

Final Report: Vascular Plant Observations at Mount Rushmore National Memorial

Amy Symstad¹ and Michael Bynum²

¹U.S. Geological Survey
Northern Prairie Wildlife Research Center, Black Hills Station
asymstad@usgs.gov

²National Park Service
Northern Great Plains I&M Network
Michael_Bynum@nps.gov

Mount Rushmore National Memorial
13000 Highway 244, Building 31, Suite 1
Keystone, SD 57751

March 1, 2005

Introduction

This brief report documents vascular plant species we (the authors) observed at Mount Rushmore National Memorial (MORU) in 2003 and 2004 to help complete the vascular plant inventory of MORU for the Northern Great Plains Network (NGPN) of the National Park Service's Inventory and Monitoring Program. Although the NGPN Inventory plan showed that approximately 82% of vascular plant species expected to occur at MORU had been documented (National Park Service 2002), later inspection of the species list suggested that the list of expected species was incomplete. Therefore, further work was needed to make a more complete inventory. Dan Licht, NGPN coordinator, asked that I (A. Symstad) assist with this.

No formal agreement or scope of work was written for the work presented here. Instead, for the most part, the work was done as a supplement to a project investigating the extent of old growth ponderosa pine forest within MORU's boundaries. Therefore, this report is somewhat informal, but will serve as a record for documentation purposes.

Methods

In this project, Mike Bynum (a technician hired for the old growth project) and I visited 171 points located systematically throughout the park (Figure 1) between July 1, 2004 and September 15, 2004. Prior to the study, Marcia Wilson (NGPN biotech and NPSpecies coordinator) provided us with a list of documented and expected species for the park, which she compiled from the Inventory Plan (National Park Service 2002) and later documentation. While we were walking to or working at the old growth study points, we recorded species observed in the field that were not on the list provided to us; we also recorded species listed as expected but previously undocumented. Per Mr. Licht's instructions, a specimen was not collected for every species observed. When we were not 100% certain of the identification of a plant in the field, we collected one or more specimens, which we later identified in the office. Fifty-four specimens that we did not have time to identify were later identified by Hollis Marriott. All specimens that we collected for this inventory will be placed in the MORU herbarium. (A file including information on these specimens, from which specimen labels will be printed, is supplied with this report.) In addition, I sometimes checked off species that were already on the list. Usually this was done for less common species that had a relatively low level of documentation.

In addition to the species recorded as part of the old growth study, some were recorded during specific "inventory" searches. There were two of these: (1) we spent one day in late June 2004 concentrating on the Highway 244 roadside between Iron Mountain Road and the parking ramp at the park; and, (2) I spent two days in May 2004 along or in the vicinity of the Blackberry trail. I also made a limited number of other observations during other outings in the park in 2003.

Results and Discussion

Due to our lack of expertise in identification of ferns, sedges, and rushes, I feel it must be stated that I am not at all confident that we did an adequate job of inventorying species in these groups.

In summary, we recorded 238 vascular plant species and collected 104 vouchers. Of those recorded, 132 had not previously been documented in the park. Since the Inventory Plan listed 132 species as documented and only 24 more expected, the Inventory Plan for this park was obviously incomplete. The work that we did should bring the park much closer to the target

of documenting 90% of the expected species. We feel it was quite thorough given that it was a secondary goal of the old growth forest project. More species might be documented, however, if a greater portion of the park were botanized early in the growing season (late May to early June) and if the botanist was good with sedges, rushes, and ferns.

The bulk of the information of this report is in Table 1, which lists the species that we recorded. It is not a complete species list for the park, as our main goal was to supplement the list of species that were already documented. Two files are supplied with this report. "MORU_plant_inventory.xls" includes one worksheet with the information in Table 1 and one worksheet with the specimen information. "MORU FINAL plant cert file annot by Amy.xls" is a modification of the plant certification file sent to Marcia Wilson by Hollis Marriott. I annotated this file by (1) adding some species that we had specimens for but were not previously reported; (2) noting dates that observations were made for species listed as "probably present"; and, (3) correcting a few problems due to the preliminary list.

Acknowledgements

Hollis Marriott provided specimen identification for approximately half of the vouchers we collected. We thank her for her help with these.

References Consulted:

- Great Plains Flora Association. 1986. Flora of the Great Plains. University Press of Kansas, Lawrence, KS.
- Larson, G. E., and J. R. Johnson. 1999. Plants of the Black Hills and Bear Lodge Mountains. South Dakota State University, Brookings, South Dakota.
- National Park Service. 2002. Northern Great Plains Network Inventories of Vascular Plants and Vertebrates: Study Plan FY2001-2004.

Figure 1. Locations of plots visited in course of old growth study within Mount Rushmore National Memorial (boundary shown in green). Numbers under points are plot names, often referred to in voucher collections.

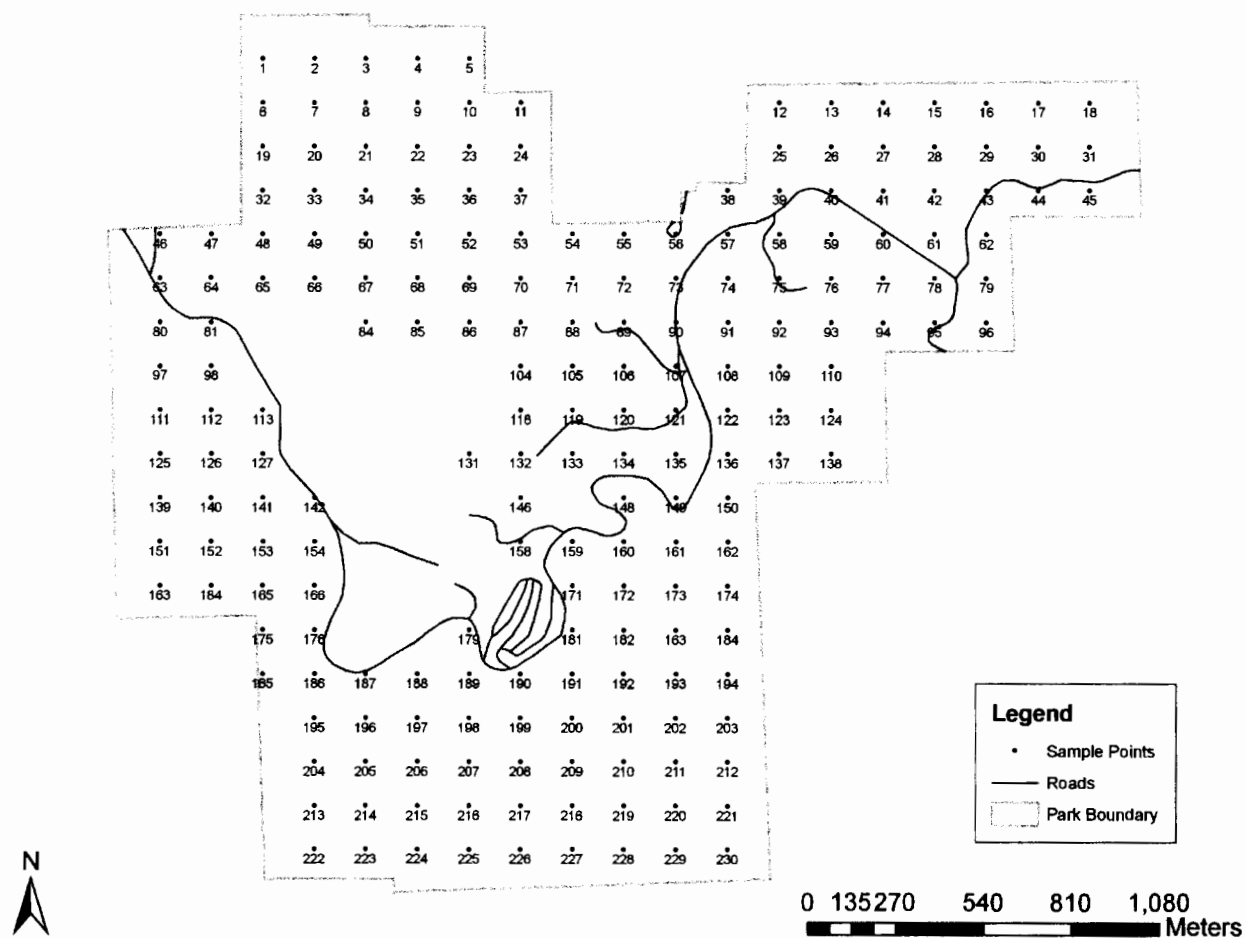


Table 1. Complete list of species recorded by the authors within Mount Rushmore National Memorial boundaries in 2003 or 2004. Species nomenclature follows that of the Integrated Taxonomic Information System (www.itis.usda.gov). In the table, the date recorded in the “Date” column is the first date that it was observed or specimen collected. In the “Voucher” column, “n” indicates that the species was not previously documented, but no voucher was collected; “x” indicates that the species was previously documented and no voucher was collected; “ERROR” indicates that the species was erroneously reported as occurring in MORU in a preliminary species list and should not be included in the final certified list; and one or more numbers indicate the voucher number as referred to in the accompanying file (MORU_plant_inventory.xls; “Voucher specimens” worksheet). In the “Corrections or other notes” column, notes are of three types: corrections to previous misidentifications that may have led to errors in the current NPSpecies file; notes of locations that may indicate that the species was introduced to the park as part of a revegetation effort; and miscellaneous.

Family	Species	Date	Voucher	Corrections or other notes
Agavaceae	<i>Yucca glauca</i>	7/15/2004	n	
Apiaceae	<i>Cicuta maculata</i>	7/1/2004	x	
Apiaceae	<i>Daucus carota</i>	7/7/2004	n	
Apiaceae	<i>Heracleum sphondylium</i>	5/4/2004	x	
Apiaceae	<i>Sanicula marilandica</i>	7/2/2004	x	
Apiaceae	<i>Zizia aptera</i>	5/24/2004	x	
Apocynaceae	<i>Apocynum androsaemifolium</i>	7/16/2004	x	
Asclepiadaceae	<i>Asclepias ovalifolia</i>	7/2/2004	76	
Asclepiadaceae	<i>Asclepias speciosa</i>	7/19/2004	n	
Aspleniaceae	<i>Asplenium septentrionale</i>	8/13/2004	x	
Asteraceae	<i>Agoseris glauca</i>	7/12/2004	x	
Asteraceae	<i>Ambrosia artemisiifolia</i>	7/1/2004	n	
Asteraceae	<i>Ambrosia psilostachya</i>	2003	n	
Asteraceae	<i>Ambrosia trifida</i>	8/19/2004	n	
Asteraceae	<i>Anaphalis margaritacea</i>	9/11/2003	89, 60*	*(V. 60 collected 7/14/2004)
Asteraceae	<i>Antennaria neglecta</i>	5/24/2004	95	
Asteraceae	<i>Arctium minus</i>	5/24/2004	x	
Asteraceae	<i>Arnica lonchophylla</i>	6/29/2004	x	
Asteraceae	<i>Artemisia biennis</i>	8/18/2004	n	
Asteraceae	<i>Artemisia campestris</i>	7/1/2004	n	roadside near entrance to helipad
Asteraceae	<i>Artemisia frigida</i>	5/4/2004	n	in planting in parking ramp area
Asteraceae	<i>Artemisia ludoviciana</i>	5/24/2004	x	
Asteraceae	<i>Carduus nutans</i>	7/2/2004	n	
Asteraceae	<i>Cirsium arvense</i>	5/24/2004	x	
Asteraceae	<i>Cirsium drummondii</i>	7/6/2004	x	
Asteraceae	<i>Conyza canadensis</i>	7/1/2004	n	
Asteraceae	<i>Dyssodia papposa</i>	8/27/2004	n	
Asteraceae	<i>Echinacea pallida</i>	7/16/2004	n	Not sure that this is correct identification; could be an error, but id could be correct given location (roadside by helipad), which is likely planted
Asteraceae	<i>Echinacea purpurea</i>	8/18/2004	n	Although not in its range, I checked id of this one carefully; probably something planted around housing escaped to ditch.

Family	Species	Date	Voucher	Corrections or other notes
Asteraceae	<i>Erigeron divergens</i>	7/7/2004	104, 58*	*(V. 58 collected 7/15/2004)
Asteraceae	<i>Erigeron formosissimus</i>	8/11/2004	57	
Asteraceae	<i>Erigeron subtrinervis</i>	7/7/2004	x	
Asteraceae	<i>Eupatorium maculatum</i> var. <i>bruneri</i>	7/14/2004	83	
Asteraceae	<i>Gaillardia aristata</i>	7/16/2004	n	planted areas and roadside near Main Parking
Asteraceae	<i>Grindelia squarrosa</i>	2003	n	
Asteraceae	<i>Helianthemum bicknellii</i>	7/13/2004	n	
Asteraceae	<i>Helianthus annuus</i>	7/12/2004	n	
Asteraceae	<i>Helianthus maximiliani</i>	8/19/2004	n	
Asteraceae	<i>Helianthus nuttallii</i> ssp. <i>rydbergii</i>	9/12/2003	82	
Asteraceae	<i>Helianthus tuberosus</i>	9/12/2003	33	
Asteraceae	<i>Heliomeris multiflora</i>	8/18/2004	2	
Asteraceae	<i>Heterotheca villosa</i> var. <i>villosa</i>	7/16/2004	n	
Asteraceae	<i>Hieracium canadense</i>	9/11/2003	99, 100, 32*	*(V. 32 collected 7/20/2004)
Asteraceae	<i>Lactuca canadensis</i>	7/14/2004	31	
Asteraceae	<i>Lactuca serriola</i>	2003	n	
Asteraceae	<i>Leucanthemum vulgare</i>	2003	n	
Asteraceae	<i>Liatris ligulistylis</i>	8/19/2004	x	near wastewater trt plant on ESE-facing slope
Asteraceae	<i>Oligoneuron album</i>	8/9/2004	67	
Asteraceae	<i>Onopordum acanthium</i>	8/18/2004	n	ID not 100% certain
Asteraceae	<i>Packera cana</i>	7/16/2004	n	
Asteraceae	<i>Pseudognaphalium</i> <i>macounii</i>	9/2/2004	103	
Asteraceae	<i>Ratibida columnifera</i>	8/18/2004	x	
Asteraceae	<i>Rudbeckia hirta</i>	7/1/2004	x	
Asteraceae	<i>Senecio rapifolius</i>	7/7/2004	x	
Asteraceae	<i>Solidago gigantea</i>	2003	n	
Asteraceae	<i>Solidago speciosa</i>	8/9/2004	x	
Asteraceae	<i>Symphyotrichum</i> <i>ciliolatum</i>	7/21/2004	x	
Asteraceae	<i>Symphyotrichum</i> <i>falcatum</i> var. <i>falcatum</i>	8/16/2004	61	
Asteraceae	<i>Symphyotrichum laeve</i>	8/11/2004	56	
Asteraceae	<i>Symphyotrichum</i> <i>oblongifolium</i>	10/29/2003	84	
Asteraceae	<i>Tanacetum vulgare</i>	7/1/2004	n	ID not 100% certain because no flowers seen
Asteraceae	<i>Taraxacum officinale</i>	5/24/2004	x	
Asteraceae	<i>Tragopogon dubius</i>	2003	n	
Asteraceae	<i>Xanthium strumarium</i>	8/19/2004	n	
Betulaceae	<i>Corylus cornuta</i>	5/24/2004	x	
Boraginaceae	<i>Cryptantha fendleri</i>	7/16/2004	19	
Boraginaceae	<i>Cryptantha torreyana</i>	6/30/2004	80	
Boraginaceae	<i>Lappula squarrosa</i>	7/1/2004	74	
Boraginaceae	<i>Onosmodium molle</i>	7/16/2004	n	
Brassicaceae	<i>Arabis glabra</i>	7/7/2004	n	

Family	Species	Date	Voucher	Corrections or other notes
Brassicaceae	<i>Berteroa incana</i>	7/16/2004	n	
Brassicaceae	<i>Descurainia sophia</i>	8/27/2004	n	
Brassicaceae	<i>Hesperis matronalis</i>	7/7/2004	n	
Brassicaceae	<i>Sisymbrium altissimum</i>	7/16/2004	n	
Brassicaceae	<i>Thlaspi arvense</i>	6/29/2004	n	
Campanulaceae	<i>Triodanis perfoliata</i>	7/14/2004	22	
Capparaceae	<i>Cleome serrulata</i>	7/1/2004	n	
Caprifoliaceae	<i>Sambucus racemosa</i>	7/15/2004	20	
Caprifoliaceae	<i>Symphoricarpos albus</i>	8/9/2004	x	
Caryophyllaceae	<i>Cerastium fontanum</i>	5/24/2004	25, 24*	*(V. 24 collected 7/2/2004)
Caryophyllaceae	<i>Silene antirrhina</i>	6/29/2004	x	
Caryophyllaceae	<i>Silene drummondii</i>	8/12/2004	29	
Caryophyllaceae	<i>Silene latifolia</i> ssp. <i>alba</i>	7/1/2004	n	
Chenopodiaceae	<i>Chenopodium botrys</i>	9/12/2003	17, 1*, 54*	*(V. 1 col'd 7/16/04, V. 54 col'd 8/13/04)
Chenopodiaceae	<i>Chenopodium fremontii</i>	7/15/2004	27	
Chenopodiaceae	<i>Chenopodium leptophyllum</i>	7/1/2004	71	
Chenopodiaceae	<i>Chenopodium simplex</i>	6/29/2004	x	
Chenopodiaceae	<i>Kochia scoparia</i>	7/13/2004	28	
Cistaceae	<i>Lechea tenuifolia</i>	8/13/2004	53	
Clusiaceae	<i>Hypericum perforatum</i>	8/18/2004	n	next to apartment housing parking lot
Commelinaceae	<i>Tradescantia occidentalis</i>	7/6/2004	n	
Cornaceae	<i>Cornus sericea</i>	2004	x	
Crassulaceae	<i>Sedum lanceolatum</i>	6/15/2004	x	
Cucurbitaceae	<i>Echinocystis lobata</i>	8/18/2004	63	
Cupressaceae	<i>Juniperus scopulorum</i>	7/21/2004	n	
Cyperaceae	<i>Carex aurea</i>	7/15/2004	3	
Cyperaceae	<i>Carex brevior</i>	2004	13	
Cyperaceae	<i>Carex hystericina</i>	7/14/2004	11	
Cyperaceae	<i>Carex nebrascensis</i>	7/7/2004	10	
Cyperaceae	<i>Carex retrorsa</i>	7/20/2004	12	
Cyperaceae	<i>Carex richardsonii</i>	5/4/2004	n	
Cyperaceae	<i>Carex rostrata</i>	7/6/2004	14	
Cyperaceae	<i>Carex stipata</i>	7/14/2004	9	
Cyperaceae	<i>Scirpus microcarpus</i>	7/2/2004	4	
Cyperaceae	<i>Scirpus pallidus</i>	7/14/2004	5	
Elaeagnaceae	<i>Shepherdia canadensis</i>	5/24/2004	x	
Equisetaceae	<i>Equisetum pratense</i>	8/18/2004	64	
Euphorbiaceae	<i>Euphorbia esula</i>	2003	n	
Fabaceae	<i>Amorpha canescens</i>	7/1/2004	n	
Fabaceae	<i>Amphicarpaea bracteata</i>	7/14/2004	x	
Fabaceae	<i>Coronilla varia</i>	7/2/2004	n	
Fabaceae	<i>Glycyrrhiza lepidota</i>	7/1/2004	x	
Fabaceae	<i>Lotus corniculatus</i>	9/12/2003	86, 88	
Fabaceae	<i>Medicago lupulina</i>	2003	n	
Fabaceae	<i>Melilotus alba</i>	7/1/2004	x	

Family	Species	Date	Voucher	Corrections or other notes
Fabaceae	<i>Melilotus officinalis</i>	7/1/2004	x	
Fabaceae	<i>Pedimelum esculentum</i>	7/14/2004	x	
Fabaceae	<i>Thermopsis rhombifolia</i>	5/24/2004	x	
Fabaceae	<i>Trifolium pratense</i>	5/24/2004	x	
Fabaceae	<i>Trifolium repens</i>	7/1/2004	x	
Fabaceae	<i>Vicia americana</i>	5/24/2004	x	
Fumariaceae	<i>Corydalis aurea</i>	7/12/2004	x	
Gentianaceae	<i>Halenia deflexa</i>	7/14/2004	102	
Grossulariaceae	<i>Ribes hirtellum</i>	5/4/2004	n	
Grossulariaceae	<i>Ribes oxycanthoides</i>	5/4/2004	n	
Juncaceae	<i>Juncus balticus</i>	7/14/2004	8	
Juncaceae	<i>Juncus interior</i>	6/29/2004	7, 6*	*(V. 6 collected 7/14/2004)
Lamiaceae	<i>Dracocephalum parviflorum</i>	8/13/2004	n	
Lamiaceae	<i>Hedeoma hispida</i>	7/14/2004	23	
Lamiaceae	<i>Mentha arvensis</i>	7/20/2004	15	
Lamiaceae	<i>Nepeta cataria</i>	9/16/2004	n	discovered with the help of Marcia Wilson
Lamiaceae	<i>Prunella vulgaris</i>	7/20/2004	x	
Lamiaceae	<i>Scutellaria galericulata</i>	7/6/2004	97	
Liliaceae	<i>Allium cernuum</i>	7/19/2004	x	
Liliaceae	<i>Maianthemum canadense</i>	5/24/2004	x	
Liliaceae	<i>Maianthemum stellatum</i>	5/24/2004	x	
Liliaceae	<i>Zigadenus elegans</i>	7/2/2004	n	
Linaceae	<i>Linum lewisii</i>	2003	n	in planted area by viewing terrace
Oleaceae	<i>Fraxinus pennsylvanica</i>	8/11/2004	n	
Onagraceae	<i>Chamerion angustifolium</i> ssp. <i>angustifolium</i>	7/16/2004	x	
Onagraceae	<i>Circaea alpina</i> ssp. <i>alpina</i>	8/27/2004	65	
Onagraceae	<i>Epilobium ciliatum</i>	7/20/2004	16	
Onagraceae	<i>Epilobium halleianum</i>	8/13/2004	59	
Onagraceae	<i>Gaura mollis</i>	7/1/2004	n	
Onagraceae	<i>Gayophytum diffusum</i>	7/20/2004	21	
Onagraceae	<i>Oenothera villosa</i> ssp. <i>villosa</i>	7/1/2004	26	
Orchidaceae	<i>Corallorhiza maculata</i>	5/21/2003	n	
Orchidaceae	<i>Corallorhiza wisteriana</i>	7/13/2004	n	
Oxalidaceae	<i>Oxalis stricta</i>	7/2/2004	73	
Oxalidaceae	<i>Oxalis violacea</i>	7/2/2004	x	
Plantaginaceae	<i>Plantago major</i>	8/16/2004	x	
Poaceae	<i>Agropyron cristatum</i>	7/1/2004	x	
Poaceae	<i>Agrostis scabra</i>	8/9/2004	x	
Poaceae	<i>Agrostis stolonifera</i>	7/1/2004	37	
Poaceae	<i>Bouteloua curtipendula</i>	7/1/2004	n	
Poaceae	<i>Bouteloua gracilis</i>	7/1/2004	n	
Poaceae	<i>Bromus japonicus</i>	7/1/2004	77	

Family	Species	Date	Voucher	Corrections or other notes
Poaceae	<i>Dactylis glomerata</i>	7/1/2004	n	
Poaceae	<i>Dichanthelium acuminatum</i> var. <i>fasciculatum</i>	7/14/2004	42	
Poaceae	<i>Dichanthelium leibergii</i>	7/8/2004	39	
Poaceae	<i>Dichanthelium linearifolium</i>	7/13/2004	n	
Poaceae	<i>Dichanthelium oligosanthes</i>	7/14/2004	41	
Poaceae	<i>Echinochloa muricata</i>	9/12/2003	87	
Poaceae	<i>Elymus canadensis</i>	8/18/2004	44	maybe a hybrid
Poaceae	<i>Elymus trachycaulus</i> ssp. <i>trachycaulus</i>	7/1/2004	x	
Poaceae	<i>Eragrostis spectabilis</i>	8/13/2004	50	mis-identified as <i>Glyceria grandis</i> by Hollis Marriott
Poaceae	<i>Festuca idahoensis</i>	7/15/2004	45, 51	
Poaceae	<i>Festuca idahoensis</i>	7/15/2004	47	approaches <i>F. saximontana</i>
Poaceae	<i>Festuca rubra</i>	7/7/2004	36	
Poaceae	<i>Glyceria grandis</i>	7/7/2004	35	
Poaceae	<i>Glyceria striata</i>	8/13/2004	49	
Poaceae	<i>Hesperostipa spartea</i>	7/6/2004	x	
Poaceae	<i>Hordeum jubatum</i>	7/1/2004	x	
Poaceae	<i>Koeleria macrantha</i>	7/1/2004	x	
Poaceae	<i>Leymus cinereus</i>	2003	n	
Poaceae	<i>Leymus racemosus</i>	7/9/2004	38	
Poaceae	<i>Lolium arundinaceum</i>	7/15/2004	43	
Poaceae	<i>Lolium perenne</i>	7/1/2004	34	
Poaceae	<i>Muhlenbergia cuspidata</i>	7/14/2004	48	
Poaceae	<i>Muhlenbergia racemosa</i>	7/13/2004	52	
Poaceae	<i>Nasella viridula</i>	7/1/2004	69	
Poaceae	<i>Oryzopsis asperifolia</i>	5/4/2004	x	
Poaceae	<i>Panicum capillare</i>	9/12/2003	81, 68*	*(V. 68 collected 7/14/2004)
Poaceae	<i>Panicum virgatum</i>	8/18/2004	n	planted area by housing
Poaceae	<i>Pascopyrum smithii</i>	5/24/2004	x	
Poaceae	<i>Phleum pratense</i>	7/1/2004	78	
Poaceae	<i>Poa compressa</i>	7/1/2004	96	
Poaceae	<i>Poa palustris</i>	7/15/2004	46	
Poaceae	<i>Poa pratensis</i>	5/24/2004	x	
Poaceae	<i>Schizachne purpurascens</i>	5/24/2004	x	
Poaceae	<i>Sorghastrum nutans</i>	8/13/2004	66	
Poaceae	<i>Spartina pectinata</i>	7/7/2004	n	
Poaceae	<i>Sporobolus heterolepis</i>	7/7/2004	x	
Poaceae	<i>Sporobolus cryptandrus</i>	7/13/2004	n	
Poaceae	<i>Thinopyrum intermedium</i>	7/1/2004	n	
Polemoniaceae	<i>Collomia linearis</i>	7/8/2004	40	
Polygonaceae	<i>Polygonum aviculare</i>	7/1/2004	75	

Family	Species	Date	Voucher	Corrections or other notes
Polygonaceae	<i>Polygonum convolvulus</i>	5/24/2004	55	voucher is immature, but we also saw mature plants 7/21/04
Polygonaceae	<i>Polygonum douglasii</i>	7/15/2004	93	
Polygonaceae	<i>Polygonum tenue</i>		ERROR	correctly identified as <i>Lechea tenuifolia</i>
Polygonaceae	<i>Rumex aquatilis</i> var. <i>fenestratus</i>	7/7/2004	30	
Primulaceae	<i>Dodecatheon pulchellum</i>	5/24/2004	x	
Primulaceae	<i>Lysimachia ciliata</i>	7/2/2004	72	
Pyrolaceae	<i>Pyrola asarifolia</i>	7/2/2004	photo	only one individual in field; photo voucher at end of report
Pyrolaceae	<i>Pyrola elliptica</i>	7/14/2004	101	
Ranunculaceae	<i>Actaea rubra</i>	7/14/2004	x	
Ranunculaceae	<i>Anemone cylindrica</i>	9/11/2003	90	
Ranunculaceae	<i>Ranunculus macounii</i>	7/2/2004	70	
Rosaceae	<i>Agrimonia striata</i>	7/20/2004	x	
Rosaceae	<i>Amelanchier alnifolia</i>	5/24/2004	92	
Rosaceae	<i>Fragaria vesca</i>	8/27/2004	n	ID not 100% certain
Rosaceae	<i>Physocarpus opulifolius</i>	8/18/2004	x	
Rosaceae	<i>Potentilla fissa</i>	5/24/2004	98	
Rosaceae	<i>Prunus virginiana</i>	5/24/2004	x	
Rosaceae	<i>Rubus parviflorus</i>	7/14/2004	n	
Rosaceae	<i>Spirea betuifolia</i>	5/4/2004	x	
Rubiaceae	<i>Galium boreale</i>	5/24/2004	x	
Rubiaceae	<i>Galium triflorum</i>	5/24/2004	x	
Salicaceae	<i>Populus deltoides</i>	7/16/2004	18	
Scrophulariaceae	<i>Castilleja sulphurea</i>	7/1/2004	x	
Scrophulariaceae	<i>Collinsia parviflora</i>	5/4/2004	x	
Scrophulariaceae	<i>Linaria vulgaris</i>	7/7/2004	94, 79*	*(V. 79 collected 9/3/2004)
Scrophulariaceae	<i>Mimulus floribundus</i>	8/18/2004	62	
Scrophulariaceae	<i>Penstemon angustifolius</i>	6/29/2004	x	
Scrophulariaceae	<i>Penstemon glaber</i>	6/29/2004	n	
Scrophulariaceae	<i>Penstemon gracilis</i>	7/6/2004	x	
Scrophulariaceae	<i>Penstemon grandiflorus</i>	7/1/2004	x	
Scrophulariaceae	<i>Saponaria officinalis</i>	8/19/2004	x	
Scrophulariaceae	<i>Scrophularia lanceolata</i>	7/7/2004	91	
Scrophulariaceae	<i>Veronica americana</i>	8/13/2004	n	
Selaginaceae	<i>Selaginella rupestris</i>	7/21/2004	n	
Solanaceae	<i>Physalis longifolia</i>	9/16/2004	n	discovered by Blaine Foss, ID by Marcia Wilson and Mike Bynum
Solanaceae	<i>Physalis virginiana</i>	7/12/2004	n	
Solanaceae	<i>Solanum rostratum</i>	9/12/2003	85	
Urticaceae	<i>Urtica dioica</i>	7/14/2004	x	
Verbenaceae	<i>Verbena bracteata</i>	7/1/2004	x	
Verbenaceae	<i>Verbena hastata</i>	7/7/2004	n	
Verbenaceae	<i>Verbena stricta</i>	7/1/2004	x	
Violaceae	<i>Viola adunca</i>	5/4/2004	x	
Violaceae	<i>Viola pubescens</i>	5/24/2004	x	

Photo documentation of *Pyrola asarifolia*. Only one individual was seen in field, so specimen was not taken. Identification was made from field notes and photograph.

