisy	Jun-Sep	x							x	
<i>Encelia farinosa</i> White brittlebush	Feb-May		x							
<i>Encelia resinifera</i> Bush encelia	Apr-Jun		x							
<i>Encelia virginensis</i> Virgin encelia	Apr-Jun		x							
<i>Enceliopsis argophylla</i> Silverleaf enceliopsis	Apr-Jun		x							Gypsiferous Moenkopi
<i>Enceliopsis nudicaulis</i> var. <i>nudicaulis</i> Nakedstem	Apr-Jun		x		x	x				
<i>Ericameria laricifolia</i> Larchleaf goldenbush	Sep-Oct		x							Limestone
<i>Ericameria linearifolia</i> Mohave goldenbush	Apr-May		x			x	x			
<i>Ericameria nauseosa</i> var. <i>glabrata</i> Glabrate rabbitbrush	Aug-Oct	x			x		x	x		
<i>Ericameria nauseosa</i> var. <i>hololeuca</i> Graystem rabbitbrush	Aug-Oct		x		x	x				
<i>Ericameria nauseosa</i> var. <i>junceae</i> Rush rabbitbrush	Aug-Oct		x			x				
<i>Ericameria nauseosa</i> var. <i>mohavensis</i> Mohave rabbitbrush	Aug-Oct		x							
<i>Ericameria nauseosa</i> var. <i>nitida</i> Shiny rabbitbrush	Aug-Oct		x		x					
<i>Ericameria nauseosa</i> var. <i>oreophila</i> Greenish rabbitbrush	Aug-Oct	x			x	x	x	x		
<i>Ericameria paniculata</i> Mohave rabbitbrush	Sep-Nov	x	x							
<i>Erigeron concinnus</i> var. <i>concinnus</i> Navajo fleabane	May-Aug		x		x	x	x	x		
<i>Erigeron divergens</i> Spreading daisy	May-Aug	x			x	x	x	x		

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Species/Common Name	Flower- ing	Wet	Moj Scrb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Asteraceae (Compositae)										
<i>Erigeron flagellaris</i> Trailing daisy	May-Aug				x	x	x	x		
<i>Erigeron lobatus</i> Lobeleaf daisy	Mar-Apr		x							
<i>Erigeron speciosus</i> var. <i>macranthus</i> Aspen fleabane	Jun-Aug							x		
<i>Erigeron utahensis</i> var. <i>utahensis</i> Utah daisy	Apr-Jun		x		x	x	x			
<i>Gaillardia parryi</i> Parry's blanketflower	May-Sep				x	x		x		
<i>Gaillardia pinnatifida</i> Hopi blanketflower	Apr-Aug		x		x	x				
<i>Geraea canescens</i> Desert sunflower	Mar-May		x							
<i>Gnaphalium palustre</i> Lowland cudweed	May-Oct	x					x	x		
<i>Grindelia squarrosa</i> var. <i>serrulata</i> Curly-cup gumweed	Jul-Sep		x		x				x	
<i>Gutierrezia microcephala</i> Thread snakeweed	Jul-Oct		x		x	x				
<i>Gutierrezia sarothrae</i> Broom snakeweed	Jul-Oct		x		x	x	x	x		
<i>Helianthus annuus</i> Common sunflower	Jun-Oct		x		x	x	x			
<i>Helianthus anomalous</i> Sand sunflower	May-Sep				x					
<i>Helianthus ciliaris</i> Blueweed sunflower	Jun-Aug	x								
<i>Helianthus nuttallii</i> Nuttall's sunflower	Jul-Sep	x								
<i>Helioneris longifolia</i> var. <i>annua</i> Southern goldeneye	Jun-Oct				x	x				Seleniferous soils
<i>Helioneris multiflora</i> var. <i>nevadensis</i> Showy goldeneye	Jun-Sep				x	x	x			

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Species/Common Name	Flower- ing	Wet	Moj Srb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Asteraceae (Compositae)										
<i>Hesperodoria salicina</i> Willow goldenweed	Sep-Oct									Rock outcrops
<i>Hesperodoria scopulorum</i> Spindly goldenbush	Aug-Sep					x	x	x		
<i>Heterotheca villosa</i> var. <i>minor</i> Hispid golden-aster	May-Sep		x		x	x	x	x		
<i>Hulsea heterochroma</i> Great hulsea	May-Jul					x	x			
<i>Hymenoclea salsola</i> Burrobush	Mar-Jun		x							
<i>Hymenopappus filifolius</i> var. <i>cinereus</i> Common hyalineherb	May-Oct		x		x	x		x		
<i>Hymenopappus filifolius</i> var. <i>nanus</i> Great Basin hyalineherb	May-Oct				x	x		x		
<i>Hymenoxys cooperi</i> var. <i>canescens</i> Cooper's rubberweed	May-Jul		x		x	x				
<i>Hymenoxys cooperi</i> var. <i>cooperi</i> Cooper's hymenoxys	May-Jul		x		x	x				
<i>Hymenoxys lemmonii</i> Alkali hymenoxys	Jun-Aug									Alkaline playas
<i>Hymenoxys richardsonii</i> var. <i>floribunda</i> Colorado rubber-plant	May-Aug				x	x	x	x		
<i>Hymenoxys subintegra</i> Entire hymenoxys	Jun-Aug							x		
<i>Isocoma acradenia</i> Alkali goldenweed	Aug-Nov		x	x						
<i>Isocoma rusbyi</i> Rusby's goldenbush	Aug-Sep	x								
<i>Iva axillaris</i> Poverty-weed	May-Sep	x							x	
<i>Lactuca serriola</i> Prickly lettuce	Jul-Sep				x	x			x	
<i>Laennecia coulteri</i> Coulter's horseweed	Jul-Sep	x	x							
<i>Layia glandulosa</i> Tidy tips	Apr-Jul				x	x				

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of
Grand Canyon Parashant National Monument

Species/Common Name	Flower- ing	Wet	Moj Srb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Asteraceae (Compositae)										
<i>Lepidospartum latisquamum</i> Nevada broom	Jul-Aug	x								Gravelly washes
<i>Logfia californica</i> Fluffweed	Apr-May		x							
<i>Machaeranthera asterioides</i> var. <i>glandulosa</i> Fall false tansy-aster	May-Sep		x							
<i>Machaeranthera canescens</i> var. <i>ambigua</i> Hoary tansyaster	Jul-Sep							x		
<i>Machaeranthera canescens</i> var. <i>aristata</i> Hoary tansyaster	Jul-Oct				x	x		x		
<i>Machaeranthera canescens</i> var. <i>canescens</i> Hoary aster	May-Sep				x	x	x	x		
<i>Machaeranthera gracilis</i> Slender goldenweed	May-Oct		x		x	x		x		
<i>Machaeranthera pinnatifida</i> var. <i>gooddingii</i> Spiny goldenweed	Mar-Jun		x			x				
<i>Machaeranthera tanacetifolia</i> Tansyleaf aster	May-Sep		x		x	x				
<i>Malacothrix coulteri</i> Snakeshead desert-dandelion	Mar-Apr		x							
<i>Malacothrix glabrata</i> Filiform desert-dandelion	Apr-Jul		x		x	x				
<i>Malacothrix stebbinsii</i> Cleveland's malacothrix	Apr-May		x			x	x			
<i>Melampodium leucanthum</i> Plains blackfoot	Mar-Oct		x						x	
<i>Microseris lindleyi</i> Lindley's microseris	Mar-Jun		x			x				
<i>Monoptilon bellidiforme</i> Monoptilon	Mar-May, Sep		x							
<i>Onopordum acanthium</i> Scotch thistle	Jun-Sep	x			x				x	
<i>Packera multilobata</i> Basin groundsel	Apr-Jul		x		x	x	x	x		

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of
Grand Canyon Parashant National Monument

Species/Common Name	Flower- ing	Wet	Moj Srb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Asteraceae (Compositae)										
<i>Packera quercetorum</i> Oak Creek groundsel	Mar-May						x			
<i>Palafoxia arida</i> Spanish needle	Apr-May		x		x					
<i>Parthenium incanum</i> Mariola	Jun-Oct		x							Limestone
<i>Pectis papposa</i> Chinchweed	Aug-Oct		x							Sandy areas
<i>Perityle congesta</i> Grand Canyon rock-daisy	Apr-Sep									Rock outcrops
<i>Perityle emoryi</i> White rock-daisy	Mar-May				x					
<i>Perityle tenella</i> Dixie rock-daisy	May-Aug		x			x		x		Limestone
<i>Petradoria pumila</i> ssp. <i>graminea</i> Grassy rock-goldenrod	Jul-Sep				x	x	x	x		
<i>Peucephyllum schottii</i> Pygmy-cedar	Mar-May		x							Rock outcrops
<i>Pleurocoronis pluriseta</i> Arrowleaf	Apr-May									Limestone
<i>Pluchea odorata</i> var. <i>odorata</i> Camphor-weed	Sep-Nov	x								
<i>Pluchea sericea</i> Arrowweed	May-Jun	x								
<i>Porophyllum gracile</i> Odora	Apr-May		x							
<i>Prenanthes exigu</i> Prenanthes	May-Jun		x		x	x				
<i>Psathyrotes annua</i> Mealy rosettes	May-Oct		x			x				Limestone
<i>Psathyrotes ramosissima</i> Velvet turtleback	Apr-Jun		x							
<i>Pseudognaphalium canescens</i> Wright's cudweed	Aug-Oct						x	x		
<i>Pseudognaphalium luteoalbum</i> Yellow-white cudweed	Jun-Oct	x								

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of
Grand Canyon Parashant National Monument

Species/Common Name	Flower- ing	Wet	Moj Srb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Asteraceae (Compositae)										
<i>Pseudognaphalium stramineum</i> Cottonbatting cudweed	Jun-Oct	x								
<i>Psilostrophe cooperi</i> Whitestem paperflower	Apr-Oct		x			x				
<i>Psilostrophe sparsiflora</i> Greenstem paperflower	May-Sep				x	x				
<i>Rafinesquia californica</i> California chicory	Apr-May		x							Limestone
<i>Rafinesquia neomexicana</i> Desert chicory	Mar-May		x							
<i>Rudbeckia hirta</i> Black-eyed susan	Jun-Oct								x	
<i>Sanvitalia aberti</i> Abert's creeping-zinnia	Aug-Sep		x							
<i>Scabrethia scabra</i> Rough mule's-ears	May-Aug		x		x	x	x	x		
<i>Schkuhria multiflora</i> Many-flower false threadleaf	Aug-Sep								x	Rock outcrops
<i>Senecio eremophilus</i> var. <i>kingii</i> Cut-leaved groundsel	Jul-Aug							x		
<i>Senecio eremophilus</i> var. <i>macdougalii</i> Macdougall's desert groundsel	Jul-Aug							x		
<i>Senecio flaccidus</i> var. <i>flaccidus</i> Threadleaf ragwort	May-Oct		x		x	x				
<i>Senecio flaccidus</i> var. <i>monoensis</i> Mono groundsel	Apr-May		x			x				
<i>Senecio spartioides</i> var. <i>multicapitatus</i> Many-headed groundsel	Jun-Oct				x	x	x			
<i>Solidago canadensis</i> Common goldenrod	Jul-Oct	x								
<i>Solidago velutina</i> Three-nerve goldenrod	Jul-Sep				x	x	x	x		
<i>Sonchus asper</i> Spiny-leaf sow-thistle	Jul-Oct	x							x	
<i>Stephanomeria exigua</i> White-plumed wire-lettuce	May-Aug		x		x	x				

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of
Grand Canyon Parashant National Monument

Species/Common Name	Flower- ing	Wet	Moj Srb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Asteraceae (Compositae)										
<i>Stephanomeria minor</i> var. <i>minor</i> Slender wirelettuce	Jun-Sep	x			x	x	x	x		
<i>Stephanomeria parryi</i> Parry's wire-lettuce	May-Jun		x							
<i>Stephanomeria pauciflora</i> Brown-plume wire-lettuce	May-Oct		x		x	x				
<i>Stephanomeria thurberi</i> Thurber's wire-lettuce	May-Sep					x				
<i>Stylocline micropoides</i> Desert nest-straw	Apr-May		x			x				
<i>Symphiotrichum ascendens</i> Pacific aster	Jul-Oct	x			x	x	x	x		
<i>Syntrichopappus fremontii</i> Fremont's syntrichopappus	Mar-May		x			x				
<i>Taraxacum officinale</i> Common dandelion	Apr-Dec	x			x	x	x		x	
<i>Tetradymia canescens</i> var. <i>canescens</i> Common horsebrush	Jun-Sep				x		x	x		
<i>Tetradymia canescens</i> var. <i>thorneae</i> Thorne's horsebrush	Jun-Sep		x							
<i>Tetraneuris acaulis</i> var. <i>arizonica</i> Arizona stemless hymenoxys	Apr-Jun				x	x	x	x		
<i>Thelesperma subnudum</i> var. <i>subnudum</i> Scapose greenthread	May-Aug				x	x				
<i>Thymophylla acerosa</i> Dogweed	Aug-Oct		x							
<i>Thymophylla pentachaeta</i> var. <i>belenidium</i> Scale glandweed	Apr-Jun		x							
<i>Townsendia exscapa</i> Stemless townsendia	May-Jun						x	x		
<i>Townsendia incana</i> Hoary townsendia	Apr-Jul		x		x	x				
<i>Townsendia smithii</i> Black Rock townsendia	Apr-May				x	x		x		Basaltic red clay

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of
Grand Canyon Parashant National Monument

Species/Common Name	Flower- ing	Wet	Moj Scrb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Asteraceae (Compositae)										
<i>Tragopogon dubius</i> Yellow salsify	May-Jul	x			x		x		x	
<i>Trixis californica</i> American threefold	Mar-Aug		x							Rock outcrops
<i>Verbesina encelioides</i> var. <i>exauriculata</i> Golden crownbeard	May-Oct				x	x		x		
<i>Viguiera parishii</i> Parish's goldeneye	Jan-Oct		x							
<i>Xanthium strumarium</i> var. <i>canadense</i> Common cocklebur	Apr-Oct	x							x	
<i>Xylorhiza tortifolia</i> var. <i>tortifolia</i> Glandular woodyaster	Apr-May		x							
Berberidaceae										
<i>Mahonia fremontii</i> Fremont's mahonia	Mar-Jun		x		x	x	x			
<i>Mahonia repens</i> Oregon-grape	Mar-Jul	x			x	x	x	x		
Bignoniaceae										
<i>Chilopsis linearis</i> Desert willow	May-Jul	x								
Boraginaceae (Hydrophyllaceae)										
<i>Amsinckia menziesii</i> var. <i>intermedia</i> Tarweed fiddleneck	Apr-May		x							
<i>Amsinckia tessellata</i> Rough fiddleneck	Apr-Jun		x		x	x	x			
<i>Cryptantha ambigua</i> Obscure cryptanth	May-Jul				x	x	x			
<i>Cryptantha angustifolia</i> Narrowleaf cryptanth	Apr-May		x							
<i>Cryptantha barbigera</i> Bearded cryptanth	Apr-May		x							
<i>Cryptantha cinerea</i> var. <i>cinerea</i> Bow-nut cryptanth	May-Jul				x	x	x	x		

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of
Grand Canyon Parashant National Monument

Species/Common Name	Flower- ing	Wet	Moj Scrib	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Boraginaceae (Hydrophyllaceae)										
<i>Cryptantha circumscissa</i> Cushion cryptanth	Apr-Jul		x		x	x	x			
<i>Cryptantha confertiflora</i> Basin yellow cryptanth	Apr-Jun		x		x	x	x	x		
<i>Cryptantha decipiens</i> Beguiling cryptanth	Apr-May		x			x				
<i>Cryptantha dumetorum</i> Scrambling cryptanth	Apr-May		x							
<i>Cryptantha fendleri</i> Sand dune cryptanth	May-Jul				x	x	x	x		
<i>Cryptantha flava</i> Plateau yellow cryptanth	Apr-Jun		x		x	x				
<i>Cryptantha fulvocanescens</i> Plateau cryptanth	May-Jun		x		x	x				
<i>Cryptantha gracilis</i> Slender cryptanth	Apr-Jul				x	x	x			
<i>Cryptantha holoptera</i> Unequal cryptanth	Apr-May		x							
<i>Cryptantha maritima</i> Guadalupe cryptanth	Feb-Apr		x							Sandy areas
<i>Cryptantha micrantha</i> Redroot cryptanth	Mar-May		x		x	x				
<i>Cryptantha nevadensis</i> Nevada cryptanth	Apr-May		x		x	x				
<i>Cryptantha pterocarya</i> var. <i>cycloptera</i> Wing-nut cryptanth	Apr-Jul		x		x	x				
<i>Cryptantha pterocarya</i> var. <i>pterocarya</i> Wing-nut cryptanth	Apr-Jul		x		x	x				
<i>Cryptantha racemosa</i> Bushy cryptanth	Apr-Jun		x							
<i>Cryptantha recurvata</i> Recurved cryptanth	Apr-Jun		x		x	x				
<i>Cryptantha utahensis</i> Utah cryptanth	Apr-Jun		x			x				
<i>Cryptantha virginensis</i> Virgin River cryptanth	Apr-Jun		x		x	x				

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of
Grand Canyon Parashant National Monument

Species/Common Name	Flower- ing	Wet	Moj Srb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Boraginaceae (Hydrophyllaceae)										
<i>Eriodictyon angustifolium</i> Yerba santa	May-Jun		x			x	x			
<i>Eucrypta chrysanthemifolia</i> var. <i>bipinnatifida</i> Spotted eucrypta	Feb-Apr		x							
<i>Eucrypta micrantha</i> Desert eucrypta	Mar-Jun		x		x	x				
<i>Heliotropium convolvulaceum</i> Bindweed heliotrope	May-Sep		x		x					
<i>Heliotropium curassavicum</i> var. <i>oculatum</i> Seaside heliotrope	May-Oct	x	x							
<i>Hesperochiron pumilus</i> Dwarf hesperochiron	Apr-Jun	x								
<i>Hydrophyllum occidentale</i> Western waterleaf	Apr-Jun				x	x	x			
<i>Lappula occidentalis</i> var. <i>cupulata</i> Cupseed stickseed	Apr-Jun		x		x	x				
<i>Lappula occidentalis</i> var. <i>occidentalis</i> Western stickseed	Apr-Jun						x	x		
<i>Lithospermum incisum</i> Showy stoneseed	Apr-Jul				x	x	x	x		
<i>Lithospermum multiflorum</i> Southwestern stoneseed	Jun-Aug					x	x			
<i>Mertensia macdougallii</i> Macdougall's bluebells	May-Jul							x		
<i>Nama demissum</i> Purple-mat	Mar-May		x		x					
<i>Nama dichotomum</i> Wishbone fiddleleaf	Aug-Sep		x							Limestone
<i>Nama hispidum</i> Hairy fiddleleaf	Feb-Jun		x	x	x					
<i>Nama pusillum</i> Egg-leaf fiddleleaf	Mar-May		x							
<i>Pectocarya heterocarpa</i> Mixed-nut combseed	Apr-May		x							
<i>Pectocarya platycarpa</i> Broad-winged combseed	Mar-May		x							

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of Grand Canyon Parashant National Monument

Species/Common Name	Flower- ing	Wet	Moj Scrb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Boraginaceae (Hydrophyllaceae)										
<i>Pectocarya recurvata</i> Bent combseed	Feb-May		x							
<i>Pectocarya setosa</i> Saucer combseed	Apr-Jun		x		x	x	x			
<i>Phacelia affinis</i> Twin phacelia	Apr-May		x		x	x	x			
<i>Phacelia alba</i> White phacelia	Jun-Jul				x	x	x	x		
<i>Phacelia anelsonii</i> Nelson's phacelia	Apr-May		x							
<i>Phacelia austromontana</i> Southern phacelia	Jun-Jul									Rock outcrops
<i>Phacelia coerulea</i> Blue phacelia	Apr-May		x							
<i>Phacelia crenulata</i> var. <i>ambigua</i> Jones' phacelia	May-Jun		x							
<i>Phacelia crenulata</i> var. <i>angustifolia</i> Narrowleaf phacelia	May-Jun			x						
<i>Phacelia crenulata</i> var. <i>corrugata</i> Corrugate phacelia	May-Jun			x	x	x	x			
<i>Phacelia cronquistiana</i> Cronquist's phacelia	May-Jun				x	x				
<i>Phacelia cryptantha</i> Cryptanth phacelia	May-Jun		x			x				
<i>Phacelia curvipes</i> Washoe phacelia	Apr-Jun		x		x	x				
<i>Phacelia filiformis</i> Filiform phacelia	May-Jun		x							
<i>Phacelia fremontii</i> Fremont's phacelia	Apr-May		x		x	x				
<i>Phacelia furnissii</i> Furniss' phacelia	Apr-May		x							Limestone
<i>Phacelia glechomifolia</i> Canyon phacelia	Apr-May		x							
<i>Phacelia hastata</i> Lanceleaf phacelia	May-Aug				x		x	x		

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of
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Species/Common Name	Flower- ing	Wet	Moj Srb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Boraginaceae (Hydrophyllaceae)										
<i>Phacelia heterophylla</i> Wand phacelia	May-Aug				x		x			
<i>Phacelia higginsii</i> Higgins' phacelia	Jul-Sep		x							
<i>Phacelia hughesii</i> Hughes' phacelia	May-Jun					x				Limestone
<i>Phacelia integrifolia</i> Torrey's phacelia	May-Jun		x				x			
<i>Phacelia ivesiana</i> Ives' phacelia	Apr-Jun		x		x	x	x			
<i>Phacelia laxiflora</i> Panamint phacelia	Apr-Jun									Sandstone
<i>Phacelia palmeri</i> Palmer's phacelia	Apr-Jun			x						Gypsiferous soils
<i>Phacelia pedicellata</i> Pedicillate phacelia	Mar-May		x							
<i>Phacelia petrosa</i> Forgotten phacelia	Apr-May		x		x					
<i>Phacelia pulchella</i> var. <i>gooddingii</i> Goodding's pretty phacelia	Apr-May		x							
<i>Phacelia pulchella</i> var. <i>pulchella</i> Pretty phacelia	Apr-May		x			x				
<i>Phacelia rotundifolia</i> Roundleaf phacelia	Apr-Jun				x					
<i>Phacelia saxicola</i> Rock phacelia	Jun-Jul		x			x				Limestone
<i>Phacelia vallis-mortae</i> Death Valley phacelia	Mar-Jun		x			x				
<i>Pholistoma auritum</i> Blue fiesta-flower	Feb-Apr		x							
<i>Plagiobothrys arizonicus</i> Arizona popcorn-flower	Apr-Jun		x			x				
<i>Plagiobothrys jonesii</i> Jones' popcorn-flower	Apr-May		x		x					
<i>Tiquilia canescens</i> Hairy tiquilia	Apr-May		x							
<i>Tiquilia latior</i> Matted tiquilia	May-Aug				x	x				

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of Grand Canyon Parashant National Monument

Species/Common Name	Flower- ing	Wet	Moj Srb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Boraginaceae (Hydrophyllaceae)										
<i>Tiquilia nuttallii</i> Nuttall's tiquilia	May-Aug		x		x	x				
<i>Tiquilia plicata</i> Fan-leaved tiquilia	Apr-Jun		x							Sandy areas
<i>Tricardia watsonii</i> Three hearts	Apr-May		x							
Brassicaceae (Cruciferae)										
<i>Alyssum desertorum</i> Desert alyssum	Apr-May					x	x	x	x	
<i>Arabis drummondii</i> Drummond's rockcress	May-Sep				x			x		
<i>Arabis fendleri</i> Fendler's rockcress	Apr-Aug					x		x		
<i>Arabis gracilipes</i> Flagstaff rockcress	Apr-Jun						x	x		
<i>Arabis holboellii</i> var. <i>pinetorum</i> Holboell's rockcress	May-Jul				x	x	x	x		
<i>Arabis perennans</i> Perennial rockcress	Mar-Jul		x		x	x	x	x		
<i>Athysanus pusillus</i> Common sandweed	Apr-May		x							
<i>Brassica tournefortii</i> Asian mustard	Jan-Apr		x						x	
<i>Camelina microcarpa</i> Littlepod false-flax	Apr-Jul								x	
<i>Capsella bursa-pastoris</i> Shepherd's-purse	Apr-Jul				x	x			x	
<i>Cardaria draba</i> Whitetop	May-Aug								x	
<i>Caulanthus cooperi</i> Cooper's wild cabbage	Mar-May		x							
<i>Caulanthus crassicaulis</i> var. <i>crassicaulis</i> Thick-stem wild cabbage	May-Jul		x		x	x		x		
<i>Chorispora tenella</i> Blue mustard	Apr-Jun								x	

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of
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Species/Common Name	Flower- ing	Wet	Moj Scrb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Brassicaceae (Cruciferae)										
<i>Descurainia incana</i> ssp. <i>incana</i> Mountain tansy-mustard	Jun-Jul				x		x			
<i>Descurainia obtusa</i> Blunt tansy-mustard	May-Jul		x			x				
<i>Descurainia pinnata</i> ssp. <i>glabra</i> Western tansy-mustard	Mar-Jun		x			x	x			
<i>Descurainia pinnata</i> ssp. <i>halictorum</i> Western tansymustard	Mar-Aug		x		x	x	x	x		
<i>Descurainia pinnata</i> ssp. <i>paysonii</i> Payson's tansymustard	Mar-Aug			x	x					
<i>Descurainia sophia</i> Flixweed	Mar-Jun								x	
<i>Dimorphocarpa wislizeni</i> Spectacle-pod	Apr-Sep		x		x	x		x		Sandy areas
<i>Draba cuneifolia</i> var. <i>cuneifolia</i> Wedge-leaf draba	Feb-May		x		x	x	x	x		
<i>Draba cuneifolia</i> var. <i>integrifolia</i> Wedge-leaf draba	Feb-May		x		x	x				
<i>Erysimum capitatum</i> var. <i>capitatum</i> Western wallflower	Apr-Jul		x		x	x	x	x		
<i>Erysimum inconspicuum</i> Shy wallflower	Apr-Jul				x					
<i>Erysimum repandum</i> Spreading wallflower	Apr-Jun				x	x			x	
<i>Guillenia lasiophylla</i> Hairyleaf wild cabbage	Mar-May		x							
<i>Hornungia procumbens</i> Ovalpurse	Apr-Jun	x								
<i>Lepidium alyssoides</i> var. <i>eastwoodiae</i> Eastwood's pepperplant	Jul-Oct			x	x	x	x			
<i>Lepidium densiflorum</i> var. <i>densiflorum</i> Prairie pepperwort	May-Jun		x		x	x		x		
<i>Lepidium densiflorum</i> var. <i>pubecarpum</i> Hairy pepperwort	May-Jun		x		x	x				

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of
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Species/Common Name	Flower- ing	Wet	Moj Scrib	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Brassicaceae (Cruciferae)										
<i>Lepidium densiflorum</i> var. <i>ramosum</i> Prairie pepperwort	May-Jun		x		x	x				
<i>Lepidium fremontii</i> Fremont's pepperwort	Apr-Jul		x							
<i>Lepidium lasiocarpum</i> var. <i>lasiocarpum</i> Hairy-pod pepperwort	Mar-May		x		x	x				
<i>Lepidium montanum</i> var. <i>glabrum</i> Grand Canyon pepperwort	Apr-Aug					x				Rock outcrops
<i>Lepidium montanum</i> var. <i>jonesii</i> Jones' pepperwort	Apr-Aug		x		x	x				
<i>Lepidium montanum</i> var. <i>montanum</i> Mountain pepperwort	Apr-Sep				x	x	x			
<i>Lepidium virginicum</i> var. <i>pubescens</i> Hairy pepperweed	Apr-Aug		x		x	x				
<i>Lesquerella arizonica</i> "var. <i>andrusensis</i> " Andrus Canyon bladderpod	Apr-May		x			x				
<i>Lesquerella arizonica</i> var. <i>arizonica</i> Arizona bladderpod	Apr-Jun				x	x	x			
<i>Lesquerella intermedia</i> Watson's bladderpod	May-Jun				x	x		x		
<i>Lesquerella rectipes</i> Colorado Plateau bladderpod	Apr-May		x			x		x		
<i>Lesquerella tenella</i> Moapa bladderpod	Mar-May		x							
<i>Malcolmia africana</i> African mustard	Apr-Jun								x	
<i>Nasturtium officinale</i> Watercress	May-Aug	x								
<i>Physaria acutifolia</i> var. <i>acutifolia</i> Sharp-leaf twinpod	May-Jun				x	x				
<i>Physaria newberryi</i> Newberry's twinpod	Mar-May		x		x	x		x		
<i>Sisymbrium altissimum</i> Tumblemustard	May-Jul								x	

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of
Grand Canyon Parashant National Monument

Species/Common Name	Flower- ing	Wet	Moj Srb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Brassicaceae (Cruciferae)										
<i>Sisymbrium irio</i> London rocket	Apr-May								x	
<i>Stanleya pinnata</i> var. <i>integrifolia</i> Golden prince's-plume	Apr-Aug				x	x				
<i>Stanleya pinnata</i> var. <i>pinnata</i> Prince's-plume	Apr-Aug		x		x	x	x			
<i>Streptanthella longirostris</i> Long-beak fiddle-mustard	Mar-May		x		x	x				
<i>Streptanthus cordatus</i> var. <i>cordatus</i> Heart-leaf jewelflower	Apr-Jul				x	x	x			
<i>Thelypodiopsis ambigua</i> Kanab thelypody	Mar-May				x	x				
<i>Thelypodiopsis purpusii</i> Purpus' thelypody	May					x				
<i>Thelypodium integrifolium</i> ssp. <i>integrifolium</i> Tall thelypody	Jun-Aug	x								
<i>Thelypodium wrightii</i> ssp. <i>wrightii</i> Wright's thelypody	Jun-Aug				x		x			
<i>Thlaspi arvense</i> Field pennycress	May-Jul								x	
<i>Thysanocarpus curvipes</i> Fringepod	Apr-Jun		x			x	x			
Cactaceae										
<i>Cylindropuntia acanthocarpa</i> var. <i>coloradensis</i> Buckhorn cholla	Mar-Jun		x							
<i>Cylindropuntia echinocarpa</i> Pale cholla	Mar-Jun		x							
<i>Cylindropuntia ramosissima</i> Darning-needle cholla	Apr-Aug		x							
<i>Cylindropuntia whipplei</i> Whipple's cholla	May-Jul		x		x	x				
<i>Echinocactus polycephalus</i> var. <i>polycephalus</i> Manyhead barrel cactus	Jul-Aug		x							

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of
Grand Canyon Parashant National Monument

Species/Common Name	Flower- ing	Wet	Moj Srb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Cactaceae										
<i>Echinocactus polycephalus</i> var. <i>xeranthemoides</i> Kaibab barrel cactus	Jun-Aug		x			x				
<i>Echinocereus coccineus</i> var. <i>coccineus</i> Claretcup	Apr-Jun		x		x	x	x			
<i>Echinocereus engelmannii</i> Engelmann's hedgehog cactus	Mar-Jul		x		x	x	x			
<i>Echinomastus johnsonii</i> Johnson's neolloydia	Mar-May		x							
<i>Escobaria vivipara</i> var. <i>arizonica</i> Arizona pincushion cactus	Apr-Aug				x	x				
<i>Escobaria vivipara</i> var. <i>rosea</i> Rosy pincushion cactus	Apr-Aug		x							
<i>Ferocactus cylindraceus</i> var. <i>lecontei</i> Desert barrel cactus	Apr-Jun		x							Limestone
<i>Grusonia emoryi</i> Devil club-cholla	May-Jun		x							
<i>Mammillaria tetrancistra</i> Pincushion cactus	Apr-Jul		x							
<i>Opuntia basilaris</i> var. <i>basilaris</i> Beavertail cactus	Feb-Jun		x							
<i>Opuntia macrorhiza</i> var. <i>macrorhiza</i> Twist-spine prickly-pear	May-Jun		x		x	x	x			
<i>Opuntia phaeacantha</i> Berry pricklypear	Apr-Jul		x		x	x				
<i>Opuntia pinkavae</i> Pinkava's pricklypear	May-Jun					x				Limestone
<i>Opuntia polyacantha</i> var. <i>erinacea</i> Common pricklypear	May-Jun		x		x					
<i>Opuntia polyacantha</i> var. <i>polyacantha</i> Plains pricklypear	May-Jun				x	x	x			
Campanulaceae (Lobeliaceae)										
<i>Lobelia cardinalis</i> Cardinal-flower	Aug-Oct	x								
<i>Nemacladus glanduliferus</i> var. <i>orientalis</i> Slender nemacladus	Apr-Jun		x		x	x				

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of Grand Canyon Parashant National Monument

Species/Common Name	Flower- ing	Wet	Moj Srb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Cannabaceae (Celtidaceae, Ulmaceae)										
<i>Celtis laevigata</i> var. <i>reticulata</i> Netleaf hackberry	Apr-May	x	x		x		x			
Caprifoliaceae										
<i>Symphoricarpos longiflorus</i> Long-flower snowberry	May-Jul				x	x	x	x		
<i>Symphoricarpos oreophilus</i> var. <i>utahensis</i> Mountain snowberry	Jun-Aug				x			x		
<i>Symphoricarpos rotundifolius</i> var. <i>parishii</i> Parish's mountain snowberry	Jun-Aug				x	x		x		
Caryophyllaceae (Alsiniaceae)										
<i>Arenaria aberrans</i> Mount Dellenbaugh sandwort	May-Jul						x	x		
<i>Arenaria eastwoodiae</i> var. <i>eastwoodiae</i> Eastwood's sandwort	May-Sep				x	x	x	x		
<i>Arenaria lanuginosa</i> Spreading sandwort	May-Aug							x		
<i>Arenaria macradenia</i> Shrubby sandwort	Mar-Aug		x			x	x	x		
<i>Pseudostellaria jamesiana</i> James' chickweed	Jun-Aug				x		x	x		
<i>Silene antirrhina</i> Sleepy catchfly	May-Aug		x			x	x			
<i>Silene drummondii</i> Drummond's catchfly	May-Sep				x	x		x		
<i>Spergularia salina</i> Salt sandspurry	Jun-Sep	x								
<i>Stellaria longipes</i> Long-stalk starwort	May-Jul	x					x	x		
<i>Stellaria nitens</i> Shiny starwort	Mar-May		x							
Celastraceae										
<i>Canotia holacantha</i> Canotia	May-Aug		x							

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of
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Species/Common Name	Flower- ing	Wet	Moj Srb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Celastraceae										
<i>Mortonia utahensis</i> Mortonia	Apr-May		x							Limestone
Cleomaceae (Capparaceae)										
<i>Cleome lutea</i> Yellow beeplant	Apr-Sep		x		x	x		x		
<i>Cleome serrulata</i> Rocky Mountain beeplant	May-Oct	x			x	x			x	
<i>Polanisia dodecandra</i> var. <i>trachysperma</i> Clammyweed	May-Oct		x			x				
Convolvulaceae (Cuscutaceae)										
<i>Calystegia longipes</i> Longstalk bindweed	May-Jul		x			x	x			
<i>Convolvulus arvensis</i> Field bindweed	Jun-Aug								x	
<i>Convolvulus equitans</i> Perennial convolvulus	Mar-Nov		x		x					
<i>Cuscuta californica</i> var. <i>breviflora</i> Chapparal dodder	May-Aug				x					
<i>Cuscuta californica</i> var. <i>californica</i> California dodder	May-Aug		x		x	x				
<i>Cuscuta indecora</i> Large-seed dodder	Jul-Oct	x			x					
<i>Cuscuta pentagona</i> Field dodder	Jul-Sep				x	x				
<i>Cuscuta salina</i> Salt dodder	May-Sep			x	x					
<i>Ipomoea costellata</i> Crest-rib morning-glory	Jul-Oct		x				x	x		Rock outcrops
Crossosomataceae										
<i>Crossosoma bigelovii</i> Ragged rockflower	Feb-Apr		x							Rock outcrops
<i>Glossopetalon spinescens</i> var. <i>aridum</i> Spring greasebush	Mar-Jun		x		x	x				Limestone

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of
Grand Canyon Parashant National Monument

Species/Common Name	Flower- ing	Wet	Moj Scrb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Cucurbitaceae										
<i>Cucurbita palmata</i> Coyote gourd	May-Aug		x							
Cupressaceae										
<i>Hesperocyparis arizonica</i> Arizona cypress	NA					x	x	x		
<i>Juniperus monosperma</i> One-seed juniper	NA		x			x				
<i>Juniperus osteosperma</i> Utah juniper	NA	x	x		x	x	x	x		
Cyperaceae										
<i>Carex douglasii</i> Douglas' sedge	Apr-Jul	x			x	x				
<i>Carex geophila</i> White Mountain sedge	May-Jun					x		x		
<i>Carex hassei</i> Salt sedge	Apr-Aug	x								
<i>Carex lenticularis</i> Lakeshore sedge	May-Aug	x								
<i>Carex nebrascensis</i> Nebraska sedge	May-Jul	x								
<i>Carex occidentalis</i> Western sedge	Jun-Aug						x	x		
<i>Carex praegracilis</i> Blackcreeper sedge	May-Aug	x			x					
<i>Carex rossii</i> Ross' sedge	May-Aug				x	x	x	x		
<i>Carex vallicola</i> Valley sedge	May-Jul				x		x	x		
<i>Cyperus erythrorhizos</i> Redroot flat-sedge	Jun-Sep	x								
<i>Cyperus odoratus</i> Rusty flat sedge	Jun-Sep	x								
<i>Cyperus schweinitzii</i> Sand flat-sedge	Jul-Sep				x					Sandy areas
<i>Cyperus strigosus</i> Strigose flat-sedge	Jun-Aug	x								

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of Grand Canyon Parashant National Monument

Species/Common Name	Flower- ing	Wet	Moj Srb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Cyperaceae										
<i>Eleocharis acicularis</i> Slender spikerush		x								
<i>Eleocharis palustris</i> Common spikerush	May-Aug	x								
<i>Eleocharis parishii</i> Parish's spikerush	Apr-Sep	x								
<i>Eleocharis rostellata</i> Beaked spikerush	Jun-Aug	x								
<i>Schoenoplectus acutus</i> Hardstem bulrush										
<i>Schoenoplectus americanus</i> American bulrush	Jun-Sep	x								
<i>Schoenoplectus pungens</i> var. <i>longispicatus</i> Three-square bulrush	May-Aug	x								
<i>Schoenoplectus tabernaemontani</i> Softstem bulrush	Jun-Aug	x								
Dryopteridaceae (Aspidiaceae, Aspleniaceae, Polypodiaceae)										
<i>Woodsia oregana</i> Oregon woodsia	NA				x	x	x	x		Rock outcrops
Elaeagnaceae										
<i>Shepherdia rotundifolia</i> Roundleaf buffaloberry	Mar-May		x		x	x		x		
Ephedraceae										
<i>Ephedra aspera</i> Mohave jointfir	NA		x							
<i>Ephedra nevadensis</i> Nevada jointfir	NA		x		x	x				
<i>Ephedra torreyana</i> Torrey's jointfir	NA		x		x	x				
<i>Ephedra trifurca</i> Long-leaf joint-fir	NA		x							
<i>Ephedra viridis</i> Green joint-fir	NA		x		x	x	x			

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of
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Species/Common Name	Flower- ing	Wet	Moj Srb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Equisetaceae										
<i>Equisetum hyemale</i> var. <i>affine</i> Tall scouring-rush	NA	x								
<i>Equisetum laevigatum</i> Smooth scouring-rush	NA	x								
Ericaceae										
<i>Arctostaphylos patula</i> Greenleaf manzanita	Mar-Jul						x	x		
<i>Arctostaphylos pringlei</i> Pringle's manzanita	Apr-Jun		x			x	x			
<i>Arctostaphylos pungens</i> Mexican manzanita	Feb-Jun					x	x			
Euphorbiaceae										
<i>Acalypha neomexicana</i> New Mexico copperleaf	Aug-Oct		x							
<i>Argythamnia cyanophylla</i> Charleston Mountain silverbush	May-Jun		x							
<i>Argythamnia neomexicana</i> New Mexico silverbush	Mar-Sep		x							
<i>Bernardia myricifolia</i> Myrtle-croton	Apr-May									Rock outcrops
<i>Chamaesyce albomarginata</i> Rattlesnake-weed	Apr-Sep		x	x	x	x				
<i>Chamaesyce fendleri</i> Fendler's spurge	May-Sep		x	x	x	x		x		
<i>Chamaesyce glyptosperma</i> Ridge-seeded spurge	Jun-Aug		x	x	x	x		x	x	
<i>Chamaesyce micromera</i> Tiny spurge	Jun-Sep		x							
<i>Chamaesyce ocellata</i> var. <i>arenicola</i> Eyed spurge	Jun-Sep		x							Sandy areas
<i>Chamaesyce polycarpa</i> Smallseed spurge	Mar-Sep		x		x					Sandy areas
<i>Chamaesyce revoluta</i> Revolute spurge	Aug-Sep		x							
<i>Chamaesyce serpyllifolia</i> Thyme-leaved spurge	Jun-Aug		x		x	x	x		x	
<i>Chamaesyce setiloba</i> Yuma sandmat	Apr-Sep		x							

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of Grand Canyon Parashant National Monument

Species/Common Name	Flower- ing	Wet	Moj Scrb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Euphorbiaceae										
<i>Croton californicus</i> Mohave croton	Apr-Aug		x		x	x				Sandy areas
<i>Croton texensis</i> var. <i>utahensis</i> Utah dove-weed	May-Sep				x					Sand
<i>Euphorbia brachycera</i> Shorthorn spurge	May-Jun	x			x	x	x			
<i>Euphorbia eriantha</i> Beetle spurge	Mar-Apr		x							Rock outcrops
<i>Euphorbia exstipulata</i> Square-seed spurge	Aug-Sep				x	x				
<i>Euphorbia schizoloba</i> Mojave spurge	Mar-May		x							
<i>Tragia ramosa</i> Noseburn	May-Aug				x	x				Rock outcrops
Fabaceae (Caesalpinaceae, Leguminosae, Mimosaceae)										
<i>Acacia greggii</i> Catclaw acacia	Apr-May	x	x							
<i>Alhagi maurorum</i> Camelthorn	May-Aug	x								Sandy areas
<i>Astragalus allochrous</i> var. <i>playanus</i> Halfmoon milkvetch	May-Jun	x			x					
<i>Astragalus amphioxys</i> var. <i>amphioxys</i> Crescent milkvetch	Mar-Jun		x	x		x	x			
<i>Astragalus amphioxys</i> var. <i>modestus</i> Modest milkvetch	Mar-Jun		x	x						
<i>Astragalus amphioxys</i> var. <i>vespertinus</i> Sheldon's milkvetch	Mar-Jun				x	x	x			
<i>Astragalus argophyllus</i> var. <i>panguicensis</i> Silver-leaved milkvetch	Apr-Jun					x	x			
<i>Astragalus calycosus</i> var. <i>scaposus</i> Scapose milkvetch	Apr-Jul				x	x				
<i>Astragalus castaneiformis</i> Chestnut milkvetch	May-Jul					x	x	x		Limestone

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of
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Species/Common Name	Flower- ing	Wet	Moj Srb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Fabaceae (Caesalpinaceae, Leguminosae, Mimosaceae)										
<i>Astragalus ensiformis</i> Pagumpa milkvetch	Apr-Jun		x	x	x	x				
<i>Astragalus eremiticus</i> Hermit milkvetch	Apr-Jul				x	x	x			
<i>Astragalus humistratus</i> var. <i>humivagans</i> Groundcover milkvetch	May-Sep				x	x	x	x		
<i>Astragalus humistratus</i> var. <i>tenerrimus</i> Groundcover milkvetch	May-Sep							x		
<i>Astragalus lentiginosus</i> var. <i>fremontii</i> Fremont's milkvetch	Apr-Jun		x			x				
<i>Astragalus lentiginosus</i> var. <i>palans</i> Stragglng milkvetch	Apr-Jun		x	x	x	x				
<i>Astragalus lentiginosus</i> var. <i>stramineus</i> Straw milkvetch	Apr-Jun		x							
<i>Astragalus lentiginosus</i> var. <i>trumbullensis</i> Mount Trumbull milkvetch	Apr-Jun		x	x						
<i>Astragalus lentiginosus</i> var. <i>vitreus</i> Glass milkvetch	Apr-Jun		x							
<i>Astragalus mokiensis</i> Mokiak milkvetch	Apr-Jun		x							Limestone
<i>Astragalus newberryi</i> var. <i>castoreus</i> Beaver Dam milkvetch	Mar-Jul			x	x	x	x			
<i>Astragalus newberryi</i> var. <i>newberryi</i> Newberry's milkvetch	Mar-Jul			x	x	x				
<i>Astragalus nuttallianus</i> var. <i>imperfectus</i> Coliche milkvetch	Apr-Jun		x							
<i>Astragalus nuttallianus</i> var. <i>micranthiformis</i> Small-flowered milkvetch	Apr-Jun		x	x	x	x				
<i>Astragalus oophorus</i> var. <i>caulescens</i> Egg milkvetch	May-Jul				x	x	x			
<i>Astragalus praelongus</i> var. <i>praelongus</i> Stinking milkvetch	Apr-Jul			x		x				Seleniferous soils

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Species/Common Name	Flower- ing	Wet	Moj Srb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Fabaceae (Caesalpinaceae, Leguminosae, Mimosaceae)										
<i>Astragalus preussii</i> var. <i>laxiflorus</i> Littlefield milkvetch	Apr-Jun		x							
<i>Astragalus preussii</i> var. <i>preussii</i> Preuss' milkvetch	Apr-Jun			x		x				
<i>Astragalus sabulonum</i> Gravel milkvetch	Feb-Jul			x	x	x				
<i>Astragalus straturensis</i> Pine Valley milkvetch	May-Jun				x	x	x			
<i>Astragalus subcinereus</i> Siler's milkvetch	May-Jul					x	x	x		
<i>Astragalus tetrapterus</i> Four-wing milkvetch	Apr-Jul			x	x	x				
<i>Calliandra humilis</i> var. <i>reticulata</i> Dwarf stick-pea	Jun-Aug						x			
<i>Cercis orbiculata</i> Western redbud	Mar-May	x								
<i>Dalea brachystachya</i> Fort Bowie prairie-clover	Sep		x							
<i>Dalea candida</i> var. <i>oligophylla</i> White prairie-clover	May-Sep		x		x	x				
<i>Dalea lanata</i> var. <i>terminalis</i> Woolly dalea	Jun-Oct		x							Sandy areas
<i>Dalea mollis</i> Hairy prairie-clover	Jan-Apr		x							
<i>Dalea searlsiae</i> Searls' prairie-clover	May-Jul		x	x	x	x				
<i>Desmanthus cooleyi</i> Cooley's bundle-flower	May-Sep		x							
<i>Glycyrrhiza lepidota</i> Nuttall's licorice	May-Jul	x	x		x	x				
<i>Hedysarum boreale</i> ssp. <i>boreale</i> Northern sweetvetch	May-Aug				x	x	x	x		
<i>Lathyrus brachycalyx</i> ssp. <i>zionis</i> Zion sweetpea	Apr-Jun	x			x	x				
<i>Lathyrus eucosmus</i> Seemly sweetpea	Apr-Aug			x	x					

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Species/Common Name	Flower- ing	Wet	Moj Srb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Fabaceae (Caesalpinaceae, Leguminosae, Mimosaceae)										
<i>Lathyrus graminifolius</i> Grassleaf pea	Apr-Sep					x	x	x		
<i>Lathyrus lanszwertii</i> var. <i>leucanthus</i> Whiteflower sweetpea	May-Aug						x	x		
<i>Lotus denticulatus</i> River-bar trefoil	Jun-Aug		x	x	x	x				
<i>Lotus humistratus</i> Low trefoil	Apr-Jun		x			x	x	x		
<i>Lotus mearnsii</i> Mearns' bird's-foot trefoil	Mar-Aug				x	x				
<i>Lotus plebeius</i> Longbracted trefoil	Apr-Jun		x		x	x	x	x		
<i>Lotus salsuginosus</i> Coastal bird's-foot trefoil	Feb-May					x				
<i>Lotus strigosus</i> var. <i>tomentellus</i> Strigose bird's-foot trefoil	Mar-Jun		x							
<i>Lotus utahensis</i> Utah trefoil	May-Aug				x	x	x			
<i>Lotus wrightii</i> Wright's trefoil	Jun-Aug							x		
<i>Lupinus brevicaulis</i> Shortstem lupine	May-Jul		x	x	x	x				
<i>Lupinus caudatus</i> Silverleaf lupine	May-Aug				x	x	x	x		
<i>Lupinus concinnus</i> Elegant lupine	Mar-Jun		x							
<i>Lupinus flavoculatus</i> Yellow-eye lupine	Apr-Jun		x		x	x				
<i>Lupinus hillii</i> var. <i>hillii</i> Hill's lupine	May-Aug					x	x	x		
<i>Lupinus kingii</i> King's lupine	May-Aug				x	x	x	x		
<i>Lupinus latifolius</i> Broad-leaved lupine	Jun-Aug	x								
<i>Lupinus palmeri</i> Palmer's lupine	May-Aug				x	x				

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Species/Common Name	Flower- ing	Wet	Moj Srb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Fabaceae (Caesalpinaceae, Leguminosae, Mimosaceae)										
<i>Lupinus pusillus</i> ssp. <i>pusillus</i> Dwarf lupine	Apr-Jul		x		x	x	x			
<i>Lupinus sparsiflorus</i> Mohave lupine	Feb-May		x							
<i>Medicago arabica</i> Spotted medick	Jun-Jul								x	
<i>Medicago lupulina</i> Black medick	May-Oct	x							x	
<i>Medicago polymorpha</i> Bur clover	May-Aug								x	
<i>Medicago sativa</i> Alfalfa	May-Sep								x	
<i>Melilotus albus</i> White sweet-clover	May-Oct	x			x				x	
<i>Melilotus indicus</i> India sour-clover	Apr-Sep								x	
<i>Melilotus officinalis</i> Yellow sweet-clover	May-Oct	x			x	x			x	
<i>Pediomelum castoreum</i> Beaver breadroot	Apr-May		x						x	sand, gravel, & road- cuts
<i>Pediomelum megalanthum</i> var. <i>retrosum</i> Large-flowered breadroot	Apr-Jun		x			x				
<i>Pediomelum mephiticum</i> Skunk breadroot	Apr-Jun		x		x	x				Moenkopi & Chinle
<i>Pediomelum pauperitense</i> Poverty Mountain breadroot	May-Jun					x				
<i>Peteria thompsoniae</i> Thompson's peteria	Apr-Jun				x	x				
<i>Phaseolus angustissimus</i> Narrow-leaflet bean	May-Aug					x				
<i>Prosopis glandulosa</i> var. <i>torreyana</i> Honey mesquite	May-Sep	x	x							
<i>Prosopis pubescens</i> Screwbean mesquite	May-Jun	x	x	x						Sandy terraces & washes
<i>Psoralidium tenuiflorum</i> Slender-flowered scurf-pea	Apr-Sep				x	x				

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of
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Species/Common Name	Flower- ing	Wet	Moj Srb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Fabaceae (Caesalpinaceae, Leguminosae, Mimosaceae)										
<i>Psorothamnus arborescens</i> var. <i>pubescens</i> Mojave dalea	Apr-Jun				x					Clay knolls and talus under sandstone
<i>Psorothamnus fremontii</i> Fremont's indigo-bush	Apr-Jun		x		x	x				
<i>Robinia neomexicana</i> New Mexico locust	May-Jul	x				x	x	x		
<i>Senna bauhinoides</i> Shrubby wild sensitive-plant	Apr-Aug		x							
<i>Senna covesii</i> Hairy wild sensitive-plant	Apr-Jun		x							
<i>Sophora nuttalliana</i> Silky sophora	May-Jun	x								
<i>Sophora stenophylla</i> Silvery sophora	Jul-Aug				x	x				Sand dunes
<i>Trifolium kingii</i> ssp. <i>macilentum</i> Lean clover	May-Jul					x	x	x		
<i>Vicia americana</i> American vetch	May-Aug				x	x	x	x		
<i>Vicia ludoviciana</i> ssp. <i>ludoviciana</i> Louisiana vetch	Apr-May		x		x	x				
Fagaceae										
<i>Quercus gambelii</i> var. <i>gambelii</i> Gambel's oak	Apr-Jun				x	x	x			
<i>Quercus turbinella</i> Turbinella live-oak	Apr-Jun					x	x			
<i>Quercus x pauciloba</i> Hybrid oak	Apr-Jun					x	x			
Fouquieriaceae										
<i>Fouquieria splendens</i> Ocotillo	Mar-Jul		x							
Garryaceae										
<i>Garrya flavescens</i> Silktassel-bush	Apr-May					x	x	x		

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of
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Species/Common Name	Flower- ing	Wet	Moj Srb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Gentianaceae										
<i>Centaurium calycosum</i> Buckley's centaury	Jun-Sep	x								
<i>Frasera albomarginata</i> White-margined swertia	May-Jul		x		x	x	x			
<i>Frasera speciosa</i> Elkweed	Jun-Aug				x		x	x		
Geraniaceae										
<i>Erodium cicutarium</i> Stork's-bill	Feb-Jul		x	x	x	x	x		x	
<i>Erodium texanum</i> Texas stork's-bill	Mar-Apr		x	x						
<i>Geranium caespitosum</i> Small-leaf geranium	Jun-Aug				x	x	x	x		
<i>Geranium richardsonii</i> Richardson's geranium	Jun-Aug					x	x	x		
Grossulariaceae (Saxifragaceae)										
<i>Ribes cereum</i> Wax currant	Apr-Jul	x			x	x	x	x		
<i>Ribes velutinum</i> Desert gooseberry	Mar-Jun				x	x	x			
Hydrangeaceae (Saxifragaceae)										
<i>Fendlera rupicola</i> Cliff fendler-bush	Apr-Jun		x		x	x				
<i>Fendlerella utahensis</i> Yerba desierto	Apr-Sep				x	x	x	x		
Hydrangeaceae (Saxifragaceae)										
<i>Philadelphus microphyllus</i> Littleleaf mock-orange	May-Sep					x	x	x		
Iridaceae										
<i>Sisyrinchium demissum</i> Stiff blue-eyed grass	Apr-Aug	x								

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of Grand Canyon Parashant National Monument

Species/Common Name	Flower- ing	Wet	Moj Srb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Juncaceae										
<i>Juncus arcticus</i> Baltic rush	May-Jul	x								
<i>Juncus bufonius</i> Toad rush	Jun-Aug	x								
<i>Juncus interior</i> Inland rush	Jun-Aug	x								
<i>Juncus longistylis</i> Longstyle rush	Jun-Aug	x								
<i>Juncus nodosus</i> Knotted rush	Jul-Sep	x								
<i>Juncus saximontanus</i> Mountain rush	Jun-Aug	x								
<i>Juncus torreyi</i> Torrey's rush	Jun-Aug	x								
Krameriaceae (Fabaceae)										
<i>Krameria erecta</i> Range ratany	Apr-Jun		x							
<i>Krameria grayi</i> White ratany	Apr-May		x							
Lamiaceae (Labiatae)										
<i>Dracocephalum parviflorum</i> Smallflower dragonhead	Jun-Aug				x	x	x	x		
<i>Hedeoma drummondii</i> Mock pennyroyal	May-Aug				x	x	x			
<i>Hedeoma nana</i> Dwarf pennyroyal	May-Jun		x			x		x		
<i>Hedeoma oblongifolia</i> Oblong-leaf false pennyroyal	Apr-Sep						x	x		
<i>Leonurus cardiaca</i> Motherwort	Jun-Sep						x	x	x	
<i>Marrubium vulgare</i> Common horehound	May-Oct				x	x			x	
<i>Mentha arvensis</i> Field mint	Jun-Sep	x								
<i>Mentha spicata</i> Spearmint	Jun-Aug	x								

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of
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Species/Common Name	Flower- ing	Wet	Moj Srb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Lamiaceae (Labiatae)										
<i>Monardella glauca</i> Stinking horsemint	May-Aug				x	x		x		
<i>Poliomintha incana</i> Purple sage	May-Jun		x		x	x				Sandy areas
<i>Salazaria mexicana</i> Bladder-sage	Apr-Jun		x			x				
<i>Salvia columbariae</i> var. <i>columbariae</i> Chia	Mar-May		x							
<i>Salvia dorrii</i> Dorr's sage	May-Jun		x		x	x	x			
<i>Salvia reflexa</i> Annual sage	Jun-Sep	x			x	x				
<i>Trichostema brachiatum</i> Bluecurls	Aug-Oct							x		
Liliaceae (Calochortaceae)										
<i>Calochortus flexuosus</i> Sinuous mariposa	Apr-Jun		x		x	x				
<i>Calochortus nuttallii</i> Sego-lily	Jun-Jul				x	x	x	x		
<i>Fritillaria atropurpurea</i> Leopard-lily	Apr-Jul				x	x	x			
Linaceae										
<i>Linum aristatum</i> Broom-flax	Apr-Aug		x		x	x		x		
<i>Linum australe</i> Southern flax	Jun-Aug				x	x		x		
<i>Linum puberulum</i> Red-eye flax	May-Jun			x		x				
Loasaceae										
<i>Eucnide urens</i> Desert rock-nettle	Apr-Jul		x							Rock outcrops
<i>Mentzelia affinis</i> Hydra stickleaf	Mar-Jun		x							
<i>Mentzelia albicaulis</i> White-stem blazingstar	Apr-Aug		x	x	x	x		x		

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of
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Species/Common Name	Flower- ing	Wet	Moj Srb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Loasaceae										
<i>Mentzelia dispersa</i> Nevada blazingstar	Apr-Aug				x	x	x			
<i>Mentzelia jonesii</i> Jones' blazingstar	Mar-Jun		x		x	x				
<i>Mentzelia multiflora</i> var. <i>integra</i> Virgin stickleaf	Apr-Oct		x			x				
<i>Mentzelia multiflora</i> var. <i>multiflora</i> Desert stickleaf	Apr-Sep		x	x	x					
<i>Mentzelia pterosperma</i> Wing-seed stickleaf	Mar-Aug		x		x	x				
<i>Mentzelia tricuspis</i> Glorious blazingstar	Mar-Jun		x							
<i>Petalonyx nitidus</i> Shiny-leaf sandpaper-plant	May-Sep		x							
<i>Petalonyx parryi</i> Parry's sandpaper-plant	Apr-Jun		x	x						
<i>Petalonyx thurberi</i> Thurber's sandpaper-plant	Apr-Oct		x							
Lythraceae										
<i>Lythrum californicum</i> California loosestrife	Apr-Oct	x								
Malpighiaceae (Burseraceae)										
<i>Janusia gracilis</i> Slender janusia	Apr-Oct		x							
Malvaceae										
<i>Abutilon incanum</i> Bush mallow	Apr-Oct		x							
<i>Abutilon parvulum</i> Small Indian mallow	Apr-Sep		x							
<i>Eremalche exilis</i> White mallow	Mar-Jun		x			x				
<i>Eremalche rotundifolia</i> Desert fivespot	Mar-May		x							
<i>Malva neglecta</i> Dwarf mallow	Apr-Oct								x	

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Species/Common Name	Flower- ing	Wet	Moj Scrib	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Malvaceae										
<i>Malva parviflora</i> Small-whorl mallow	Mar-Jul								x	
<i>Sphaeralcea ambigua</i> ssp. <i>ambigua</i> Mohave globemallow	Mar-Sep		x		x	x				
<i>Sphaeralcea coccinea</i> Scarlet globemallow	Apr-Oct		x		x	x	x			
<i>Sphaeralcea gierischii</i> Gierisch's globemallow	Apr-Jun		x							Gypsum-rich soils of Harrisburg Member of the Kaibab Formation
<i>Sphaeralcea grossulariifolia</i> Gooseberry-leaf globemallow	Mar-Oct		x		x					
<i>Sphaeralcea laxa</i> Caliche globemallow	Mar-Nov		x							Calcareous soils
<i>Sphaeralcea parvifolia</i> Small-leaf globemallow	Mar-Oct		x		x	x			x	
<i>Sphaeralcea rusbyi</i> Rusby's globemallow	Mar-Oct		x			x				
Martyniaceae (Pedaliaceae)										
<i>Proboscidea parviflora</i> Devil's claw	Jun-Aug		x						x	
Molluginaceae (Aizoaceae)										
<i>Glinus radiatus</i> Spreading sweetjuice	Aug-Oct	x								
<i>Mollugo cerviana</i> Slender carpetweed	Aug-Sep				x	x				Sandy areas
Montiaceae (Portulacaceae)										
<i>Cistanthe monandra</i> Roseate calyptridium	Mar-Jun		x			x				
<i>Claytonia perfoliata</i> Miner's lettuce	Apr-Jun	x	x		x	x	x			
<i>Phemeranthus parviflorus</i> Small-flowered fame-flower	Apr-Sep		x			x	x			Rock outcrops

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of
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Species/Common Name	Flower- ing	Wet	Moj Scrib	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Nyctaginaceae										
<i>Abronia elliptica</i> Fragrant sand-verbena	Apr-Sep		x	x	x	x		x		
<i>Allionia incarnata</i> Trailing four-o'clock	Apr-Sep		x	x						
<i>Boerhavia coulteri</i> Coulter's spiderling	May-Sep		x							
<i>Boerhavia spicata</i> Spiderling	Jun-Sep		x	x		x				
<i>Mirabilis albida</i> White four o'clock	May-Oct		x		x					
<i>Mirabilis coccinea</i> Red four-o'clock	May-Aug					x				Igneous soils
<i>Mirabilis decipiens</i> New Mexico umbrellawort	Jun-Aug	x				x		x		
<i>Mirabilis laevis</i> var. <i>retrorsa</i> Bigelow's four-o'clock	Feb-May		x							Calcareous soils
<i>Mirabilis laevis</i> var. <i>villosa</i> Hairy four-o'clock	Feb-May		x							
<i>Mirabilis linearis</i> Narrow-leaf four-o'clock	May-Aug	x		x	x	x	x	x		
<i>Mirabilis multiflora</i> Showy four-o'clock	Apr-Jul		x			x				
<i>Mirabilis oxybaphoides</i> Spreading four-o'clock	May-Sep	x				x	x			
<i>Mirabilis pumila</i> White four-o' clock	Aug-Sep		x			x	x			
<i>Selinocarpus nevadensis</i> Moonpod	Apr-Jul		x							
Oleaceae										
<i>Fraxinus anomala</i> var. <i>anomala</i> Singleleaf ash	Apr-May		x	x		x	x	x		
<i>Fraxinus anomala</i> var. <i>lowellii</i> Lowell's ash	Apr-May					x	x			
<i>Fraxinus cuspidata</i> Fragrant ash	Apr-May									Dry canyons
<i>Fraxinus dipetala</i> California ash	Apr-May									Dry canyons

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of
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Species/Common Name	Flower- ing	Wet	Moj Scrb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Oleaceae										
<i>Fraxinus velutina</i> Velvet ash	Apr-May	x								
<i>Menodora scabra</i> Rough menodora	Apr-Aug				x	x				
Onagraceae										
<i>Calylophus lavandulifolius</i> Lavender-leaf sundrops	May-Aug		x	x	x	x		x		
<i>Camissonia boothii</i> ssp. <i>alyssoides</i> Hairy camissonia	Jun-Sep		x	x	x	x				
<i>Camissonia boothii</i> ssp. <i>condensata</i> Compact camissonia	Mar-May		x	x						
<i>Camissonia brevipes</i> Yellow cups	Apr-May		x							
<i>Camissonia chamaenerioides</i> Slender-pod camissonia	Apr-Jun		x		x	x				
<i>Camissonia claviformis</i> ssp. <i>claviformis</i> Clubpod camissonia	May-Jul		x	x						
<i>Camissonia exilis</i> Meager camissonia	May-Jun				x	x				Moenkopi Formation
<i>Camissonia gouldii</i> Gould's camissonia	May-Oct									Volcanic ash
<i>Camissonia multijuga</i> Manylobe camissonia	Apr-Jun	x	x	x	x	x	x			
<i>Camissonia parryi</i> Parry's camissonia	May-Jun		x	x		x				
<i>Camissonia pusilla</i> Obscure camissonia	May-Jun				x	x				
<i>Camissonia refracta</i> Decurved camissonia	Mar-May		x							
<i>Camissonia scapoidea</i> ssp. <i>scapoidea</i> Paiute suncup	May-Jun			x	x	x				
<i>Camissonia walkeri</i> Walker's camissonia	Apr-Jun		x	x	x	x				
<i>Epilobium brachycarpum</i> Autumn willow-herb	Jun-Aug				x	x	x	x		
<i>Epilobium ciliatum</i> ssp. <i>ciliatum</i> Northern willowherb	Jun-Aug	x								

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of
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Species/Common Name	Flower- ing	Wet	Moj Scrb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Onagraceae										
<i>Gaura coccinea</i> Scarlet gaura	May-Jul		x	x	x	x	x			
<i>Gaura hexandra</i> ssp. <i>gracilis</i> Harlequin gaura	May-Oct	x				x	x		x	
<i>Gaura mollis</i> Small-flowered gaura	May-Aug	x							x	
<i>Gayophytum decipiens</i> Deceptive groundsmoke	Jun-Aug				x	x	x			
<i>Gayophytum diffusum</i> ssp. <i>parviflorum</i> Diffuse groundsmoke	May-Aug				x		x	x		
<i>Gayophytum racemosum</i> Raceme groundsmoke	May-Aug				x	x		x		
<i>Gayophytum ramosissimum</i> Branching groundsmoke	May-Aug				x	x	x	x		
<i>Oenothera albicaulis</i> White-stem evening-primrose	Mar-Jun		x	x	x	x				
<i>Oenothera caespitosa</i> ssp. <i>marginata</i> Long-tube evening-primrose	Apr-Aug				x	x	x	x		
<i>Oenothera caespitosa</i> ssp. <i>navajoensis</i> Paria evening-primrose	Apr-Aug		x	x	x	x	x			
<i>Oenothera californica</i> California evening-primrose	May-Jul		x		x	x		x		
<i>Oenothera cavernae</i> Munz' evening-primrose	Apr-May		x							
<i>Oenothera coronopifolia</i> Hairy-throat evening-primrose	Jun-Aug				x	x	x	x		
<i>Oenothera deltoides</i> ssp. <i>ambigua</i> St. George evening-primrose	Apr-Jun		x							Sandy areas
<i>Oenothera flava</i> ssp. <i>flava</i> Yellow evening-primrose	Jun-Jul	x			x			x		
<i>Oenothera pallida</i> var. <i>pallida</i> Pale evening-primrose	May-Jul		x	x	x	x	x	x		
<i>Oenothera pallida</i> var. <i>runcinata</i> Pale evening-primrose	May-Jul		x	x	x	x	x			
<i>Oenothera primiveris</i> var. <i>bufonis</i> Early evening-primrose	Mar-May		x			x				

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Species/Common Name	Flower- ing	Wet	Moj Scrb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Orchidaceae										
<i>Epipactis gigantea</i> Giant helleborine	Apr-Aug	x								
Orobanchaceae (Scrophulariaceae)										
<i>Castilleja angustifolia</i> var. <i>dubia</i> Desert paintbrush	Apr-Jun		x	x	x	x	x			
<i>Castilleja integra</i> Showy paintbrush	Jun-Aug					x		x		
<i>Castilleja linariifolia</i> Wyoming paintbrush	Jul-Aug				x	x	x			
<i>Cordylanthus parviflorus</i> Smallflower bird's-beak	Aug-Sep		x		x	x				
<i>Cordylanthus wrightii</i> ssp. <i>tenuifolius</i> Slenderleaf bird's-beak	Jul-Sep					x		x		
<i>Cordylanthus wrightii</i> ssp. <i>wrightii</i> Wright's bird's-beak	Jul-Sep		x	x	x	x		x		
<i>Orobanche fasciculata</i> Clustered broomrape	Jun-Jul		x	x	x	x	x			
<i>Orobanche ludoviciana</i> Cooper's broomrape	May-Jul		x	x	x	x	x			
<i>Orthocarpus purpureoalbus</i> Violet owl-clover	Jul-Aug				x	x	x	x		
<i>Pedicularis centranthera</i> Dwarf lousewort	Apr-Jun					x	x	x		
Papaveraceae (Fumariaceae)										
<i>Argemone munita</i> ssp. <i>rotundata</i> Armed prickly-poppy	May-Sep		x			x				
<i>Corydalis aurea</i> Golden corydalis	Apr-Sep		x	x	x	x	x			
<i>Eschscholzia californica</i> ssp. <i>californica</i> California poppy	Feb-Jul								x	Cultivated
<i>Eschscholzia californica</i> ssp. <i>mexicana</i> Mexican golden-poppy	Feb-Jul		x			x				
<i>Eschscholzia glyptosperma</i> Desert golden-poppy	Mar-May		x							

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Species/Common Name	Flower- ing	Wet	Moj Scrb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Papaveraceae (Fumariaceae)										
<i>Eschscholzia minutiflora</i> Pygmy golden-poppy	Apr-May		x			x				
Phrymaceae (Scrophulariaceae)										
<i>Mimulus bigelovii</i> var. <i>bigelovii</i> Bigelow's monkeyflower	Mar-May		x							
<i>Mimulus guttatus</i> Yellow monkeyflower	Jun-Aug	x								
<i>Mimulus parryi</i> Parry's monkey-flower	Apr-May		x							
<i>Mimulus rubellus</i> Reddish monkeyflower	Apr-Jun		x	x	x	x	x	x		
Pinaceae										
<i>Pinus edulis</i> Two-needle pinyon	NA				x	x	x			
<i>Pinus monophylla</i> Singleleaf pinyon	NA				x	x				
<i>Pinus ponderosa</i> var. <i>scopulorum</i> Ponderosa pine	NA						x	x		
Plantaginaceae (Scrophulariaceae)										
<i>Collinsia parviflora</i> Blue-eyed Mary	Apr-Jun				x	x	x	x		
<i>Maurandella antirrhiniflora</i> Maurandya	Mar-May		x							
<i>Mohavea breviflora</i> Desert snapdragon	Mar-May		x							
<i>Neogaerrhinum filipes</i> Yellow twining snapdragon	Apr-May		x							
<i>Penstemon barbatus</i> Beardlip penstemon	Jun-Jul						x	x		
<i>Penstemon caespitosus</i> var. <i>desertipicti</i> Painted penstemon	May-Jul				x	x	x			
<i>Penstemon confusus</i> Mistaken penstemon	Apr-Jun		x	x	x	x	x			

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Species/Common Name	Flower- ing	Wet	Moj Srb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Plantaginaceae (Scrophulariaceae)										
<i>Penstemon distans</i> Mount Trumbull penstemon	Apr-May					x				Kaibab Limestone
<i>Penstemon eatonii</i> ssp. <i>undosus</i> Firecracker penstemon	Jun-Jul		x		x	x	x	x		
<i>Penstemon linarioides</i> var. <i>sileri</i> Siler's penstemon	May-Aug				x	x	x	x		
<i>Penstemon ophianthus</i> Loa penstemon	May-Jun				x	x	x	x		
<i>Penstemon pachyphyllus</i> var. <i>congestus</i> Rockville penstemon	May-Jul				x	x	x	x		
<i>Penstemon palmeri</i> var. <i>palmeri</i> Palmer's penstemon	May-Aug		x		x	x	x	x		
<i>Penstemon rostriflorus</i> Beaked penstemon	Jun-Aug		x		x	x	x	x		
<i>Penstemon strictus</i> Rocky Mountain penstemon	Jun-Aug				x	x	x			
<i>Penstemon thompsoniae</i> Thompson's penstemon	May-Jun				x	x				
<i>Penstemon utahensis</i> Utah penstemon	Apr-Jun		x			x	x			
<i>Plantago major</i> Common plantain	May-Aug								x	
<i>Plantago ovata</i> Insular plantain	Apr-May		x	x						
<i>Plantago patagonica</i> Woolly plantain	Mar-Jun		x	x	x	x	x			
<i>Sairocarpus kingii</i> King's snapdragon	May-Jun		x	x	x					
<i>Veronica americana</i> American brooklime	Jul-Aug	x								
<i>Veronica anagallis-aquatica</i> Water speedwell	Jun-Aug	x								
<i>Veronica peregrina</i> ssp. <i>xalapensis</i> Purslane speedwell	Jun-Aug	x								

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of Grand Canyon Parashant National Monument

Species/Common Name	Flower- ing	Wet	Moj Srb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Poaceae (Gramineae)										
<i>Achnatherum aridum</i> Mormon needlegrass	May-Jul		x		x	x				Rock outcrops
<i>Achnatherum hymenoides</i> Indian ricegrass	May-Jul		x		x	x	x	x		
<i>Achnatherum parishii</i> var. <i>parishii</i> Crested needlegrass	Jun-Jul		x		x	x				
<i>Achnatherum speciosum</i> Desert needlegrass	Apr-Jun		x		x	x				Rock outcrops
<i>Aegilops cylindrica</i> Jointed goatgrass	May-Jun								x	
<i>Agropyron cristatum</i> Crested wheatgrass	Jun-Aug				x	x	x	x	x	
<i>Andropogon glomeratus</i> Bushy bluestem	Apr-Oct	x								
<i>Aristida adscensionis</i> Sixweeks three-awn	Mar-Sep		x							Rock outcrops
<i>Aristida arizonica</i> Arizona three-awn	Jul-Aug		x							
<i>Aristida californica</i> California three-awn	Apr-Jun				x					
<i>Aristida purpurea</i> var. <i>fendleriana</i> Fendler's purple three-awn	Mar-Sep		x		x	x		x		
<i>Aristida purpurea</i> var. <i>nealleyi</i> Nealley's purple three-awn	Mar-Sep		x							
<i>Aristida purpurea</i> var. <i>parishii</i> Parish's threeawn	Apr-Jun		x			x				
<i>Aristida ternipes</i> var. <i>gentilis</i> Spider-grass	May-Nov		x							
<i>Avena fatua</i> Wild oats	May-Aug	x							x	
<i>Avena sativa</i> Oats	May-Aug								x	
<i>Blepharoneuron tricholepis</i> Pine dropseed	Jul-Sep						x	x		
<i>Bothriochloa barbinodis</i> Cane bluestem	Apr-Nov				x	x		x		

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of
Grand Canyon Parashant National Monument

Species/Common Name	Flower- ing	Wet	Moj Srb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Poaceae (Gramineae)										
<i>Bouteloua aristidoides</i> Needle grama	Jul-Sep		x			x				
<i>Bouteloua barbata</i> Sixweeks grama	Aug-Sep		x							
<i>Bouteloua curtipendula</i> Sideoats grama	Jul-Sep		x		x	x		x		
<i>Bouteloua eriopoda</i> Black grama	Jun-Aug		x		x	x				
<i>Bouteloua gracilis</i> Blue grama	Jul-Sep		x		x	x	x	x		
<i>Bouteloua simplex</i> Mat grama	Aug-Sep	x			x					
<i>Bouteloua trifida</i> Red grama	Apr-Sep		x							
<i>Bromus anomalus</i> Nodding brome	Jun-Aug				x	x	x	x		
<i>Bromus arizonicus</i> Arizona brome	Mar-Jun				x	x				
<i>Bromus arvensis</i> Japanese chess	Jun-Aug				x	x	x		x	
<i>Bromus berterioanus</i> Chilean chess	Apr-May		x							Rock outcrops
<i>Bromus carinatus</i> Mountain brome	May-Aug				x		x	x		
<i>Bromus catharticus</i> Rescuegrass	Mar-Jun								x	
<i>Bromus inermis</i> ssp. <i>inermis</i> Smooth brome	Jun-Aug				x	x	x	x	x	
<i>Bromus rubens</i> Red brome	Mar-Jun		x		x				x	
<i>Bromus secalinus</i> Rye chess	Jun-Jul								x	
<i>Bromus sterilis</i> Poverty brome	May-Jul								x	
<i>Bromus tectorum</i> Cheatgrass	May-Jul				x	x	x		x	
<i>Cynodon dactylon</i> Bermuda grass	May-Sep	x							x	

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of
Grand Canyon Parashant National Monument

Species/Common Name	Flower- ing	Wet	Moj Srb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Poaceae (Gramineae)										
<i>Dasyochloa pulchella</i> Fluffgrass	Apr-Aug		x		x	x				
<i>Dichanthelium oligosanthes</i> var. <i>scribnerianum</i> Scribner's panic-grass	Jun-Aug	x								
<i>Digitaria californica</i> California crabgrass	Jun-Aug		x		x					
<i>Distichlis spicata</i> Desert saltgrass	Jun-Sep	x	x							
<i>Echinochloa crus-gallii</i> Barnyard-grass	Aug-Sep	x							x	
<i>Elymus elymoides</i> Squirreltail	May-Aug	x	x		x	x	x	x		
<i>Elymus lanceolatus</i> Thickspike wheatgrass	Jun-Aug				x	x	x			
<i>Elymus repens</i> Creeping wildrye	Jun-Aug	x							x	
<i>Elymus trachycaulus</i> Slender wheatgrass	Jun-Aug				x		x	x		
<i>Elymus x hansenii</i> Hansen's wildrye	Apr-Sep								x	
<i>Enneapogon desvauxii</i> Spike pappusgrass	Aug-Sep									Rock outcrops
<i>Eragrostis cilianensis</i> Stinkgrass	Jul-Sep								x	
<i>Eragrostis mexicana</i> Mexican lovegrass	Jul-Sep								x	
<i>Eragrostis minor</i> Minor lovegrass	Jun-Aug								x	
<i>Eragrostis pectinacea</i> Tufted lovegrass	Jul-Aug	x							x	
<i>Erioneuron pilosum</i> Hairy tridens	May-Jul		x		x	x				
<i>Festuca arizonica</i> Arizona fescue	Jul-Aug						x	x		
<i>Hesperostipa comata</i> Needle-and-thread	May-Jul				x	x	x			
<i>Hesperostipa neomexicana</i> New Mexico feathergrass	May-Jun				x	x				Rock outcrops

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of
Grand Canyon Parashant National Monument

Species/Common Name	Flower- ing	Wet	Moj Scrb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Poaceae (Gramineae)										
<i>Hordeum jubatum</i> Foxtail barley	Jun-Aug	x	x		x	x	x			
<i>Hordeum murinum</i> Rabbit barley	May-Jul		x		x				x	
<i>Koeleria macrantha</i> Junegrass	Jun-Aug				x	x	x	x		
<i>Leptochloa fusca</i> ssp. <i>fascicularis</i> Bearded sprangletop	Jul-Sep	x								
<i>Leymus cinereus</i> Great Basin wildrye	Jun-Aug				x	x	x	x		
<i>Leymus triticoides</i> Beardless wildrye	May-Aug	x								
<i>Lolium perenne</i> ssp. <i>multiflorum</i> Italian ryegrass	Jun-Aug						x	x	x	
<i>Lolium temulentum</i> Darnel ryegrass	May-Jun								x	
<i>Muhlenbergia depauperata</i> Sixweeks muhly	Jul-Sep				x	x				
<i>Muhlenbergia microsperma</i> Littleseed muhly	Feb-Sep		x							Limestone
<i>Muhlenbergia minutissima</i> Annual muhly	Jul-Sep				x	x				
<i>Muhlenbergia pauciflora</i> New Mexican muhly	Aug-Sep				x	x		x		
<i>Muhlenbergia porteri</i> Bush muhly	Jul-Sep		x		x					Rock outcrops
<i>Muhlenbergia repens</i> Creeping muhly	Apr-Sep				x	x		x		
<i>Muhlenbergia richardsonis</i> Mat muhly	Jul-Sep	x			x	x	x	x		
<i>Muhlenbergia rigens</i> Deergrass	Jul-Aug						x	x		
<i>Muhlenbergia torreyi</i> Ringed muhly	Jul-Sep				x	x				Sandy areas
<i>Muhlenbergia wrightii</i> Spike muhly	Jul-Sep		x		x	x	x	x		
<i>Munroa squarrosa</i> False buffalograss	Jun-Sep		x		x	x				

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of Grand Canyon Parashant National Monument

Species/Common Name	Flower- ing	Wet	Moj Srb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Poaceae (Gramineae)										
<i>Panicum hallii</i> Hall's panic-grass	Aug-Sep				x	x				
<i>Panicum hirticaule</i> Roughstalk witchgrass	Jul-Oct		x							
<i>Panicum mohavense</i> Mohave panic-grass	Aug-Oct				x					Limestone terraces
<i>Panicum obtusum</i> Vine mesquite	Aug-Sep	x								Rock outcrops
<i>Pascopyrum smithii</i> Western wheatgrass	Jun-Aug				x	x	x			
<i>Paspalum dilatatum</i> Golden crown-grass	May-Nov	x							x	
<i>Paspalum distichum</i> Knotgrass	Jun-Sep	x								
<i>Pennisetum glaucum</i> Pearl millet	Jul-Sep								x	
<i>Phalaris arundinacea</i> Reed canary grass		x								
<i>Phragmites australis</i> Common reed	Jul-Sep	x								
<i>Piptatherum micranthum</i> Littleseed ricegrass	Jun-Aug					x	x	x		
<i>Pleuraphis jamesii</i> Galleta	May-Aug		x		x	x				
<i>Pleuraphis rigida</i> Big galleta	Mar-Jun		x							
<i>Poa bigelovii</i> Bigelow's bluegrass	Mar-May		x		x	x				
<i>Poa compressa</i> Canada bluegrass	Jun-Aug	x							x	
<i>Poa fendleriana</i> Muttongrass	May-Aug				x	x	x	x		
<i>Poa pratensis</i> Kentucky bluegrass	May-Aug	x			x	x	x	x		
<i>Poa secunda</i> Sandberg's bluegrass	Apr-Aug		x		x	x	x			
<i>Polypogon monspeliensis</i> Rabbitfoot-grass	Jun-Aug	x								

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of Grand Canyon Parashant National Monument

Species/Common Name	Flower- ing	Wet	Moj Srb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Poaceae (Gramineae)										
<i>Polypogon viridis</i> Water bentgrass	May-Aug	x								
<i>Psathyrostachys juncea</i> Russian wildrye	Jun-Jul		x		x	x	x	x		
<i>Pseudoroegneria spicata</i> Bluebunch wheatgrass	Jun-Aug				x	x	x	x		
<i>Puccinellia distans</i> Weeping alkaligrass	Jun-Aug	x								
<i>Puccinellia nuttalliana</i> Nuttall's alkaligrass	May-Aug	x								
<i>Schismus arabicus</i> Arabian grass	Mar-Apr		x							
<i>Schismus barbatus</i> Mediterranean grass	Mar-Apr		x		x	x				
<i>Schizachyrium scoparium</i> Little bluestem	Jul-Sep	x								Rock outcrops
<i>Scleropogon brevifolius</i> Burro grass	Jun-Sep		x							
<i>Secale cereale</i> Cultivated rye	May-Jul				x				x	
<i>Setaria leucopila</i> Streamside bristlegrass	Jul-Sep								x	Sandy areas
<i>Setaria pumila</i> ssp. <i>pumila</i> Yellow bristlegrass	Jul-Sep								x	
<i>Setaria viridis</i> Green bristlegrass	Jun-Sep								x	
<i>Sorghum halepense</i> Johnson-grass	Jul-Sep	x							x	
<i>Sporobolus contractus</i> Spike dropseed	Jun-Sep				x	x				
<i>Sporobolus cryptandrus</i> Sand dropseed	Jun-Sep		x		x	x		x		
<i>Sporobolus flexuosus</i> Mesa dropseed	Jun-Sep				x	x				
<i>Thinopyrum intermedium</i> Intermediate wheatgrass	Jun-Aug				x	x	x	x	x	
<i>Thinopyrum ponticum</i> Tall wheatgrass	Jun-Aug								x	

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of Grand Canyon Parashant National Monument

Species/Common Name	Flower- ing	Wet	Moj Scrb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Poaceae (Gramineae)										
<i>Tridens muticus</i> Slim tridens	May-Sep		x		x	x				
<i>Vulpia bromoides</i> Brome six-weeks grass	Apr-Jul								x	
<i>Vulpia microstachys</i> Small fescue	May-Jun	x							x	
<i>Vulpia octoflora</i> Six-weeks fescue	Apr-Jun	x	x		x	x				
Polemoniaceae										
<i>Aliciella hutchinsifolia</i> Broadlobe gilia	Apr-Jul		x	x	x					
<i>Aliciella latifolia</i> ssp. <i>latifolia</i> Spiny gilia	Mar-May		x							
<i>Aliciella leptomeria</i> Common gilia	May-Jun		x	x	x	x	x	x		
<i>Aliciella micromeria</i> Common gilia	May-Jun		x	x	x	x				
<i>Collomia grandiflora</i> Large collomia	Jun-Aug						x	x		
<i>Eriastrum diffusum</i> Spreading eriastrum	May-Jun		x	x	x	x				
<i>Eriastrum eremicum</i> Desert eriastrum	Apr-Jun		x	x		x				
<i>Eriastrum sparsiflorum</i> Great Basin eriastrum	May-Aug		x		x	x				
<i>Gilia inconspicua</i> Floccose gilia	Apr-Jul		x	x	x	x	x			
<i>Gilia scopulorum</i> Rock gilia	Apr-May		x		x	x	x			
<i>Gilia stellata</i> Longbranch gilia	Apr-May		x			x				
<i>Ipomopsis aggregata</i> ssp. <i>formosissima</i> Scarlet gilia	May-Aug					x		x		
<i>Ipomopsis arizonica</i> Scarlet gilia	May-Aug				x	x	x			
<i>Ipomopsis longiflora</i> Long-flowered gilia	May-Aug				x	x				

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of Grand Canyon Parashant National Monument

Species/Common Name	Flower- ing	Wet	Moj Scrb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Polemoniaceae										
<i>Ipomopsis multiflora</i> Manyflower gilia	Jun-Sep		x			x				
<i>Ipomopsis polycladon</i> Spreading gilia	Apr-Jun		x	x	x	x				
<i>Langloisia setosissima</i> Mohave langloisia	Mar-May		x		x	x				
<i>Leptosiphon nuttallii</i> Nuttall's linanthus	Jun-Aug				x	x	x	x		
<i>Linanthus bigelovii</i> Bigelow's linanthus	Apr-May		x		x	x	x			
<i>Linanthus demissus</i> Mat linanthus	Apr-May		x							
<i>Linanthus dichotomus</i> Evening-snow	Apr-May		x		x	x				
<i>Linanthus filiformis</i> Yellow gilia	Apr-May		x							
<i>Loeseliastrum schottii</i> Schott's calico	Mar-May		x	x						
<i>Microsteris gracilis</i> var. <i>humilior</i> Slender phlox	Mar-Jun				x	x	x	x		
<i>Phlox amabilis</i> Arizona phlox	Mar-Jun							x		
<i>Phlox austromontana</i> ssp. <i>austromontana</i> Desert phlox	Apr-Jun			x	x	x	x	x		
<i>Phlox longifolia</i> Longleaf phlox	Apr-Jul			x	x	x	x	x		
<i>Phlox speciosa</i> ssp. <i>woodhousei</i> Star phlox	May-Jul					x		x		
<i>Phlox stansburyi</i> Stansbury's phlox	Apr-Jul			x	x	x	x	x		
Polygalaceae										
<i>Polygala acanthoclada</i> Thorny milkwort	May-Jul		x	x	x	x				
<i>Polygala subspinoso</i> Cushion milkwort	May-Jun			x	x	x	x	x		

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Species/Common Name	Flower- ing	Wet	Moj Scrb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Polygonaceae										
<i>Centrostegia thurberi</i> Thurber's spineflower	Mar-Jul		x			x	x			
<i>Chorizanthe brevicornu</i> Short spineflower	Feb-Jul		x	x						
<i>Chorizanthe rigida</i> Devil's spineflower	Feb-Jun		x							
<i>Eriogonum alatum</i> Winged wild buckwheat	Jun-Oct				x	x	x	x		
<i>Eriogonum brachypodum</i> Parry's wild buckwheat	Apr-Oct		x	x		x				
<i>Eriogonum cernuum</i> var. <i>cernuum</i> Nodding wild buckwheat	Apr-Oct			x	x	x	x	x		
<i>Eriogonum corymbosum</i> var. <i>corymbosum</i> Crisp-leaf wild buckwheat	Jul-Oct			x	x	x				
<i>Eriogonum corymbosum</i> var. <i>glutinosum</i> Sticky wild buckwheat	Jul-Oct		x	x	x	x		x		
<i>Eriogonum darrovii</i> Darrow's wild buckwheat	May-Sep				x	x				
<i>Eriogonum davidsonii</i> Davidson's buckwheat	May-Sep		x		x	x	x	x		
<i>Eriogonum deflexum</i> var. <i>deflexum</i> Skeletonweed wild buckwheat	Apr-Oct		x	x	x	x				
<i>Eriogonum divaricatum</i> Spreading wild buckwheat	May-Oct			x	x	x				
<i>Eriogonum fasciculatum</i> var. <i>polifolium</i> Mojave wild buckwheat	Mar-Oct		x			x				
<i>Eriogonum fusiforme</i> Grand Valley desert trumpet	Apr-Jul			x	x					Chinle & Moenkopi
<i>Eriogonum heermannii</i> var. <i>argense</i> Heermann's grooved wild buck- wheat	Apr-Nov		x		x	x	x			
<i>Eriogonum heermannii</i> var. <i>sulcatum</i> Heermann's grooved wild buck- wheat	Apr-Oct		x							Limestone
<i>Eriogonum hookeri</i> Hooker's wild buckwheat	Jun-Oct				x	x	x			

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Species/Common Name	Flower- ing	Wet	Moj Scrb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Polygonaceae										
<i>Eriogonum inflatum</i> Desert trumpet	Mar-Oct		x	x	x	x				Sandy or gravelly soils
<i>Eriogonum insigne</i> Ladder wild buckwheat	May-Oct		x		x	x				
<i>Eriogonum jamesii</i> var. <i>flavescens</i> Baker's wild buckwheat	Jun-Oct				x	x	x	x		
<i>Eriogonum jonesii</i> Jones' wild buckwheat	Aug-Nov		x	x	x					
<i>Eriogonum maculatum</i> Spotted buckwheat	Apr-Nov		x			x				
<i>Eriogonum microthecum</i> var. <i>laxiflorum</i> Slender buckwheat	Jun-Oct			x	x	x	x	x		
<i>Eriogonum microthecum</i> var. <i>simpsonii</i> Slender buckwheat	Jun-Oct			x	x	x	x	x		
<i>Eriogonum nummularae</i> Coin wild buckwheat	Jul-Oct			x	x	x				Sandy areas
<i>Eriogonum ovalifolium</i> var. <i>purpureum</i> Cushion wild buckwheat	Apr-Aug			x	x	x				
<i>Eriogonum palmerianum</i> Palmer's wild buckwheat	Mar-Oct		x	x	x	x				
<i>Eriogonum pharnaceoides</i> var. <i>cervinum</i> Wirestem buckwheat	Jul-Sep					x	x	x		
<i>Eriogonum pusillum</i> Low buckwheat	Feb-Aug	x	x			x				
<i>Eriogonum racemosum</i> Redroot wild buckwheat	Jun-Oct				x	x	x	x		
<i>Eriogonum thomasi</i> Thomas' wild buckwheat	Mar-Oct		x	x						
<i>Eriogonum trichopes</i> Little desert trumpet	Mar-Oct		x	x						
<i>Eriogonum umbellatum</i> var. <i>juniporinum</i> Juniper wild buckwheat	Jun-Sep					x				
<i>Eriogonum umbellatum</i> var. <i>mohavense</i> Mohave wild buckwheat	Jun-Sep				x	x	x			

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Grand Canyon Parashant National Monument

Species/Common Name	Flower- ing	Wet	Moj Srb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Polygonaceae										
<i>Eriogonum umbellatum</i> var. <i>subaridum</i> Arid wild buckwheat	Jun-Oct				x	x	x	x		
<i>Eriogonum wrightii</i> Wright's wild buckwheat	Jul-Oct				x	x	x	x		
<i>Eriogonum zionis</i> var. <i>zionis</i> Zion buckwheat	Jul-Oct					x	x	x		
<i>Polygonum aviculare</i> Yard knotweed	May-Oct		x		x	x			x	
<i>Polygonum convolvulus</i> Black bindweed	May-Oct								x	
<i>Polygonum douglasii</i> var. <i>johnstonii</i> Sawatch knotweed	Jun-Aug				x	x	x			
<i>Pterostegia drymarioides</i> Pterostegia	Mar-Jul		x							Rock outcrops
<i>Rumex crispus</i> Curly dock	May-Sep	x							x	
<i>Rumex dentatus</i> Toothed dock	Apr-Jun	x								
<i>Rumex hymenosepalus</i> Canaigre dock	Apr-Jun		x		x					Sandy areas
<i>Rumex maritimus</i> var. <i>fueginus</i> Golden dock										
<i>Rumex stenophyllus</i> Narrowleaf dock	May-Sep	x								
Portulacaceae										
<i>Portulaca oleracea</i> Common purslane	Jun-Sep				x	x			x	
Potamogetonaceae										
<i>Potamogeton foliosus</i> Leafy pondweed	Jul-Sep	x								
<i>Potamogeton pusillus</i> var. <i>pusillus</i> Dwarf pondweed	Jul-Aug	x								
<i>Stuckenia pectinata</i> Sago pondweed	Jul-Sep	x								

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Species/Common Name	Flower- ing	Wet	Moj Srb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Primulaceae										
<i>Anagallis arvensis</i> Scarlet pimpernel	Apr-May								x	
<i>Androsace occidentalis</i> Western rock-jasmine	Apr-Jun					x	x			
Pteridaceae (Adiantaceae, Polypodiaceae, Sinopteridaceae)										
<i>Argyrochosma jonesii</i> Jones' cloak-fern	NA									Crevices
<i>Argyrochosma limitanea</i> Border cloak-fern	NA									Crevices
<i>Astrolepis cochisensis</i> ssp. <i>cochisensis</i> Cochise scaly cloak-fern	NA									Limestone
<i>Astrolepis sinuata</i> ssp. <i>sinuata</i> Wavy scaly cloak-fern	NA									Rock outcrops
<i>Cheilanthes feei</i> Slender lip-fern	NA									Crevices
<i>Cheilanthes parryi</i> Parry's cloak-fern	NA									Crevices
<i>Pellaea truncata</i> Spiny cliff-brake	NA									Crevices
Ranunculaceae (Helleboraceae, Thalictraceae)										
<i>Anemone tuberosa</i> Desert anemone	Mar-May		x		x	x				
<i>Aquilegia chrysantha</i> Golden columbine	Apr-Sep	x								
<i>Ceratocephala testiculata</i> Bur buttercup	Feb-Jun		x	x	x	x			x	
<i>Delphinium nuttallianum</i> Nuttall's larkspur	Apr-Jul		x		x	x	x	x		
<i>Delphinium parishii</i> ssp. <i>parishii</i> Parish's larkspur	Feb-May		x	x						
<i>Delphinium scaposum</i> Pale larkspur	Apr-Jun		x	x	x	x				
<i>Myosurus apetalus</i> var. <i>montanus</i> Bristly mousetail	Apr-Aug	x								

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of Grand Canyon Parashant National Monument

Species/Common Name	Flower- ing	Wet	Moj Srb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Ranunculaceae (Helleboraceae, Thalictraceae)										
<i>Myosurus cupulatus</i> Horseshoe mousetail	Apr-May				x		x			
<i>Ranunculus andersonii</i> var. <i>tenellus</i> Juniper buttercup	Apr-May					x	x	x		
<i>Ranunculus cymbalaria</i> Marsh buttercup	May-Sep	x								
<i>Ranunculus glaberrimus</i> Sagebrush buttercup	Apr-Jun				x	x	x	x		
<i>Ranunculus sceleratus</i> Blister buttercup	May-Sep	x								
<i>Thalictrum fendleri</i> Fendler's meadow-rue	Jun-Aug	x			x			x		
Resedaceae										
<i>Oligomeris linifolia</i> Line-leaf whitepuff	Mar-May		x	x						
Rhamnaceae										
<i>Ceanothus fendleri</i> Fendler ceanothus	Jun-Aug					x		x		
<i>Ceanothus greggii</i> var. <i>vestitus</i> Desert ceanothus	Mar-May		x			x	x			
<i>Ceanothus martinii</i> Utah ceanothus	Jun-Jul				x	x	x	x		
<i>Frangula betulifolia</i> Birchleaf buckthorn	May-Jun	x								Rock outcrops
<i>Ziziphus obtusifolia</i> var. <i>canescens</i> Lotebush	May-Sep		x							
Rosaceae										
<i>Amelanchier alnifolia</i> var. <i>alnifolia</i> Western serviceberry	May-Jul	x			x		x			
<i>Amelanchier utahensis</i> Utah serviceberry	Apr-Jun	x			x	x	x	x		
<i>Cercocarpus ledifolius</i> var. <i>intercedens</i> Curl-leaf mountain mahogany	May-Jun					x	x			Rock outcrops

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of Grand Canyon Parashant National Monument

Species/Common Name	Flower- ing	Wet	Moj Srb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Rosaceae										
<i>Cercocarpus montanus</i> Alder-leaf mountain mahogany	May-Jun				x	x	x			
<i>Chamaebatiaria millefolium</i> Fern bush	Jul-Aug				x		x			Rock outcrops
<i>Coleogyne ramosissima</i> Blackbrush	Apr-Jun		x							
<i>Fallugia paradoxa</i> Apache plume	Apr-Aug	x	x	x	x	x				Rock outcrops
<i>Holodiscus dumosus</i> Bush oceanspray	Jun-Aug									Rock outcrops
<i>Ivesia sabulosa</i> Sevier ivesia	Jun-Aug				x	x		x		Limestone
<i>Petrophytum caespitosum</i> Rock spiraea	Aug-Sep									Limestone or sand- stone
<i>Prunus fasciculata</i> Desert almond	Apr-May		x	x	x	x				
<i>Prunus virginiana</i> Western chokecherry	May-Jul				x	x	x			
<i>Purshia glandulosa</i> Desert bitterbrush	Apr-May		x			x				
<i>Purshia stansburiana</i> Cliff-rose	May-Jun		x		x	x	x	x		
<i>Purshia tridentata</i> Antelope bitterbrush	Apr-Jul				x	x	x	x		
<i>Rosa stellata</i> ssp. <i>abyssa</i> Desert rose	Apr-May									Kaibab Limestone
<i>Rosa woodsii</i> Woods' rose	May-Jul	x				x	x			
<i>Rubus armeniacus</i> Himalayan blackberry	Jun-Sep								x	
<i>Sanguisorba minor</i> Garden burnet	May-Jun				x		x			
Rubiaceae										
<i>Galium aparine</i> Cleavers	Apr-Jun	x	x		x	x	x			
<i>Galium bifolium</i> Twin-leaf bedstraw	May-Aug				x	x	x			

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of
Grand Canyon Parashant National Monument

Species/Common Name	Flower- ing	Wet	Moj Srb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Rubiaceae										
<i>Galium multiflorum</i> Shrubby bedstraw	May-Aug		x		x	x	x			
<i>Galium munzii</i> ssp. <i>ambivalens</i> Munz's bedstraw	May-Aug		x							
<i>Galium proliferum</i> Slender bedstraw	Apr-May		x							
<i>Galium stellatum</i> Stellate bedstraw	Apr-May		x							
<i>Galium wrightii</i> Wright's bedstraw	Jul-Sep	x								
<i>Kelloggia galioides</i> Kelloggia	Jun-Aug				x	x	x	x		
Rutaceae										
<i>Ptelea trifoliata</i> var. <i>lutescens</i> Hoptree	Apr-May	x								Shady canyons
<i>Thamnosma montana</i> Desert-rue	Feb-Apr		x							
Salicaceae										
<i>Populus fremontii</i> ssp. <i>fremontii</i> Fremont cottonwood	Mar-Jun	x								
<i>Populus tremuloides</i> Quaking aspen	Mar-Jul	x						x		
<i>Salix amygdaloides</i> Peach-leaf willow	Apr-Jun	x								
<i>Salix exigua</i> Coyote willow	Apr-Aug	x								
<i>Salix gooddingii</i> Goodding's black willow	Apr-May	x								
<i>Salix laevigata</i> Red willow	Feb-May	x								
<i>Salix lasiolepis</i> Arroyo willow	Apr-May	x								
Santalaceae (Viscaceae)										
<i>Arceuthobium divaricatum</i> Pinyon dwarf-mistletoe	Aug-Sep					x				

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of Grand Canyon Parashant National Monument

Species/Common Name	Flower- ing	Wet	Moj Srb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Santalaceae (Viscaceae)										
<i>Arceuthobium vaginatum</i> Southwestern dwarf-mistletoe	May-Jun							x		
<i>Comandra umbellata</i> ssp. <i>pallida</i> Bastard toadflax	Apr-Aug	x	x	x	x	x	x	x		
<i>Phoradendron californicum</i> Legume mistletoe	Mar-Apr	x	x							
<i>Phoradendron juniperinum</i> Juniper mistletoe	Jul-Sep				x	x				
Sapindaceae (Aceraceae)										
<i>Acer grandidentatum</i> Big-tooth maple	Apr-May				x		x			
<i>Acer negundo</i> Box elder	Apr-Jun	x								
Saururaceae										
<i>Anemopsis californica</i> Yerba mansa	May-Aug	x								
Saxifragaceae										
<i>Heuchera rubescens</i> Red alumroot	Apr-Sep					x	x	x		Rock outcrops
<i>Lithophragma tenellum</i> Slender woodlandstar	Apr-Aug				x	x	x	x		
Scrophulariaceae (Buddlejaceae, Loganiaceae)										
<i>Buddleja utahensis</i> Utah butterfly-bush	Apr-Jun		x							Limestone
<i>Verbascum thapsus</i> Woolly mullein	Jun-Jul				x	x	x	x	x	
Selaginellaceae										
<i>Selaginella leucobryoides</i> Mohave spike-moss	NA									Rock outcrops
<i>Selaginella underwoodii</i> Underwood's spike-moss	NA				x		x	x		Rock outcrops
<i>Selaginella watsonii</i> Watson's spike-moss	NA						x	x		Rock outcrops

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of
Grand Canyon Parashant National Monument

Species/Common Name	Flower- ing	Wet	Moj Srb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Solanaceae										
<i>Calibrachoa parviflora</i> Streamside petunia	Apr-Sep	x								
<i>Chamaesaracha coronopus</i> False nightshade	Apr-Jul		x						x	
<i>Datura wrightii</i> Angel's trumpet	Apr-Oct		x		x	x				
<i>Lycium andersonii</i> Anderson's wolfberry	Feb-May		x		x	x				
<i>Lycium cooperi</i> Cooper's wolfberry	Mar-May		x							
<i>Lycium pallidum</i> Pale wolfberry	Mar-May		x	x	x	x	x			
<i>Lycium torreyi</i> Torrey's wolfberry	Mar-May	x	x	x						
<i>Nicotiana attenuata</i> Coyote tobacco	Jun-Oct				x	x			x	
<i>Nicotiana obtusifolia</i> Desert tobacco	Mar-Oct		x							Rock outcrops
<i>Physalis crassifolia</i> Thick-leaved ground-cherry	Mar-May		x			x				
<i>Physalis hederifolia</i> var. <i>fendleri</i> Fendler's ground-cherry	May-Oct				x	x	x			
<i>Physalis hederifolia</i> var. <i>palmeri</i> Palmer's ground-cherry	May-Oct		x		x	x	x	x		
<i>Solanum elaeagnifolium</i> Silverleaf nightshade	Apr-Aug		x	x	x				x	
<i>Solanum jamesii</i> James' potato	Jul-Sep					x	x			
<i>Solanum nigrum</i> Black nightshade	Jul-Oct								x	
<i>Solanum physalifolium</i> Hairy nightshade	May-Oct								x	
<i>Solanum triflorum</i> Cut-leaf nightshade	May-Sep		x		x	x	x			
<i>Solanum xanti</i> Purple nightshade	Feb-Jul		x							

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of Grand Canyon Parashant National Monument

Species/Common Name	Flowering	Wet	Moj Scrub	Salt Shrub	Sage brush	Pin-Jun	Mtn brush	Pond-erosa	Dist	Substrate
Tamaricaceae										
<i>Tamarix aphylla</i> Athel tamarisk	Apr-Oct								x	Cultivated
<i>Tamarix chinensis</i> Five-stamen tamarisk	Apr-Sep	x								
Typhaceae										
<i>Typha domingensis</i> Southern cattail	Jul-Aug	x								
Urticaceae										
<i>Parietaria hespera</i> var. <i>hespera</i> Rillita pellitory	Mar-May		x							Rock outcrops
<i>Parietaria pensylvanica</i> Pennsylvania pellitory	Mar-Aug	x	x							Rock outcrops
Verbenaceae										
<i>Aloysia wrightii</i> Oreganillo	Aug-Oct		x							Limestone
<i>Glandularia bipinnatifida</i> var. <i>ciliata</i> Dakota mock-vervain	May-Sep					x	x	x		
<i>Glandularia gooddingii</i> Goodding's mock-vervain	Apr-Nov	x	x			x	x	x		
<i>Phyla cuneifolia</i> Wedge-leaf frogfruit	May-Jul	x								
<i>Verbena bracteata</i> Prostrate vervain	May-Sep		x		x	x			x	
Violaceae										
<i>Hybanthus verticillatus</i> Nodding green violet	Apr-Oct					x				
<i>Viola canadensis</i> Canadian white violet	Apr-Aug						x	x		
<i>Viola purpurea</i> ssp. <i>venosa</i> Goose-foot yellow violet	Mar-Aug				x	x	x			
<i>Viola vallicola</i> Valley violet	Mar-Jul				x		x			

Appendix D. Habitat and flowering data for confirmed and reported vascular plant taxa of Grand Canyon Parashant National Monument

Species/Common Name	Flower- ing	Wet	Moj Scrb	Salt Shrb	Sage brsh	Pin- Jun	Mtn brsh	Pond- erosa	Dist	Substrate
Vitaceae										
<i>Vitis arizonica</i> Canyon grape	May-Jun	x								
Zygophyllaceae										
<i>Fagonia laevis</i> Fagonia	Feb-Apr		x							
<i>Kallstroemia parviflora</i> Orange kallstroemia	Jul-Sep		x							
<i>Larrea tridentata</i> Creosote bush	Apr-Jun		x							
<i>Tribulus terrestris</i> Puncture vine	May-Sep								x	

Appendix E. Specimens vouchered from the 2010 and 2011 inventories of Grand Canyon-Parashant National Monument

Note: Entries in blue represent species first documented in 2011. All collections by Terri Hildebrand except where noted; acronyms for other collectors are listed on page 213.

Species	Collection No.*	Date
Adoxaceae		
<i>Sambucus nigra</i> ssp. <i>cerulea</i>	3602	22-May-11
Amaranthaceae		
<i>Amaranthus albus</i>	SM 8	29-Aug-11
<i>Amaranthus blitoides</i>	4048	20-Aug-11
<i>Amaranthus hybridus</i>	4076	20-Aug-11
<i>Atriplex canescens</i> var. <i>canescens</i>	3960	1-Aug-11
	3554	14-May-11
	3961	1-Aug-11
	3492	12-May-11
<i>Atriplex confertifolia</i>	3769	8-Jun-11
<i>Atriplex elegans</i> var. <i>elegans</i>	3952	1-Aug-11
<i>Atriplex hymenelytra</i>	3491	12-May-11
<i>Atriplex rosea</i>	3954	1-Aug-11
	3958	1-Aug-11
<i>Bassia scoparia</i>	3956	1-Aug-11
<i>Chenopodium album</i>	4047	20-Aug-11
	4049	20-Aug-11
<i>Chenopodium fremontii</i> var. <i>fremontii</i>	HH 11	30-Aug-10
<i>Chenopodium incanum</i>	JM 14	29-Aug-11
<i>Grayia spinosa</i>	3770	8-Jun-11
<i>Salsola tragus</i>	3767	8-Jun-11
	DKP 11	29-Aug-11
	JM 7	29-Aug-11
<i>Suaeda calceoliformis</i>	3953	1-Aug-11
Amaryllidaceae	Amaryllida- ceae	Amaryllida- ceae
<i>Allium acuminatum</i>	3747	5-Jun-11
Anacardiaceae	Anacardi- aceae	Anacardi- aceae
<i>Rhus aromatica</i> var. <i>trilobata</i>	3390	9-Sep-10
Apiaceae	Apiaceae	Apiaceae
<i>Cymopterus multinervatus</i>	3611	22-May-11
<i>Cymopterus purpurascens</i>	3454	16-Apr-11

Species	Collection No.*	Date
Apiaceae (continued)		
<i>Lomatium dissectum</i>	3731	3-Jun-11
<i>Pteryxia petraea</i>	DL 30	15-Apr-11
	TD 42	15-Apr-11
<i>Pteryxia terebinthinia</i> var. <i>albiflora</i>	CC 33	15-Apr-11
	3463a	23-Apr-11
<i>Asclepias erosa</i>	3387	9-Sep-10
	3979	1-Aug-11
<i>Cynanchum utahense</i>	3499	12-May-11
Asparagaceae		
<i>Agave utahensis</i> var. <i>kaibabensis</i>	WF 26877	2-Aug-11
	WF 26878	2-Aug-11
Asteraceae		
<i>Acamptopappus sphaerocephalus</i>	3534	14-May-11
<i>Acourtia wrightii</i>	3771	8-Jun-11
	3553	14-May-11
	3579	20-May-11
<i>Ageratina herbacea</i>	WF 26869	2-Aug-11
<i>Ambrosia eriocentra</i>	3532	14-May-11
	3773	8-Jun-11
<i>Amphipappus fremontii</i> var. <i>spinousus</i>	3498	12-May-11
<i>Antheropeas lanosum</i>	3414	17-Mar-11
<i>Artemisia bigelovii</i>	JM 11	29-Aug-11
<i>Artemisia filifolia</i>	3977	1-Aug-11
<i>Artemisia ludoviciana</i> ssp. <i>albula</i>	3578	20-May-11
	3772	8-Jun-11
	4050	20-Aug-11
	DKP 18	29-Aug-11
	SM 12	30-Aug-11
<i>Artemisia tridentata</i> ssp. <i>tridentata</i>	HH 1	30-Aug-10
<i>Artemisia tridentata</i> ssp. <i>vaseyana</i>	JM 1	29-Aug-11
<i>Atrichoseris platyphylla</i>	3495	12-May-11

Appendix E. Specimens vouchered from the 2010 and 2011 inventories of
Grand Canyon-Parashant National Monument

Species	Collection No.*	Date
Asteraceae (continued)		
<i>Baccharis salicina</i>	3505	12-May-11
<i>Baccharis sergiloides</i>	3963	1-Aug-11
<i>Bahia dissecta</i>	JM 6	29-Aug-11
<i>Baileya multiradiata</i>	3409	17-Mar-11
<i>Bebbia juncea</i> var. <i>aspera</i>	3466	11-May-11
<i>Brickellia atrectyloides</i>	3480	11-May-11
	3775	8-Jun-11
<i>Brickellia californica</i>	3572	20-May-11
	4054	20-Aug-11
<i>Brickellia grandiflora</i>	SM 13	29-Aug-11
<i>Centaurea melitensis</i>	3764	8-Jun-11
<i>Chaenactis douglasii</i>	3721	4-Jun-11
<i>Chaenactis fremontii</i>	3415	17-Mar-11
<i>Chaenactis macrantha</i>	3617	22-May-11
<i>Cirsium ochrocentrum</i> ssp. <i>ochrocentrum</i>	CC 37	15-Apr-11
<i>Crepis intermedia</i>	3740	4-Jun-11
<i>Encelia farinosa</i>	3525	13-May-11
<i>Encelia resinifera</i>	3756	5-Jun-11
<i>Erigeron concinnus</i> var. <i>concinnus</i>	3717	4-Jun-11
	3581	21-May-11
	3589	21-May-11
	3618	22-May-11
	3714	4-Jun-11
<i>Erigeron divergens</i>	4055	20-Aug-11
	3576	20-May-11
<i>Erigeron speciosus</i> var. <i>macranthus</i>	WF 26866	2-Aug-11
<i>Gaillardia pinnatifida</i>	3637	24-May-11
<i>Gutierrezia microcephala</i>	3976	1-Aug-11
<i>Gutierrezia sarothrae</i>	SM 9	29-Aug-11
	CC 32	15-Apr-11
	DKP 12	29-Aug-11
<i>Hesperodoria salicina</i>	CC 40	15-Apr-11
<i>Hulsea heterochroma</i>	3711	4-Jun-11
<i>Hymenopappus filifolius</i> var. <i>cinereus</i>	3623	24-May-11
	3748	5-Jun-11
<i>Hymenoxys cooperi</i> var. <i>cooperi</i>	3606	22-May-11
	3751	5-Jun-11
	WF 26874	2-Aug-11

Species	Collection No.*	Date
Asteraceae (continued)		
<i>Isocoma acradenia</i>	3955	1-Aug-11
<i>Lactuca serriola</i>	3973	1-Aug-11
	WF 26865	2-Aug-11
<i>Layia glandulosa</i>	3488	12-May-11
	3616	22-May-11
	3619	23-May-11
	3753	5-Jun-11
	3446	15-Apr-11
	3565	20-May-11
<i>Machaeranthera asterioides</i> var. <i>glandulosa</i>	3962	1-Aug-11
<i>Malacothrix glabrata</i>	3614	22-May-11
<i>Microseris lindleyi</i>	3440	15-Apr-11
<i>Packera multilobata</i>	3389	9-Sep-10
	3626	24-May-11
	3713	4-Jun-11
	CC36	15-Apr-11
<i>Pectis papposa</i>	3465	11-May-11
<i>Perityle emory</i>	3439	19-Mar-11
<i>Perityle tenella</i>	3549	14-May-11
	4041	20-Aug-11
<i>Petradoria pumila</i> ssp. <i>graminea</i>	JM 4	29-Aug-11
<i>Pluchea sericea</i>	3462	11-May-11
<i>Prenanthes exigu</i>	3496	12-May-11
<i>Psilostrophe cooperi</i>	3533	14-May-11
<i>Psilostrophe sparsiflora</i>	3620	22-May-11
	4078	20-Aug-11
<i>Senecio flaccidus</i> var. <i>monoensis</i>	3518	13-May-11
	3574	20-May-11
	3506	12-May-11
<i>Sonchus asper</i>	3513	13-May-11
<i>Stephanomeria exigu</i>	3470	11-May-11
<i>Stephanomeria minor</i> var. <i>minor</i>	3463	11-May-11
<i>Tetradymia canescens</i> var. <i>canescens</i>	3975	1-Aug-11
<i>Tetraneuris acaulis</i> var. <i>arizonica</i>	3456	16-Apr-11
	3590	21-May-11

Appendix E. Specimens vouchered from the 2010 and 2011 inventories of
Grand Canyon-Parashant National Monument

Species	Collection No.*	Date
Asteraceae (continued)		
<i>Thymophylla pentachaeta</i> var. <i>belinidium</i>	3502	12-May-11
<i>Townsendia smithii</i>	3739	4-Jun-11
<i>Tragopogon dubius</i>	WF 26868	2-Aug-11
<i>Tragopogon dubius</i>	JM 2	29-Aug-11
<i>Heliomeris multiflora</i> var. <i>nevadensis</i>	DKP 13	29-Aug-11
Berberidaceae		
<i>Mahonia fremontii</i>	HH 87	15-Apr-11
Boraginaceae		
<i>Amsinckia menziesii</i> var. <i>intermedia</i>	3399	17-Mar-11
	3422	17-Mar-11
<i>Cryptantha barbigera</i>	3417	17-Mar-11
<i>Cryptantha confertiflora</i>	3628	24-May-11
<i>Cryptantha gracilis</i>	SY 22	15-Apr-11
<i>Cryptantha micrantha</i>	3624	24-May-11
<i>Cryptantha pterocarya</i> var. <i>cycloptera</i>	3418	17-Mar-11
	3406	17-Mar-11
<i>Eucrypta chrysanthemifolia</i> var. <i>bipinnatifida</i>	3430	19-Mar-11
<i>Eucrypta micrantha</i>	3441	15-Apr-11
<i>Heliotropium curasivicum</i> var. <i>oculatum</i>	3510	13-May-11
<i>Lappula occidentalis</i> var. <i>cupulata</i>	3745	5-Jun-11
<i>Lappula occidentalis</i> var. <i>occidentalis</i>	SP 6	30-Aug-10
<i>Pectocarya platycarpa</i>	3400	17-Mar-11
<i>Phacelia crenulata</i> var. <i>ambigua</i>	3416	17-Mar-11
<i>Phacelia crenulata</i> var. <i>corrugata</i>	3504	17-Mar-11
	3405	17-Mar-11
	3413	17-Mar-11
<i>Phacelia fremontii</i>	CC 34	15-Apr-11
<i>Phacelia glechomifolia</i>	4044	20-Aug-11
<i>Phacelia heterophylla</i>	3588	21-May-11
<i>Phacelia petrosa</i>	3476	11-May-11
<i>Phacelia pulchella</i> var. <i>pulchella</i>	3487	12-May-11
	3755	5-Jun-11
<i>Phacelia rotundifolia</i>	3461	8-May-11
<i>Phacelia saxicola</i>	3542	14-May-11

Species	Collection No.*	Date
Boraginaceae (continued)		
<i>Pholistoma auritum</i>	3429	19-Mar-11
<i>Plagiobothrys arizonicus</i>	3412	17-Mar-11
<i>Tiquilia latior</i>	3486	11-May-11
Brassicaceae		
<i>Arabis gracilipes</i>	3450	16-Apr-11
	SY 23	15-Apr-11
<i>Descurainia pinnata</i> ssp. <i>halictorum</i>	3396	17-Mar-11
<i>Draba cuneifolia</i> var. <i>cuneifolia</i>	3424	18-Mar-11
<i>Erysimum capitatum</i> var. <i>capitatum</i>	3467a	23-Apr-11
<i>Guillenla lasiophylla</i>	3402	17-Mar-11
<i>Lepidium fremontii</i>	CC 31	15-Apr-11
	SY 24	15-Apr-11
<i>Lepidium lasiocarpum</i> var. <i>lasiocarpum</i>	3437	19-Mar-11
	3445	15-Apr-11
<i>Lepidium montanum</i> var. <i>glabrum</i>	3774	8-Jun-11
<i>Lesquerella rectipes</i>	3455	16-Apr-11
<i>Lesquerella tenella</i>	3398	17-Mar-11
	3501	12-May-11
<i>Malcolmia africana</i>	3558	14-May-11
<i>Nasturtium officinale</i>	3974	1-Aug-11
<i>Physaria newberryi</i>	AS & DKP 9	15-Apr-11
	TD 21	15-Apr-11
<i>Sisymbrium irio</i>	3522	13-May-11
<i>Stanleya pinnata</i> var. <i>pinnata</i>	3760	5-Jun-11
<i>Streptanthus cordatus</i> var. <i>cordatus</i>	SY 25	15-Apr-11
	TD 24	15-Apr-11
Cactaceae		
<i>Cylindropuntia ramosissima</i>	3528	13-May-11
<i>Echinocereus engelmannii</i>	CC 49	15-Apr-11
	SY 36	15-Apr-11
<i>Opuntia basilaris</i> var. <i>basilaris</i>	3395	12-Mar-11
Cannabaceae		
<i>Celtis laevigata</i> var. <i>reticulata</i>	3547	14-May-11
	3561	14-May-11

Appendix E. Specimens vouchered from the 2010 and 2011 inventories of
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Species	Collection No.*	Date
Caprifoliaceae		
<i>Symphoricarpos longiflorus</i>	3776	8-Jun-11
	3464a	23-Apr-11
	3571	20-May-11
Caryophyllaceae		
<i>Arenaria aberrans</i>	WF 26867	2-Aug-11
<i>Arenaria macradenia</i>	3577	20-May-11
Characeae		
<i>Chara</i> species	3967	1-Aug-11
	4058	20-Aug-11
	4059	20-Aug-11
Convolvulaceae		
<i>Convolvulus arvensis</i>	MH 9	30-Aug-10
<i>Cuscuta pentagona</i>	4067	20-Aug-11
Crossosomataceae		
<i>Glossopetalon spinescens</i> var. <i>aridum</i>	3465a	23-Apr-11
Cupressaceae		
<i>Juniperus osteosperma</i>	3423	18-Mar-11
	WF 26872	2-Aug-11
	CC 35	15-Apr-11
	SY 37	15-Apr-11
Cyperaceae		
<i>Carex douglasii</i>	3742	5-Jun-11
<i>Carex vallicola</i>	3597	21-May-11
	3601	22-May-11
<i>Eleocharis parishii</i>	3759	5-Jun-11
	3521	13-May-11
	3966	1-Aug-11
	4070	20-Aug-11
<i>Schoenoplectus americanus</i>	3765	8-Jun-11
<i>Schoenoplectus pungens</i> var. <i>longispicatus</i>	3970	1-Aug-11
Dryopteridaceae		
<i>Woodsia oregana</i>	3384	28-Aug-10
Ephedraceae		
<i>Ephedra nevadensis</i>	CC 41	15-Apr-11
Ericaceae		
<i>Arctostaphylos pringlei</i>	GK 1	29-Aug-11

Species	Collection No.*	Date
Ericaceae (continued)		
<i>Arctostaphylos pungens</i>	CC 27	15-Apr-11
	JT 3	30-Aug-10
Euphorbiaceae		
<i>Argythamnia neomexicana</i>	3627	24-May-11
<i>Chamaesyce fendleri</i>	3635	24-May-11
<i>Croton californicus</i>	3978	1-Aug-11
<i>Euphorbia schizoloba</i>	3599	23-May-11
Fabaceae		
<i>Astragalus amphioxys</i> var. <i>amphioxys</i>	AS & DKP 1	15-Apr-11
	3735	4-Jun-11
	3592	21-May-11
<i>Astragalus amphioxys</i> var. <i>modestus</i>	3394	12-Mar-11
	TD 51	15-Apr-11
<i>Astragalus ensiformis</i>	3569	20-May-11
	SY34	15-Apr-11
<i>Astragalus lentiginosus</i> var. <i>stramineus</i>	3612	22-May-11
<i>Astragalus mokiensis</i>	3593	21-May-11
<i>Astragalus nuttallianus</i> var. <i>imperfectus</i>	3425	19-Mar-11
<i>Astragalus nuttallianus</i> var. <i>micranthiformis</i>	3403	17-Mar-11
<i>Astragalus oophorus</i> var. <i>caulescens</i>	3591	20-May-11
<i>Cercis orbiculata</i>	DL 26	15-Apr-11
	CC 47	15-Apr-11
	HH 86	15-Apr-11
	SY 16	15-Apr-11
<i>Dalea mollis</i>	3473	11-May-11
<i>Glycyrrhiza lepidota</i>	3984	1-Aug-11
<i>Hedysarum boreale</i> ssp. <i>boreale</i>	3758	5-Jun-11
<i>Lathyrus lanszwertii</i> var. <i>leucanthus</i>	3595	21-May-11
	3732	4-Jun-11
<i>Lotus hemistratus</i>	3545	14-May-11
<i>Lotus plebeius</i>	3536	14-May-11
	3604	22-May-11
	AS & DKP 2	15-Apr-11

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Species	Collection No.*	Date
Fabaceae (continued)		
	3750	5-Jun-11
<i>Lotus wrightii</i>	4039	20-Aug-11
	CR 4	30-Aug-10
<i>Lupinus brevicaulis</i>	3563	20-May-11
	3427	19-Mar-11
<i>Lupinus caudatus</i>	3743	5-Jun-11
<i>Lupinus concinnus</i>	3546	14-May-11
<i>Medicago sativa</i>	4071	20-Aug-11
<i>Melilotus officinalis</i>	JM 3	29-Aug-11
<i>Pedimelum mephiticum</i>	3566	20-May-11
<i>Phaseolus angustissimus</i>	WF 26871	2-Aug-11
<i>Prosopis glandulosa</i> var. <i>torreyana</i>	3516	13-May-11
<i>Psoralea fremontii</i>	3621	24-May-11
	3585	21-May-11
<i>Robina neomexicana</i>	3741	4-Jun-11
<i>Trifolium kingii</i> ssp. <i>macilentum</i>	3738	4-Jun-11
<i>Vicia americana</i>	3729	4-Jun-11
Fagaceae		
<i>Quercus gambelii</i> var. <i>gambelii</i>	DKP 14	29-Aug-11
	AS & DKP 3	15-Apr-11
<i>Quercus turbinella</i>	HH 84	15-Apr-11
	JT 1	30-Aug-10
	SY 20	15-Apr-11
	3538	14-May-11
<i>Quercus x pauciloba</i>	GK 2	29-Aug-11
	SY 40	15-Apr-11
Garryaceae		
<i>Garrya flavescens</i>	DT 5	29-Aug-11
	TD 22	15-Apr-11
Gentianaceae		
<i>Fraseria albamarginata</i>	3388	9-Sep-10
Grossulariaceae		
<i>Ribes cereum</i>	3603	23-May-11
Hydrangeaceae		
<i>Fendlera rupicola</i>	3586	21-May-11
Juncaceae		
<i>Juncus bufonius</i>	3544	14-May-11

Species	Collection No.*	Date
Juncaceae (continued)		
	3562	14-May-11
<i>Juncus torreyi</i>	3965	1-Aug-11
	3969	1-Aug-11
Lamiaceae		
<i>Hedeoma drummondii</i>	4052	20-Aug-11
<i>Marrubium vulgare</i>	3517	13-May-11
	CC 39	15-Apr-11
<i>Salvia dorrii</i>	SY 17	15-Apr-11
	HH 78	15-Apr-11
Liliaceae		
<i>Calochortus flexuosus</i>	3608	23-May-11
<i>Calochortus nuttallii</i>	3746	5-Jun-11
	3587	21-May-11
<i>Fritillaria atropurpurea</i>	3596	21-May-11
	3744	5-Jun-11
Linaceae		
<i>Linum aristatum</i>	3632	24-May-11
<i>Linum perenne</i>	SY 27	15-Apr-11
Loasaceae		
<i>Eucnide urens</i>	3484	11-May-11
	3636	24-May-11
<i>Mentzelia albicaulis</i>	3752	5-Jun-11
<i>Mentzelia dispersa</i>	3725	4-Jun-11
<i>Mentzelia pterosperma</i>	3575	20-May-11
	3421	17-Mar-11
<i>Mentzelia tricuspidis</i>	3426	19-Mar-11
	3503	12-May-11
<i>Petalonyx thurberi</i>	3768	8-Jun-11
Lythraceae		
<i>Lythrum californicum</i>	3964	1-Aug-11
Malvaceae		
<i>Sphaeralcea parvifolia</i>	CC 48	15-Apr-11
	SP 2	30-Aug-10
Montiaceae		
<i>Claytonia perfoliata</i>	3543	14-May-11
<i>Phemeranthus parviflorus</i>	WF 26875	1-Aug-11

Appendix E. Specimens vouchered from the 2010 and 2011 inventories of
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Species	Collection No.*	Date
Nyctaginaceae		
<i>Abronia elliptica</i>	3622	24-May-11
	3497	12-May-11
<i>Allionia incarnata</i>	3438	19-Mar-11
<i>Mirabilis multiflora</i>	3537	14-May-11
Oleaceae		
<i>Fraxinus anomala</i> var. <i>anomala</i>	3629	24-May-11
	DL 29	15-Apr-11
	SY 35	15-Apr-11
Onagraceae	Onagraceae	Onagraceae
<i>Camissonia brevipes</i>	3411	17-Mar-11
<i>Camissonia parryi</i>	3490	12-May-11
<i>Camissonia refracta</i>	3419	17-Mar-11
<i>Camissonia walkeri</i>	3494	12-May-11
	3500	12-May-11
	3555	14-May-11
<i>Gaura coccinea</i>	3391	9-Sep-10
	3556	14-May-11
<i>Gaura hexandra</i> var. <i>gracilis</i>	3392	30-Aug-10
	WF 26863	2-Aug-11
<i>Gaura mollis</i>	3763	8-Jun-11
<i>Oenothera californica</i>	3573	20-May-11
	3985	1-Aug-11
<i>Oenothera pallida</i> var. <i>pallida</i>	3625	24-May-11
<i>Oenothera primiveris</i> ssp. <i>bufonis</i>	3397	17-Mar-11
Orchidaceae		
<i>Epipactis gigantea</i>	3559	14-May-11
Orobanchaceae		
<i>Castilleja angustifolia</i> var. <i>dubia</i>	3535	14-May-11
	3633	24-May-11
<i>Castilleja linarifolia</i>	DKP 15	29-Aug-11
	3982	1-Aug-11
<i>Cordylanthus parviflorus</i>	4038	20-Aug-11
<i>Orobanche fasciculata</i>	3610	22-May-11
	3720	4-Jun-11
<i>Orobanche ludoviciana</i>	3483	10-May-11
<i>Pedicularis centranthera</i>	3392	9-Sep-10

Species	Collection No.*	Date
Phrymaceae		
<i>Mimulus bigelovii</i> var. <i>bigelovii</i>	WF 26862	2-Aug-11
<i>Mimulus guttatus</i>	3541	14-May-11
	4057	20-Aug-11
<i>Mimulus parryi</i>	3557	14-May-11
	3461a	23-Apr-11
<i>Mimulus rubellus</i>	3727	4-Jun-11
	3462a	23-Apr-11
	3724	4-Jun-11
Pinaceae		
<i>Pinus monophylla</i>	CC 30	15-Apr-11
	SY 39	15-Apr-11
Plantaginaceae		
<i>Collinsia parviflora</i>	3726	4-Jun-11
	3598	22-May-11
<i>Penstemon linarioides</i> ssp. <i>sileri</i>	DT 3	29-Aug-11
	MM 6	30-Aug-10
<i>Penstemon pachyphyllus</i> var. <i>congestus</i>	3386	9-Sep-10
	3567	20-May-11
	3568	20-May-11
<i>Penstemon thompsoniae</i>	3580	20-May-11
	WF 26876	2-Aug-11
<i>Penstemon utahensis</i>	3715	4-Jun-11
	AS & DKP 4	15-Apr-11
	DL 28	15-Apr-11
	HH 82	15-Apr-11
	SY 26	15-Apr-11
<i>Plantago major</i>	4075	20-Aug-11
<i>Plantago ovata</i>	3404	17-Mar-11
	3420	17-Mar-11
	3478	11-May-11
<i>Plantago patagonica</i>	3436	3/97/2011
<i>Veronica americana</i>	3972	1-Aug-11
<i>Veronica anagallis-aquatica</i>	3523	13-May-11
	4068	20-Aug-11
Poaceae		
<i>Achnatherum hymenoides</i>	3583	21-May-11
	3471	11-May-11
	3757	5-Jun-11
<i>Achnatherum speciosum</i>	AS & DKP 6	15-Apr-11

Appendix E. Specimens vouchered from the 2010 and 2011 inventories of
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Species	Collection No.*	Date
Poaceae (continued)		
<i>Agropyron cristatum</i>	DT 2	29-Aug-11
	DT 6	29-Aug-11
<i>Aristida purpurea</i> var. <i>fendleriana</i>	3467	11-May-11
<i>Avena sativa</i>	4069	20-Aug-11
<i>Bouteloua curtipendula</i>	4053	20-Aug-11
<i>Bouteloua gracilis</i>	WF 26870	2-Aug-11
<i>Bromus carinatus</i>	3733	4-Jun-11
<i>Bromus catharticus</i>	3508	13-May-11
<i>Bromus inermis</i> ssp. <i>inermis</i>	DT 1	30-Aug-11
<i>Bromus rubens</i>	CC 42a	15-Apr-11
<i>Bromus tectorum</i>	CC 42	15-Apr-11
<i>Cynodon dactylon</i>	3512	13-May-11
<i>Distichlis spicata</i>	3957	1-Aug-11
<i>Echinochloa crus-galli</i>	4056	20-Aug-11
	4074	20-Aug-11
<i>Elymus elymoides</i>	3564	20-May-11
	3607	22-May-11
<i>Hesperostipa comata</i>	3719	3-Jun-11
	AS & DKP 6	15-Apr-11
<i>Hordeum murinum</i>	3434	19-Mar-11
	3511	13-May-11
<i>Lolium multiflorum</i> ssp. <i>multiflorum</i>	4065	20-Aug-11
<i>Pleuraphis rigida</i>	3472	11-May-11
	3489	12-May-11
<i>Poa fendleriana</i>	3452	15-Apr-11
	3582	21-May-11
	3584	21-May-11
	3718	4-Jun-11
	3734	4-Jun-11
	3736	4-Jun-11
	AS & DKP 5	15-Apr-11
	TD 35	15-Apr-11

Species	Collection No.*	Date
Poaceae (continued)		
<i>Poa secunda</i>	AS & DKP 7	15-Apr-11
	AS & DKP 8	15-Apr-11
	TD 46	15-Apr-11
<i>Polypogon monspeliensis</i>	3509	13-May-11
	4073	20-Aug-11
<i>Polypogon viridis</i>	3968	1-Aug-11
	4062	20-Aug-11
<i>Schismus arabicus</i>	3407	17-Mar-11
	3408	17-Mar-11
<i>Sporobolus flexuosus</i>	3435	19-Mar-11
	3477	11-May-11
<i>Thinopyrum intermedium</i>	DKP 16	29-Aug-11
	GK 3	29-Aug-11
Polemoniaceae		
<i>Eriastrum diffusum</i>	3615	22-May-11
<i>Eriastrum eremicum</i>	3469	11-May-11
	3631	24-May-11
	3526	13-May-11
<i>Gila inconspicua</i>	3716	4-Jun-11
	3401	17-Mar-11
	3444	15-Apr-11
	3605	22-May-11
	3728	4-Jun-11
<i>Gilia scopulorum</i>	3410	17-Mar-11
	3482	11-May-11
<i>Ipomopsis arizonica</i>	DKP 17	29-Aug-11
	3986	1-Aug-11
<i>Ipomopsis longiflora</i>	3613	22-May-11
	3983	1-Aug-11
<i>Langloisia setosissima</i>	3468	11-May-11
<i>Linanthus demissus</i>	3466a	23-Apr-11
<i>Loeseliastrum schottii</i>	3464	11-May-11
<i>Microsteris gracilis</i> var. <i>humilior</i>	3453	16-Apr-11
	3737	4-Jun-11
	3468a	23-Apr-11
<i>Phlox austromontana</i> ssp. <i>austromontana</i>	3442	15-Apr-11

Appendix E. Specimens vouchered from the 2010 and 2011 inventories of
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Species	Collection No.*	Date
Polemoniaceae (continued)		
<i>Phlox longifolia</i>	3449	16-Apr-11
	3609	22-May-11
	CC 46	15-Apr-11
	DL 23	15-Apr-11
	SY 28	15-Apr-11
Polygonaceae		
<i>Chorizanthe brevicornu</i>	3474	11-May-11
	3531	14-May-11
<i>Eriogonum brachypodum</i>	3493	12-May-11
<i>Eriogonum cernuum</i> var. <i>cernuum</i>	SM 6	29-Aug-11
	SP 3	30-Aug-10
<i>Eriogonum corymbosum</i> var. <i>corymbosum</i>	3634	24-May-11
<i>Eriogonum davidsonii</i>	3749	5-Jun-11
	GK 4	29-Aug-11
<i>Eriogonum fasciculatum</i> var. <i>polifolium</i>	3479	11-May-11
	3777	8-Jun-11
<i>Eriogonum heermannii</i> var. <i>sulcatum</i>	4051	20-Aug-11
<i>Eriogonum ovalifolium</i> var. <i>purpureum</i>	3638	24-May-11
<i>Eriogonum pharnaceoides</i> var. <i>cervinum</i>	WF 26873	2-Aug-11
	MH 11	30-Aug-10
<i>Eriogonum racemosum</i>	SM 10	29-Aug-11
	SM 4	29-Aug-11
	SP 8	30-Aug-10
<i>Eriogonum umbellatum</i> var. <i>subaridum</i>	DT 8	29-Aug-11
<i>Eriogonum trichopes</i>	3475	11-May-11
<i>Polygonum aviculare</i>	MH 3	30-Aug-10
<i>Polygonum douglasii</i> ssp. <i>johnstonii</i>	HH 6	30-Aug-10
	JD 4	30-Aug-10
<i>Rumex crispus</i>	3560	14-May-11
	4072	20-Aug-11
	4077	20-Aug-11
<i>Rumex hymenosepalus</i>	3548	14-May-11
	SY21	15-Apr-11
Potamogetonaceae		
<i>Potamogeton foliosus</i>	4060	20-Aug-11

Species	Collection No.*	Date
Primulaceae		
<i>Anagallis arvensis</i>	3524	13-May-11
Pteridaceae		
<i>Cheilanthes feei</i>	3432	19-Mar-11
<i>Cheilanthes parryi</i>	3551	14-May-11
<i>Pellaea truncata</i>	3540	14-May-11
Ranunculaceae		
<i>Anemone tuberosa</i>	3428	19-Mar-11
	CC 44	15-Apr-11
<i>Ceratocephala testiculata</i>	3393	12-Mar-11
<i>Delphinium nuttallianum</i>	3730	4-Jun-11
<i>Delphinium parishii</i> ssp. <i>parishii</i>	3530	14-May-11
	3754	5-Jun-11
<i>Delphinium scaposum</i>	3594	21-May-11
<i>Myosurus apetalus</i> var. <i>montanus</i>	3451	16-Apr-11
	3457	16-Apr-11
<i>Ranunculus andersonii</i> var. <i>tenellus</i>	AS & DKP 10	15-Apr-11
	TD 41	15-Apr-11
<i>Ranunculus cymbalaria</i>	4061	20-Aug-11
<i>Thalictrum fendleri</i>	4045	20-Aug-11
Rosaceae		
<i>Cercocarpus montanus</i>	HH 85	15-Apr-11
<i>Chamaebatiaria millefolium</i>	4063	20-Aug-11
	TD 48	15-Apr-11
<i>Holodiscus dumosus</i>	4042	20-Aug-11
<i>Petrophytum caespitosum</i>	4046	20-Aug-11
<i>Purshia glandulosa</i>	DL 24	15-Apr-11
<i>Purshia stansburiana</i>	TD 47	15-Apr-11
<i>Rubus armeniacus</i>	3514	13-May-11
Rubiaceae		
<i>Galium stellatum</i>	3481	11-May-11
<i>Galium wrightii</i>	JM 5	29-Aug-11
	4064	20-Aug-11
Rutaceae		
<i>Ptelea trifoliata</i> ssp. <i>pallida</i>	3447	15-Apr-11
Salicaceae		
<i>Populus fremontii</i> ssp. <i>fremontii</i>	3519	13-May-11

Appendix E. Specimens vouchered from the 2010 and 2011 inventories of
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Species	Collection No.*	Date
Salicaceae (continued)		
<i>Salix exigua</i>	3722	4-Jun-11
	3723	4-Jun-11
<i>Salix gooddingii</i>	3515	13-May-11
<i>Salix lasiolepis</i>	WF 27122	27-Sep-11
Santalaceae		
<i>Comandra umbellata</i> var. <i>pallida</i>	3630	24-May-11
	HH 83	15-Apr-11
<i>Phoradendron juniperinum</i>	DL 25	15-Apr-11
	SY 38	15-Apr-11
	TD 23	15-Apr-11
Saururaceae		
<i>Anemopsis californica</i>	3507	12-May-11
Saxifragaceae		
<i>Heuchera rubescens</i> var. <i>rubescens</i>	4040	20-Aug-11
Scrophulariaceae		
<i>Buddleja utahensis</i>	3550	14-May-11
	3762	8-Jun-11
<i>Verbascum thapsus</i>	SP 7	30-Aug-10
Selaginellaceae		
<i>Selaginella leucobryoides</i>	3552	14-May-11
Solanaceae		
<i>Lycium andersonii</i>	3431	19-Mar-11
<i>Nicotiana attenuata</i>	SM 3	29-Aug-11
	3981	1-Aug-11
<i>Physalis hederifolia</i> var. <i>fendleri</i>	3485	11-May-11
<i>Physalis hederifolia</i> var. <i>palmeri</i>	3539	14-May-11
<i>Solanum elaeagnifolium</i>	3520	13-May-11
<i>Solanum nigrum</i>	3971	1-Aug-11
<i>Solanum triflorum</i>	MH 10	30-Aug-10
Typhaceae		
<i>Typha domingensis</i>	3766	8-Jun-11
Urticaceae		
<i>Parietaria hespera</i> var. <i>hespera</i>	3433	19-Mar-11
Verbenaceae		
<i>Aloysia wrightii</i>	3761	8-Jun-11
<i>Glandularia gooddingii</i>	3570	20-May-11
	3712	4-Jun-11

Species	Collection No.*	Date
Verbenaceae (continued)		
<i>Verbena bracteata</i>	SM 2	29-Aug-11
	3959	1-Aug-11
Violaceae		
<i>Viola canadensis</i>	3600	22-May-11
Vitaceae		
<i>Vitis arizonica</i>	3529	14-May-11
Zygophyllaceae		
<i>Tribulus terrestris</i>	4066	20-Aug-11

*** Collector Code**

Terri Hildebrand collected all specimens with numbers that do not include initials.

AS: Austin Sorenson	JK: Jake Mecham
CC: Cody Christensen	JT: Jessica Tanner
DKP: David Price	MH: Marley Haupt
DL: Derek Lloyd	SM: Sarah Miller
DT: Dallin Tait	SP: Steven Pollock
HH: Heather Heaton	SY: Sterling Young
JD: Jordan Donohue	TD: Ted Donaldson
GK: Graeson Keisel	WF: Walter Fertig