

Vascular Plants of the Hanford Site



M. R. Sackschewsky
J. L. Downs

September 2001



Prepared for the U.S. Department of Energy
under Contract DE-AC06-76RL01830

DISCLAIMER

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor Battelle Memorial Institute, nor any of their employees, makes **any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.** Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof, or Battelle Memorial Institute. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

PACIFIC NORTHWEST NATIONAL LABORATORY

operated by

BATTELLE

for the

UNITED STATES DEPARTMENT OF ENERGY

under Contract DE-AC06-76RL01830

Printed in the United States of America

**Available to DOE and DOE contractors from the
Office of Scientific and Technical Information,
P.O. Box 62, Oak Ridge, TN 37831-0062;
ph: (865) 576-8401
fax: (865) 576-5728
email: reports@adonis.osti.gov**

**Available to the public from the National Technical Information Service,
U.S. Department of Commerce, 5285 Port Royal Rd., Springfield, VA 22161
ph: (800) 553-6847
fax: (703) 605-6900
email: orders@ntis.fedworld.gov
online ordering: <http://www.ntis.gov/ordering.htm>**



This document was printed on recycled paper.

Vascular Plants of the Hanford Site



M. R. Sackschewsky
J. L. Downs

September 2001

Prepared for
the U.S. Department of Energy
under Contract DE-AC06-76RL01830

Pacific Northwest National Laboratory
Richland, Washington 99352

Executive Summary

This report provides an updated listing of the vascular plants present on and near the U.S. Department of Energy (DOE) Hanford Site. This document updates a listing of plants prepared by Sackschewsky et al. (1992). Since that time, the botanical knowledge of the Hanford Site has significantly increased. The current listing is based on an examination of herbarium collections held at Pacific Northwest National Laboratory (PNNL), Washington State University (WSU)-Tri Cities, WSU-Pullman, Brigham Young University, and the University of Washington, and on examination of ecological literature derived from the Hanford Site and Benton County areas over the last 100 years.

Based on the most recent analysis, there are approximately 725 different plant species that have been documented on or around the Hanford Site. This represents an approximate 20% increase in the number of species reported in Sackschewsky et al. (1992).

This listing directly supports DOE and contractor efforts to assess the potential impacts of Hanford Site operations on the biological environment, including impacts to rare habitats and species listed as endangered or threatened. This document includes a listing of plants currently listed as endangered, threatened, or otherwise of concern to the Washington Natural Heritage Program or the U.S. Fish and Wildlife Service, as well as those that are currently listed as noxious weeds by the state of Washington.

Also provided is an overview of how plants on the Hanford Site can be used by people. This information may be useful in developing risk assessment models and as supporting information for clean-up level and remediation decisions.

Acknowledgments

The preparation of this document would not have been possible without the contributions of many people. The contributions of Dan Landeen and Gary Baird to the 1992 version of *The Vascular Plants of the Hanford Site* formed much of the basis for this document. Katy Beck and Florence Caplow of Calypso Consulting were very generous with the data they collected on the Hanford Site during the mid to late 1990s. Katy Beck also reviewed this document several times, and provided many useful comments and suggestions. Georganne O'Connor provided a much needed editorial review. Lila Andor, Kathy Neiderhiser, and Elaine Schneider provided text processing support. The cover drawing of *Oenothera pallida* was prepared by Melaine Hess-Robinson. Programmatic support as well as personal encouragement for this project was provided by Dana Ward. Finally, we would both like to acknowledge the guidance and mentoring that we have received over the years from Dr. Bill Rickard.

Contents

Executive Summary	iii
Acknowledgments.....	v
1.0 Introduction	1.1
1.1 Basis for the Hanford Site Plant List.....	1.4
1.2 Summary of the Hanford Plant List	1.6
1.3 Document Contents and Uses	1.6
2.0 Plant Communities on the Hanford Site	2.1
2.1 Shrub-Steppe Plant Communities	2.4
2.1.1 Big Sagebrush/Sandberg’s Bluegrass	2.8
2.1.2 Big Sagebrush or Bitterbrush/Needle-and-Thread Grass	2.8
2.1.3 Bitterbrush/Indian Ricegrass and Dune Complex.....	2.8
2.1.4 Sand Dropseed-Sandberg’s Bluegrass	2.9
2.1.5 Greasewood/Saltgrass and Spiny Hopsage/Sandberg’s Bluegrass	2.9
2.1.6 Big Sagebrush/Bluebunch Wheatgrass	2.10
2.1.7 Threetip Sagebrush/Bluebunch Wheatgrass	2.10
2.1.8 Plant Communities on Lithosols.....	2.10
2.1.9 Abandoned Fields	2.11
2.1.10 Rare Plant Communities and Element Occurrences	2.12
2.2 Disturbance Effects on Habitats and Seral Stages.....	2.12
3.0 Vascular Plants of the Hanford Site.....	3.1
4.0 Hanford Site Plant Species of Special Concern.....	4.1
4.1 Rare Plants of the Hanford Site.....	4.1
4.2 Noxious Weeds on the Hanford Site	4.6
5.0 Ethnobotany of the Hanford Site	5.1
5.1 Edible Plants of the Hanford Site.....	5.1
5.2 Poisonous Plants of the Hanford Site.....	5.4
5.3 Medicinal Plants of the Hanford Site	5.4
5.4 Fiber and Dye Plants of the Hanford Site.....	5.9
6.0 References	6.1

Appendix A – Alphabetical Listing by Genus	A.1
Appendix B – Alphabetical Listing by Family	B.1

Figures

1.1 Approximate Boundaries of the Region Included in the Hanford Site Plant List	1.2
1.2 Major Geographic Features of the Hanford Site.....	1.3
2.1 Shaded Relief Map of the Hanford Site Indicating Dominant Topographic Features.....	2.2
2.2 Soils Map for the Benton County Portion of the Hanford Site.....	2.3
2.3 Vegetation Cover Types Found on the Hanford Site before the 2000 Command Fire.....	2.5
2.4 Locations and Types of Element Occurrences on the Hanford Site	2.13

Tables

1.1 Phylogenetic Distribution of Hanford Site Vascular Plants	1.6
2.1 Common Shrub-Steppe Plant Communities of the Hanford Site	2.7
4.1 Plant Species of Concern on and Around the Hanford Site.....	4.2
4.2 Species of Concern Previously Reported but not Presently Considered to Occur on or Near Hanford	4.5
4.3 Washington State Listed Noxious Weeds Known to Occur on the Hanford Site.....	4.7
4.4 Washington State Noxious Weeds Listed for Benton County and Potentially Occurring, but not Confirmed, on the Hanford Site	4.8
5.1 Hanford Site Edible Plants	5.2
5.2 Hanford Site Poisonous Plants Causing Contact Dermatitis	5.5
5.3 Hanford Site Plants Poisonous by Ingestion.....	5.5
5.4 Hanford Site Medicinal Plants.....	5.6
5.5 Important Fiber Plants of the Hanford Site.....	5.10
5.6 Examples of Hanford Site Natural Dye Plants	5.10

1.0 Introduction

The 586-square-mile (1,517-square-kilometer) Hanford Site, owned by the U.S. Department of Energy (DOE), represents one of the largest undisturbed tracts of native sagebrush steppe remaining in Washington State. A wide variety of habitat types and associated plant communities can be found on the Hanford Site, ranging from talus slopes, unstabilized dunes, riparian, wetlands, and high-elevation basalt outcrops to vast expanses of sagebrush/bunchgrass communities. Associated with these various habitat types is a surprising array of plant species.

An understanding of the local flora is critical if DOE is to make important decisions regarding cleanup, land management, and land use. An accurate listing of local plant species is a fundamental part of the environmental characterization activities performed in support of these types of decisions. These characterizations are performed to determine if any rare or endangered species are present in project areas, delineate any sensitive community types, aid in the identification and determination of transport pathways for ecological and human health risk assessments, and help in determining endpoints and goals for environmental cleanup.

Although several earlier lists were available, the first truly comprehensive plant list for the Hanford Site was Sackschewsky et al. (1992). That document included 596 species and was the first to combine listings covering all parts of the Hanford Site and the first to take a historical look at the regional flora to predict what other species are likely to occur in the area. Since the publication of Sackschewsky et al. (1992), the amount of botanical knowledge about the Hanford Site has increased significantly. This document is intended to build on the foundation of Sackschewsky et al. (1992) and update that list with the additional information learned from 1992 through 2001. Sackschewsky et al. (1992) went through at least three printings, and over 3,000 copies have been distributed to individuals and organizations throughout the Northwest. We hope that this revision proves to be as useful to as many people as the original.

The land area covered by this plant listing (“our region”) includes all lands within the boundaries of the Hanford Site (which now includes the Hanford Reach National Monument, managed by the U.S. Fish and Wildlife Service and DOE), plus the islands of the Columbia River within the Hanford Reach, and the White Bluffs on the eastern side of the river from the Hanford townsite to the 300 Area (Figures 1.1 and 1.2). The western limit is less well defined, but includes the portions of Umtanum Ridge and Rattlesnake Ridge that are within Benton County, including the upper portions of the western slope of Rattlesnake Mountain. The south and west side of the Columbia River from the vicinity of midway, Priest Rapids Dam, and extending essentially to Saddle Mountain Gap is also included. This encompasses slightly more area to the northwest of the Hanford Site boundaries than did Sackschewsky et al. (1992) and includes the areas examined by Mastrogiuseppe and Gill (1983). The northern boundary is the crest of the Saddle Mountains. The southern limit is not well defined, but is essentially the Yakima River. However, the list includes a few species found along the Columbia River near Kennewick and at a few other locations within the Tri-Cities. Figure 1.2 provides locations for many of the geographic features mentioned in the text.

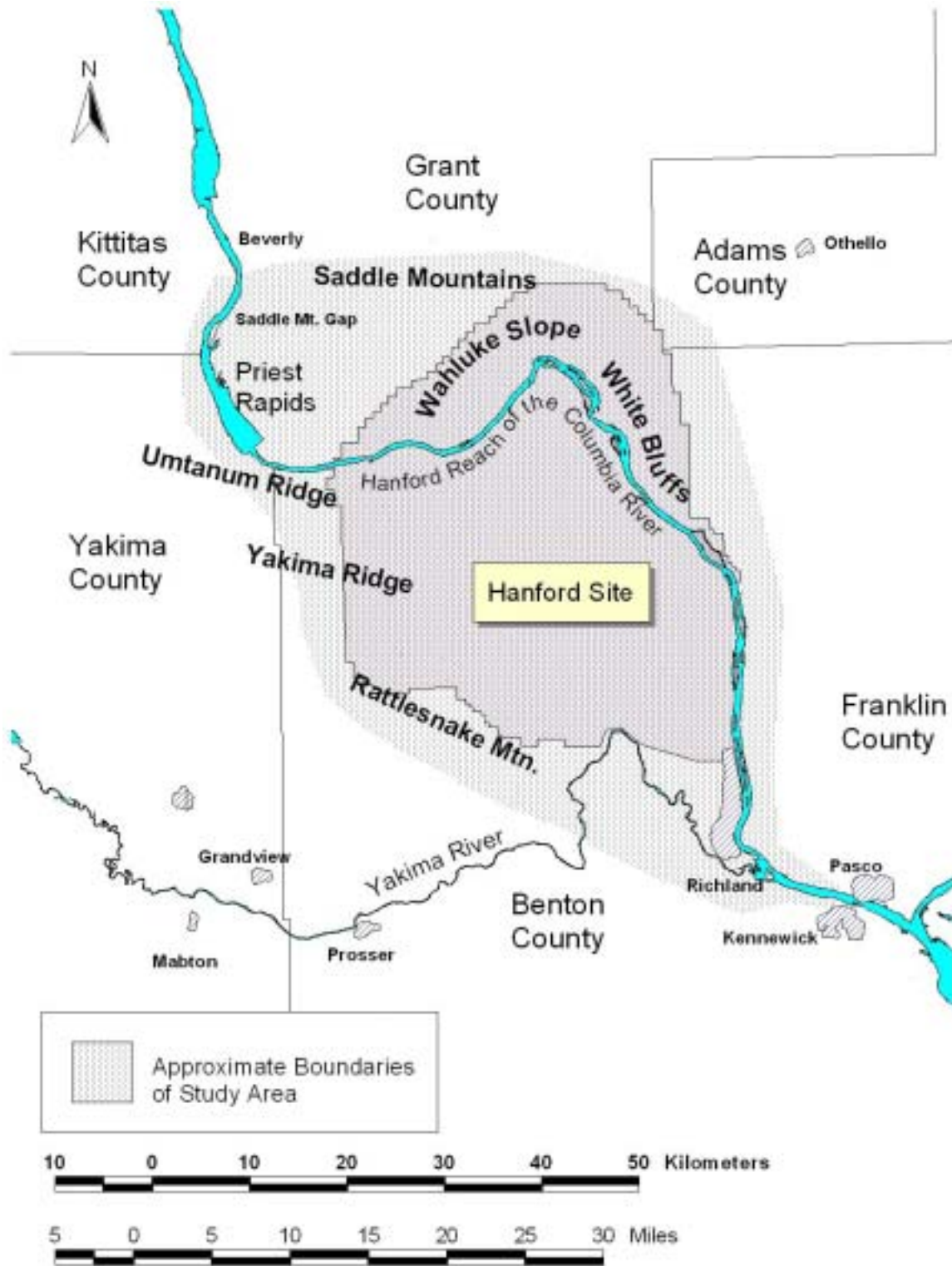


Figure 1.1. Approximate Boundaries of the Region Included in the Hanford Site Plant List

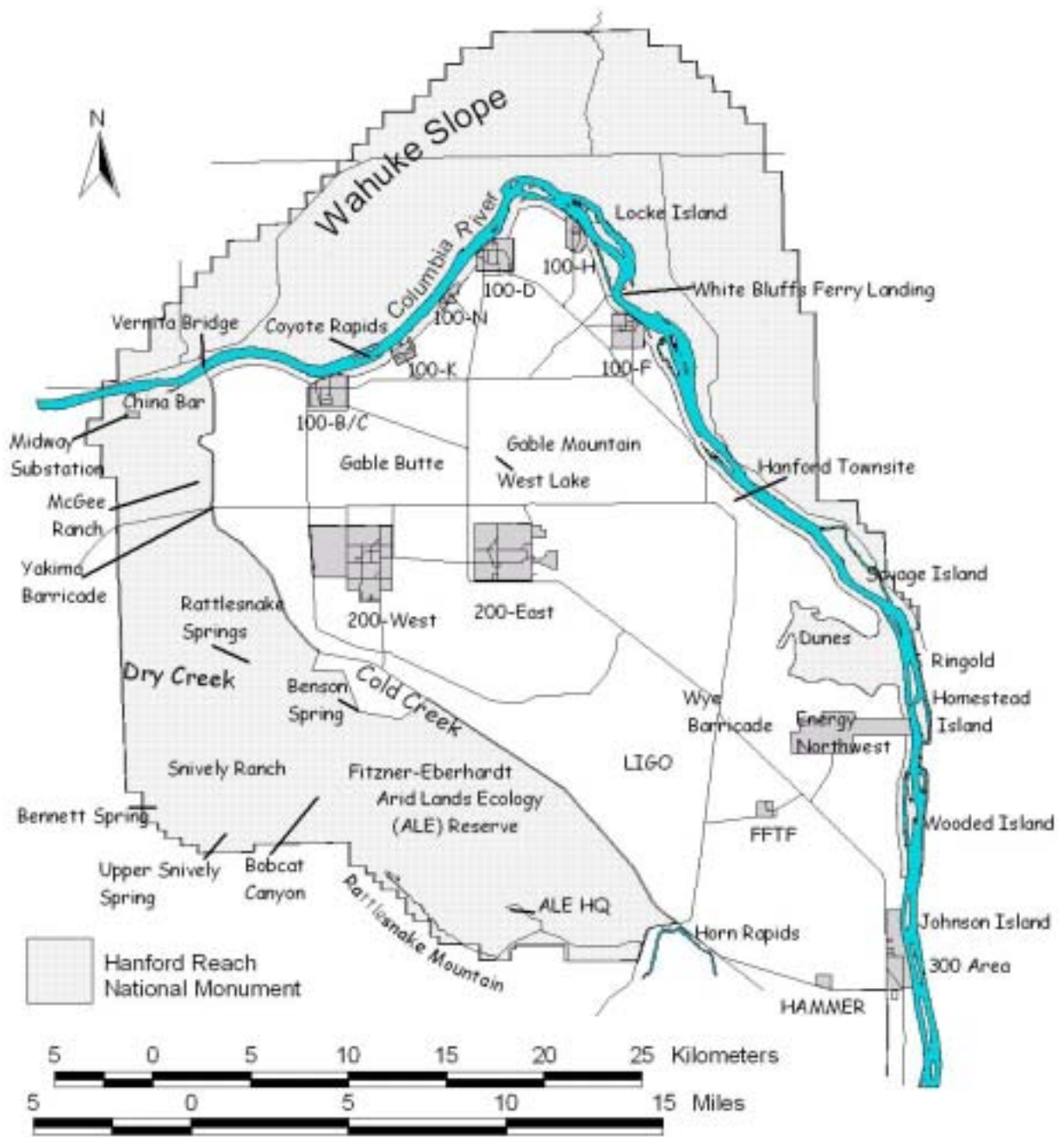


Figure 1.2. Major Geographic Features of the Hanford Site

1.1 Basis for the Hanford Site Plant List

The list of vascular plants of the Hanford Site provided in Section 3.0 is based primarily on specimens collected by numerous Hanford Site workers from 1950 to 2001. This includes the excellent botanical work conducted by Kathryn Beck and Florence Caplow, who surveyed large areas on the Hanford Site as part of the biodiversity inventory conducted by The Nature Conservancy (TNC) during the mid- to late-1990s (Caplow and Beck 1994, 1996, 1997). Additional species were culled from other published lists for the region and other reports on local plant ecology. Attempts were made to locate and examine locally collected specimens for each of the listed species; over 95% of the listed species are documented by preserved specimens. A few species that have been observed by the authors, but have not been collected or reported elsewhere, are also included.

There have been significant changes in the taxonomic nomenclature for a number of groups of plants in our area, including a number of the most common and dominant grasses and shrubs. However, because workers in our area do not have a complete, technical replacement, the taxonomy used in this document follows Hitchcock and Cronquist (1973). We have provided the currently accepted name for each species if it is different from that in Hitchcock and Cronquist (1973); we derived these synonyms from Kartesz and Meacham (1999). In some cases, differentiation of currently accepted taxa requires the use of other references such as Hickman (1993) or Cronquist et al. (1977-1994). Hitchcock et al. (1955-1969) provided additional information about some species. We followed Bailey (1949) for domesticated plants. Horticultural plants that are part of currently maintained landscapes (i.e., around buildings) were not included in this list; those that have persisted without active cultivation are included.

The earliest listing of local plant species specific to our region is the St. John and Jones (1928) catalog for Benton County. This list is derived primarily from specimens collected by J. S. Cotton from 1901 to 1903, prior to the formation of Benton County. Many of his specimens were collected in the Rattlesnake Hills. From the elevation data provided on the specimens (2,500 ft-3,500 ft), he must have been working on or very near the present day Hanford Site. St. John and Jones also referred to a number of specimens from Lake and Hull, who collected in the vicinity of White Bluffs during early August 1892; to Miss Ruth Bennett, a local woman who collected around her home in the Rattlesnake Hills during the 1920s; and to their own collections from the 1920s. Several other collectors were referenced for smaller numbers of species.

For our purposes, we have included only those species from the St. John and Jones listing that we are reasonably sure were collected on or very near the present day Hanford Site. We did make an exception for a couple of species that were collected along the Columbia River near Kennewick but were probably also present elsewhere along the river. Many of the St. John and Jones collections were made in the vicinities of White Bluffs and the Hanford townsite. Most specimens used as the basis for St. John and Jones (1928) were deposited in the Washington State University Herbarium, now the Marion Owenby Herbarium. The specimens for most species that have not been found in subsequent years were examined at Washington State University Herbarium. Specimens for five of those could not be found. The species on the St. John and Jones (1928) list were included for two primary reasons: First, their listing is perhaps the best available record of the true native vegetation of the region, and is thus a good indicator of what may be present in the area today. Second, relatively little of the Hanford Site has been thoroughly

examined botanically, and many of the species on this earlier list may still be found on site. A number of species on the Sackschewsky et al. (1992) list that were included solely because of St. John and Jones (1928) have been reconfirmed during recent years.

Before the publication of Sackschewsky et al. (1992), the most comprehensive list of vascular plants of the Hanford Site was included as Appendix II.3-G, part 2, in ERDA (1975). That list included approximately 270 taxa, but did not include information about the distributions of these species. Another list, Price and Rickard (1973), documented the flora associated with the 200 Areas waste storage sites. They produced a list of approximately 100 species with some general distribution characteristics.

The ERDA (1975) list was primarily based on the collections of J. T. and T. P. O'Farrell, who collected on the Fitzner/Eberhardt Arid Land Ecology (ALE) Reserve during the early 1970s (O'Farrell 1972). The majority of their collection was donated to the Washington State University Herbarium. At the time that Sackschewsky et al. (1992) was published, 35 of the 270 species included in ERDA (1975) had not been subsequently documented by other workers—most of these have now been confirmed either during recent biological investigations or by the extension of our defined region represented by the work near Priest Rapids by Mastrogioseppe and Gill (1983).

Mastrogioseppe and Gill (1983) prepared an excellent analysis of the vegetation on the south and west side of the Columbia River in the vicinity of Priest Rapids. Portions of their study area included the extreme western edge of the Hanford Site and the part of the eastern edge of the Yakima Training Center. We have chosen to include the species from their listing because the study area at least partially overlapped the region covered within Sackschewsky et al. (1992), and because their list provides confirmation or redundancy for a number of observations on the Hanford Site proper. In some cases, Mastrogioseppe and Gill (1983) provides confirmatory observations for species that have not been observed on the Hanford Site for 70 to 100 years. Much of their study area, at least at the time, may have been even less disturbed than the Hanford Site, and was therefore a partial surrogate area for our native plant communities. Specimens for most of the species reported by Mastrogioseppe and Gill were found at the Marion Owenby Herbarium at WSU, Pullman.

Price and Rickard (1973) lists approximately 100 plant species from the 200 Areas. Most specimens collected in support of this list are currently held in the herbarium curated by PNNL. This herbarium was formerly maintained by Westinghouse Hanford Company and was referred to as "WHC" in Sackschewsky et al. (1992). Other major contributors to the PNNL herbarium include G. I. Baird, J. Lietz, V. A. Uresk, and M. R. Sackschewsky. These workers collected specimens from the late 1970s to the present. G. I. Baird also donated over 1,000 Hanford Site plant specimens to the herbarium at Brigham Young University (BRY).

The herbarium formerly maintained by PNNL at the ALE Reserve ("PNL" in Sackschewsky et al. [1992]) is now located on the WSU-Tri Cities campus (PNNL-TC). It contains a number of specimens collected by J. J. Davis in the early 1950s and by Pendleton in the late 1950s. Other major contributors include J. L. Warren, R. H. Sauer (and associates), R. E. Fitzner, W. H. Rickard, and J. F. Cline. Most of these workers collected during the mid-1970s to the early 1980s in support of a variety of projects.

1.2 Summary of the Hanford Plant List

Based on the sources described in Section 1.1, 725 species are included on the current listing of vascular plants of the Hanford Site. These species are spread over 355 genera in 90 families. The largest family is the Asteraceae, with 108 species in 53 genera, followed by the Poaceae with 85 species in 41 genera. These are followed by (with species/genera): Brassicaceae (42/23), Fabaceae (39/16), Cyperaceae (32/6), Boraginaceae (29/12), Scrophulariaceae (29/14), Polygonaceae (26/5), and Rosaceae (23/11). These 9 families (10% of all families) account for 57% of the total species and 51% of all the genera. Thirty-four families are monospecific in our region. The largest genus is *Carex* with 16 species, followed by *Eriogonum* with 12 species, and *Astragalus* with 11 species, *Juncus*, *Poa*, and *Cryptantha* have 10 species each. *Salix*, *Polygonum*, and *Lomatium* are each represented by 9 species; 6 genera are represented by 8 species each, and 2 genera have 7 species each. Six genera are represented by 6 species each, and 13 genera have 5 species each. The largest 10% of the genera account for 36% of the total number of species; 222 genera (63% of our genera) are monospecific in our region. The family, genus, and species distribution among higher levels of classification is provided in Table 1.1.

Table 1.1. Phylogenetic Distribution of Hanford Site Vascular Plants

	Vascular Cryptogams	Gymnosperms	Angiosperms (Magnoliophyta)		Total
		Pinophyta	Monocots - Liliopsida	Dicots - Magnoliopsida	
Families	3	2	14	71	90
Genera	6	3	68	278	355
Species	10	4	165	546	725

1.3 Document Contents and Uses

This document is intended to be useful for a broad range of applications and users. Appendices A and B are compact, alphabetical listings of the known Hanford flora (Appendix A by genus, Appendix B by family); these are designed to function as a quick reference for biologists working in the field. Section 2.0 of this report provides an overview of the plant communities on Hanford Site, including their characteristics and distribution, as well as the overall ecological and geological setting of the Hanford Site. Section 3.0 presents the annotated plant list. Section 4.0 provides a brief overview of the Hanford Site plant species currently listed by either Washington State or the federal government as threatened, endangered, sensitive, or otherwise of concern. Because the official status of any species is always subject to change, the comprehensive list that makes up the bulk of this document will allow for the presence or absence of new species of concern on the Hanford Site to be readily determined. The general distribution and abundance of such species could also be deduced based on the information included in Sections 2.0 and 3.0. Section 4.0 also lists species that are currently considered noxious weeds by the state of Washington. An overview of the interactions between humans and the local flora is provided in Section 5.0. This section is provided as an introduction to the variety of uses that people have and will find for the local flora and as an aid to developing risk assessments and modeling potential pathways to humans that may occur through the use of local plants for food or medicinal purposes.

2.0 Plant Communities on the Hanford Site

The semi-arid lands of the Hanford Site represent one of the last, large relatively undisturbed tracts of shrub-steppe in eastern Washington. Shrub-steppe vegetation once covered more than 200,000 square miles of the American West and represented the largest non-forested region in North America. However, many stands of native vegetation have been replaced since Lewis and Clark first described the shrubs, grasses, and herbs found in our area in 1805. As a result of expanded agricultural and urban development, much of the native shrub-steppe in Washington has been eliminated or fragmented. The shrub-steppe lands of the Hanford Site represent a valuable resource that has been afforded relative protection from private development for agriculture, grazing, and industry.

The designation shrub-steppe refers to the plants classed as dominants within the vegetative communities, that is, shrubs and steppe grasses. In describing the vegetation zones and plant associations of the eastern Washington steppe, Daubenmire (1970) originally included all the Hanford Site in the zone he called the *Artemisia tridentata/Agropyron spicatum* zone or big sagebrush/bluebunch wheatgrass zone (*Agropyron spicatum* has since been reclassified as *Pseudoroegneria spicata* [Pursh] A. Löve). This large zone covers the most arid interior of eastern Washington extending west to the Cascade Mountains, north into the Okanogan Valley, and south into portions of northcentral Oregon. Within this zone a number of different shrub-steppe plant community types exist according to climatic conditions, topographic conditions, soil type and depth, and land disturbance history.

At Hanford, the climate is semi-arid with hot, dry summers and cold, wet winters. Most of the effective precipitation is received between October and April, and a precipitation gradient coincides with the elevation gradient (Stone et al. 1983). The highest elevation on the Hanford Site is on the crest of Rattlesnake Mountain (3,500 ft; 1,150 m), which receives approximately 12 to 14 in. (30 to 35 cm) of precipitation annually. This northeast-facing anticlinal ridge falls steeply about 1,600 ft (487 m) elevation, where slopes become more moderate (8 to 10 in. [20 to 25 cm] of precipitation), but continue to descend to approximately 500 ft (152 m) in Cold Creek Valley and eastward to the Columbia River where annual average precipitation is 4.7 in. (12 cm) (Rickard et al. 1988). The 200 Area Plateau rises a few hundred feet above the rest of the central portion of the site, with Gable Butte and Gable Mountain rising fairly steeply to 773 ft (236 m) and 1,085 ft (331 m) respectively (Figure 2.1). Soils range from silt loams, stony silt loams, talus and basalt scree on the slopes of Rattlesnake Mountain and Gable Mountain to sandy loams, loamy sands, and dune sands on the Columbia River Plain (Figure 2.2) (Rickard et al. 1988; Hajek 1966). The different soils found on Hanford along with the elevation and precipitation gradient from the river to the top of Rattlesnake Mountain allow a variety of shrub-steppe plant communities to exist within a relatively short distance. Soil maps for the portions of the Hanford site lying within Franklin and Grant counties are not currently available.

In addition to shrub-steppe vegetation, riparian (streamside) vegetation on the Hanford Site is found along the banks of the Columbia River, along several intermittent streams occurring on the ALE Reserve, and on the shores of several irrigation waste-water ponds on the Saddle Mountain National Wildlife Refuge. Riparian vegetation is limited in extent, with narrow bands or buffers near the water consisting

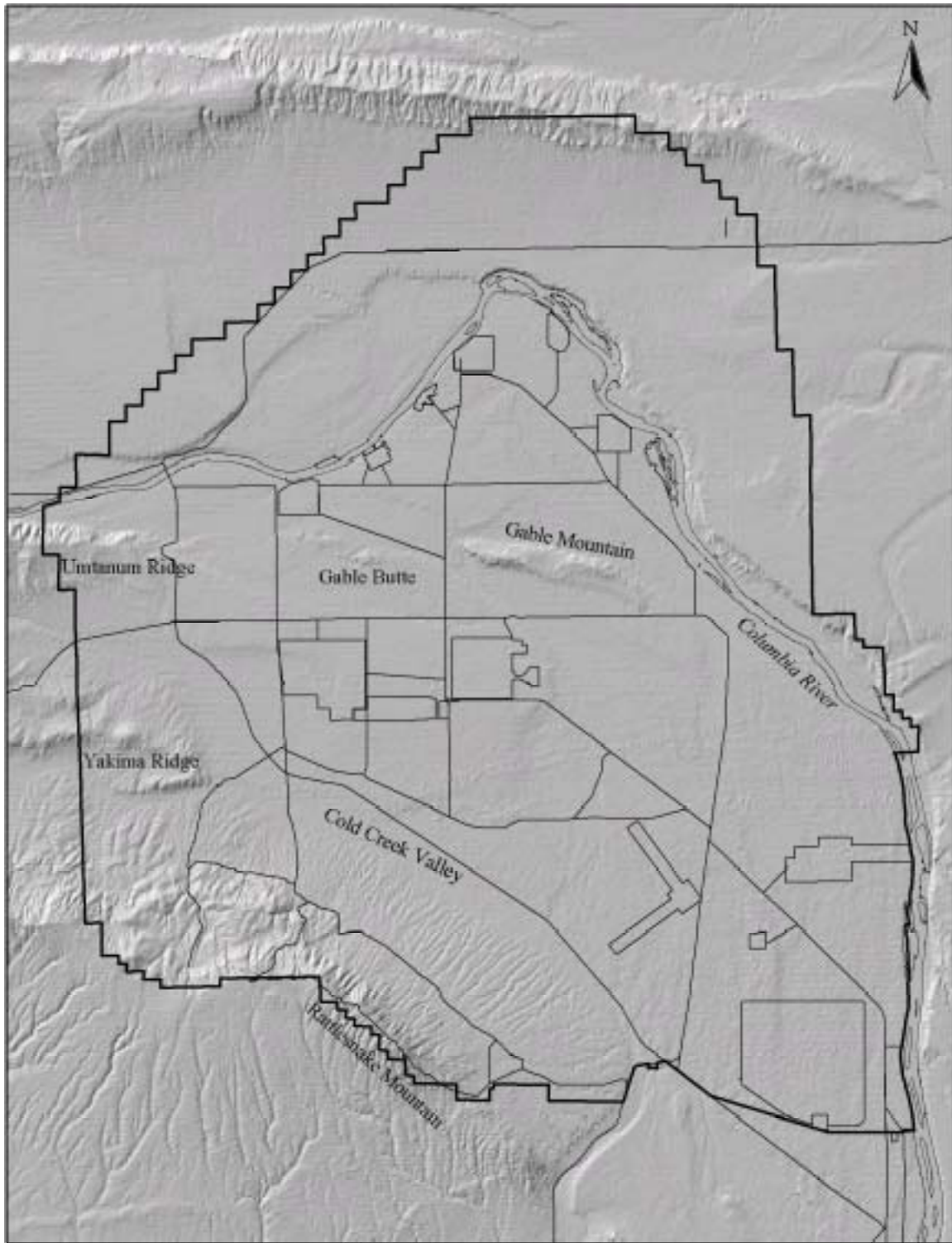


Figure 2.1. Shaded Relief Map of the Hanford Site Indicating Dominant Topographic Features (Major roads and outlines of the Hanford Site areas are included for reference.)

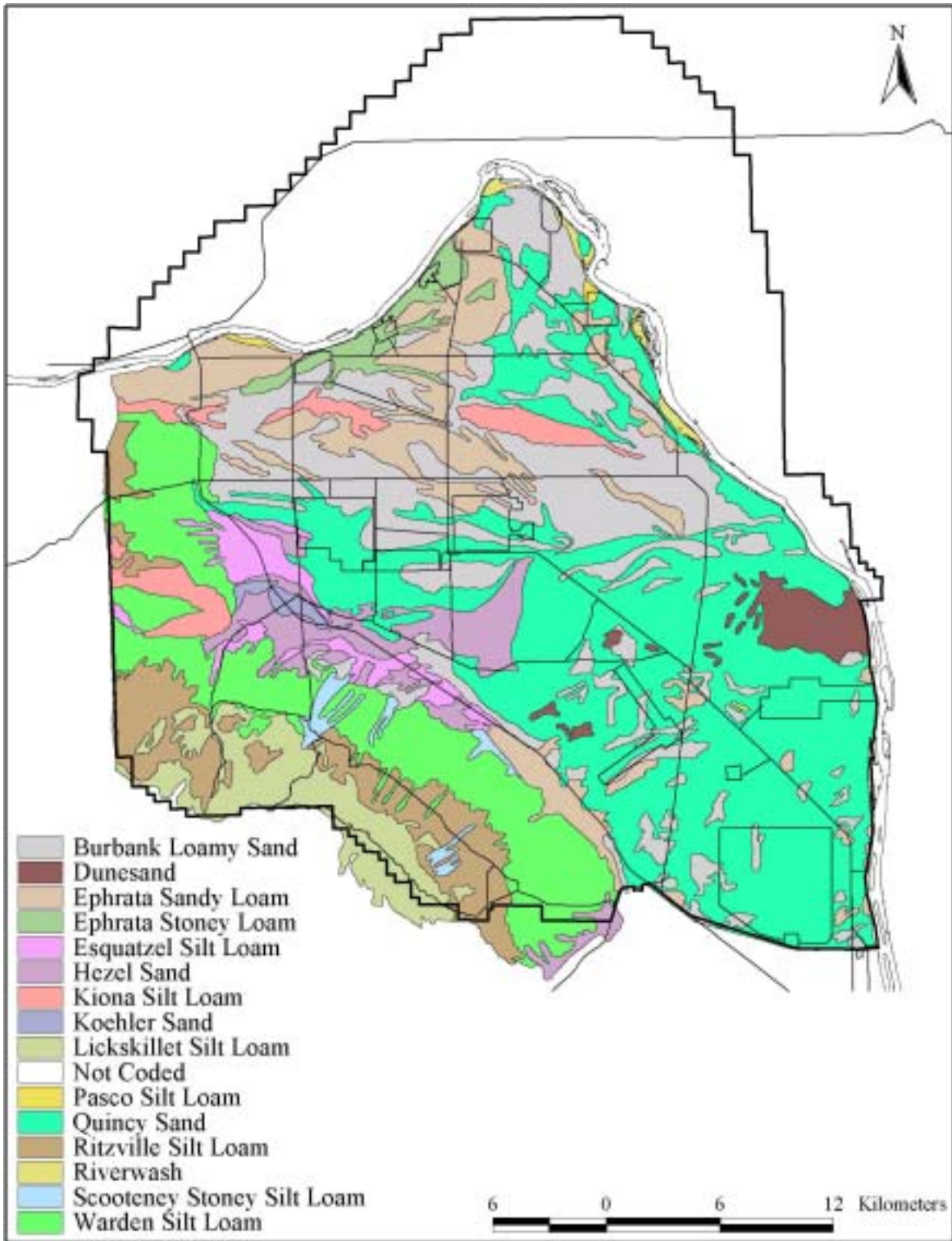


Figure 2.2. Soils Map for the Benton County Portion of the Hanford Site (after Hajek 1966)

of a number of forbs, grasses, sedges, reeds, rushes, cattails, and deciduous trees and shrubs. Much of the riparian zone has also been successfully invaded by exotic plant species that can act to displace native species. Along the Hanford Reach, mulberry (*Morus alba* L.) and Russian olive (*Elaeagnus angustifolia* L.) trees are more frequent than the native black cottonwood (*Populus trichocarpa* Torr. & Gray ex Hook). In places along the Columbia River shoreline, the native cattails (*Typha latifolia* L.), sedges, and rushes may be displaced by reed canarygrass (*Phalaris arundinacea*).

During the past decade, the existing and potential plant communities of the upland areas on the Hanford Site have been mapped in detail through cooperative efforts supported by DOE, Washington Department of Fish and Wildlife, TNC of Washington, and PNNL. The following section describes the plant associations most commonly found on the uplands of the Hanford Site.

2.1 Shrub-Steppe Plant Communities

Plant communities of the shrub-steppe region are usually named and recognized according to the dominant shrub and grass species found within the community (Figure 2.3). Within the shrub-steppe plant communities on Hanford, big sagebrush (*Artemisia tridentata* Nutt.) is often the dominant shrub with herbaceous grasses and forbs (herbaceous plants other than grasses) growing between and beneath shrub canopies (understory species). Other shrub species also occur in sagebrush steppe communities or may be the dominant shrub in seral or edaphic plant communities on Hanford. Common shrub species on Hanford besides sagebrush include the following:

- Gray rabbitbrush (*Chrysothamnus nauseosus* [Pallas ex Pursh.] Britt.)
- Green rabbitbrush (*Chrysothamnus viscidiflorus* [Hook.] Nutt.)
- Antelope bitterbrush (*Purshia tridentata* [Pursh.] DC.)
- Spiny hopsage (*Grayia spinosa* [Hook.] Moq.)
- Threetip sagebrush (*Artemisia tripartita* Rydb.)
- Black greasewood (*Sarcobatus vermiculatus* [Hook.] Torr.).

In some areas, particularly in ecotones at the boundaries of stands or in areas with soil mosaics, big sagebrush can co-occur with bitterbrush, threetip sagebrush, rigid sagebrush, and buckwheat species. Franklin and Dyrness (1973) expanded Daubenmire's (1970) classification to also recognize several of these shrubs as dominant species in shrub/Sandberg's bluegrass (*Poa sandbergii*) climax vegetation associations within the sagebrush/bluebunch wheatgrass vegetation zone.

Sagebrush is a particularly important plant in eastern Washington and throughout the Intermountain West. Mature stands of big sagebrush (where plants are large enough to have developed a woody branching structure) provide important habitat for species that rely on sagebrush to survive. The loggerhead

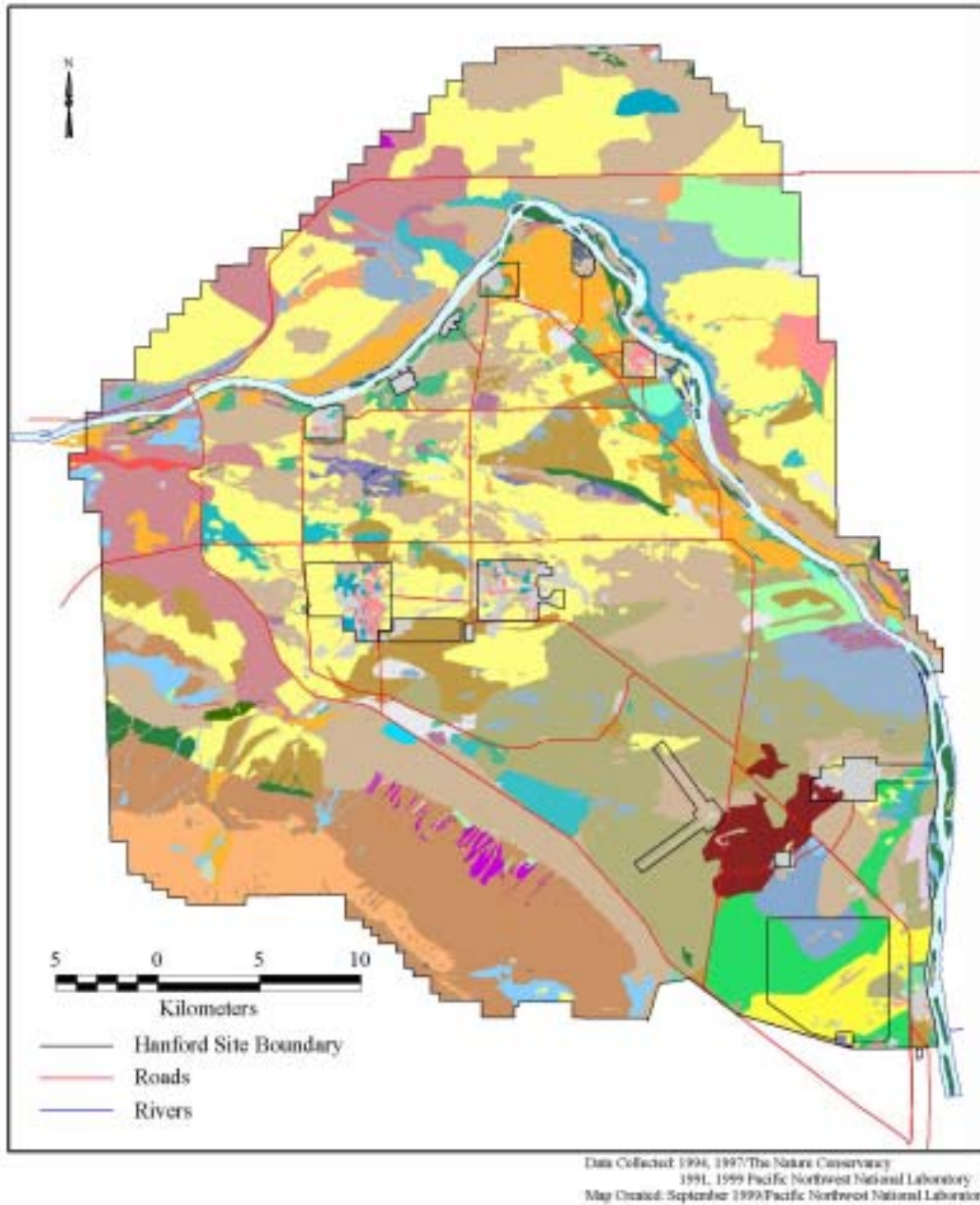


Figure 2.3. Vegetation Cover Types Found on the Hanford Site before the 2000 Command Fire. Because mapping was conducted over a 5-year period between 1994 and 1999, cover types may not reflect the current conditions. Readers are referred to the Ecosystem Monitoring web page (<http://www.pnl.gov/ecology/ecosystem>) to obtain the most current versions available for map layers.



Figure 2.3. (contd)

shrike, sage thrasher, and sage sparrow all require mature shrubs for nesting. Other species of conservation concern in Washington, such as the greater sage grouse, require the leaves of big sagebrush as a food source. Black-tailed jackrabbits also rely heavily on big sagebrush for food, protective cover, and shade. Of the three sagebrushes found on the Hanford Site, only stiff sagebrush is deciduous. Big sagebrush and threetip sagebrush are not deciduous, and their leaves can be an important food source for some wildlife in winter months when other shrubs are leafless. Stiff sagebrush (*Artemisia rigida*), which is less common on the Hanford Site because it is restricted to rock outcrops and rocky, shallow soils, is a winter deciduous shrub. The sagebrush communities of the Hanford Site represent a particularly important natural resource for the state because other lands within eastern Washington have been developed for agriculture and industry.

On the Hanford Site, bluebunch wheatgrass (*Agropyron spicatum* [Pursh.] Scribn. & J.G. Sm.), Sandberg’s bluegrass (*Poa sandbergii* Vasey), a variety of flowering plants (forbs), and a cryptogamic soil crust form the understory of the big sagebrush/bluebunch wheatgrass zone. The understory vegetation comprises those species that grow below the tallest shrubs or trees in a plant community, that is the forbs and grass species. Most native perennial grass species commonly found on the Hanford Site are cool-season bunchgrasses, including needle-and-thread grass (*Stipa comata* Trin. & Rupr.), Indian ricegrass (*Oryzopsis hymenoides* Roemer & J. A. Schultes), Cusick’s bluegrass (*Poa cusickii* Vasey), and Idaho fescue (*Festuca idahoensis* Elmer). When no shrubs are present in the community, the dominant grass species are used to describe the habitat, as shown in Figure 2.3—the bluebunch wheatgrass/Sandberg’s bluegrass community. Table 2.1 shows the common shrub-steppe plant communities of the lower Columbia Basin. The general soil type and elevation for each community type also are listed. The predominant plant communities depicted in Figure 2.3 are described in more detail in the following paragraphs.

Table 2.1. Common Shrub-Steppe Plant Communities of the Hanford Site

Plant Community Type	Soils	Elevation ^(a) (m)
Big sagebrush/Sandberg’s bluegrass	Loams and sandy loams	100 - 300
Big sagebrush/cheatgrass	Loams and sandy loams	Above 100
Big sagebrush/needle-and-thread grass	Sands and loamy sands	100 - 300
Big sagebrush bluebunch wheatgrass	Loams and silt loams	Above 200
Bitterbrush/bluebunch wheatgrass	Sands, loams, silt loams	100 - 300
Bitterbrush/needle-and-thread grass	Sands and loamy sands	100 - 300
Bitterbrush/Indian ricegrass	Sands	100 - 300
Hopsage/Sandberg’s bluegrass	Loams, silt loams	100 - 300
Greasewood/saltgrass	Loams, silt loams	100 - 300
Threetip sagebrush/bluebunch wheatgrass	Loams, silt loams	400 - 800
Threetip sagebrush/Idaho fescue	Loams, silt loams	400 - 1,000
Stiff sagebrush/Sandberg’s bluegrass	Stony loams/lithosol	100 - 500
Thyme buckwheat/Sandberg’s bluegrass	Stony loams/lithosol	Above 500
Rock buckwheat/Sandberg’s bluegrass	Stony loams/lithosol	Above 250
Narrow-leaved goldenweed/Sandberg’s bluegrass	Stony loams/lithosol	Above 250
(a) Elevation bands described here are intended only to describe the approximate distribution of the communities on the Hanford Site; exceptions are likely to occur.		

2.1.1 Big Sagebrush/Sandberg's Bluegrass

Communities dominated by big sagebrush/Sandberg's bluegrass occur below elevations of 800 to 900 ft (about 250 to 275 m) above sea level in the driest parts of the Columbia Basin. The extremes in temperature and low precipitation levels found in the lower Columbia Basin create one of the driest and harshest environments dominated by the evergreen big sagebrush. In some places where significant human-related disturbances (intense livestock grazing, construction) have occurred, the introduced winter annual grass cheatgrass becomes the dominant or co-dominant grass species. Other native bunchgrasses, including Indian ricegrass, needle-and-thread grass, and bottlebrush squirreltail may be scattered throughout this community type.

Spiny hopsage also occurs often in this community, and in some areas it may co-dominate the shrub layer. Green rabbitbrush, gray rabbitbrush, and bitterbrush may also represent a minor component within the community. Common native forb species include Carey's balsamroot (*Balsamorhiza careyana* Gray), long-leaved phlox (*Phlox longifolia* Nutt.), yarrow (*Achillea millefolium* L.), and daisy fleabane (*Erigeron* spp.). Turpentine springparsley (*Cymopterus terebinthinus* Hook.) also often occurs on sandy soils dominated by this community type. Species diversity often is lower in this community than in communities found in the surrounding foothills.

Across some portions of the Hanford Site, the understory grasses have been replaced to some degree by cheatgrass resulting in Sandberg's bluegrass-cheatgrass complexes. The big sagebrush/Sandberg's bluegrass-cheatgrass cover type is common across central Hanford.

2.1.2 Big Sagebrush or Bitterbrush/Needle-and-Thread Grass

In limited areas of the Columbia River Plain, sandy soils and loamy sands support plant communities where needle-and-thread grass is the dominant understory species with a shrub component of mostly big sagebrush or antelope bitterbrush or a mix of the two shrubs. Other perennial native grasses in the understory include Sandberg's bluegrass and prairie junegrass (*Koeleria cristata*). Many of the forbs found in the bitterbrush/Indian ricegrass and dune complex communities can also be found in these communities. The low-growing snow buckwheat (*Eriogonum niveum* Dougl. Ex Benth.) is commonly found within these communities in the sandy loams and sands found on central Hanford. Snow buckwheat may become the dominant shrub component in this habitat when the larger shrubs are removed by wildfire. Gray rabbitbrush may also be a dominant shrub in these communities if big sagebrush is removed by wildfire. This climax community is not well represented in the rest of eastern Washington, and areas on Hanford consisting of big sagebrush/needle-and-thread grass are considered an element occurrence by the Washington State Natural Heritage Program (see Rare Plant Communities and Element Occurrences).

2.1.3 Bitterbrush/Indian Ricegrass and Dune Complex

This shrub-steppe plant community is associated with stabilized sand dunes such as those found on the Hanford Site. Unstabilized sand dunes occur over a large area on the west side of the Columbia River just north of Energy Northwest. Indian ricegrass and needle-and-thread grass are particularly well suited for growing in these dry sandy soils and help stabilize dune sands. Other dune-stabilizing species are pale

evening primrose (*Oenothera pallida*), sand dock (*Rumex venosus*), thickspike wheatgrass (*Agropyron dasystachyum* [Hook.] Scribn. & J.G. Sm.), scurfpea (*Psoralea lanceolata* Pursh.), turpentine spring-parsley, and green rabbitbrush (*Chrysothamnus viscidiflorus* [Hook.] Nutt.). Snow buckwheat can also be a significant component of these community types and can be the most obvious species in the stand following wildfires. In sandy or cobbly portions of central Hanford, big sagebrush may co-dominate with bitterbrush to varying degrees with bunchgrasses in the understory.

Sand dunes can be a difficult place for plants to colonize because the dunes are constantly shifting, and plant seeds can easily blow away or be covered too deeply to germinate. Other constraints also exist that may decrease seed germination and recruitment on dune soils, including the soil texture and water holding capacity. Because the dune soils are so coarse, water quickly infiltrates, and the soil surface dries rapidly after precipitation events. Even so, over time dunes can support a richly diverse plant community of species that are well adapted to sandy soils. These sandy soil areas with varying topography create a number of microclimates, and thus, niches that support different plant life forms. The aspect and slope of the dune influence which plants grow where. For example, north-facing slopes of the sand dunes often support a dense stand of needle-and-thread grass, whereas the crests of the sand dunes support a mix of shrubs and grasses.

2.1.4 Sand Dropseed-Sandberg's Bluegrass

Sand dropseed (*Sporobolus cryptandrus* [Torr.] Gray) growing in association with Sandberg's bluegrass likely represents a climax community at the interface between riparian and upland areas of the shrub-steppe. It is found in cobble and sandy soils near the river. Many of these areas have also been heavily disturbed either during the years when those areas were farmed or during Hanford reactor construction and Hanford Site operations. In some stands, gray rabbitbrush or big sagebrush shrubs provide a shrub component.

2.1.5 Greasewood/Saltgrass and Spiny Hopsage/Sandberg's Bluegrass

In low-lying, flat areas of the Columbia Basin with silt loam and loam soils, spiny hopsage- and greasewood-dominated plant communities occur. These two shrubs are salt- or alkali-tolerant plants (called halophytes) that can thrive in areas where other shrubs cannot. Greasewood plant communities are usually found adjacent to either above-ground or near-surface water such as creeks and springs because greasewood requires root contact with groundwater for survival. Sodium accumulates and is partitioned in the leaves of the winter deciduous greasewood shrubs. Spiny hopsage tolerates alkaline soils and accumulates significant amounts of potassium in its leaves before the leaves senesce and drop to the ground during the dry summer months.

Greasewood/saltgrass (*Distichlis stricta* [Torr.] Rydb.) plant communities on the Hanford Site occur in association with ephemeral and permanent water courses such as Rattlesnake Springs and irrigation waste-water lakes on the Wahluke Slope. Sandberg's bluegrass often co-occurs with saltgrass in the understory. Intershrub spaces may support grasses or contain small areas where alkaline compounds coat the soil surface. Greasewood is a winter deciduous shrub and resprouts from the root crown after burning.

Spiny hopsage/Sandberg's bluegrass communities are less common in the Columbia Basin landscape. Several stands on central Hanford were burned during the 2000 wildfire, but spiny hopsage still occurs as a dominant shrub in communities found on the Franklin County side of the Hanford Reach. The understory of hopsage stands is often invaded by cheatgrass and other exotic annual species. Spiny hopsage drops its leaves in the dry summer months and remaining brownish grey branches appear dead until the following spring. Hopsage is usually killed by wildfires and appears to have a very poor chance of re-establishing naturally during the following decades. The reasons prohibiting establishment are not well understood, but possible explanations for the lack of seedling recruitment of this shrub include seed predation, competition with non-native species, and herbivory.

2.1.6 Big Sagebrush/Bluebunch Wheatgrass

The slopes of Rattlesnake Mountain, as well as the north-facing slopes of Gable Mountain support big sagebrush/bluebunch wheatgrass plant communities. This community occurs primarily above elevations of 800 to 900 ft (250 to 275 m) on Hanford in deep loam and silt loam soils. When wildfires kill big sagebrush, the perennial bunchgrasses usually survive, producing communities dominated by bluebunch wheatgrass growing with Sandberg's and Cusick's bluegrass, and Thurber's needle-and-thread grass (*Stipa thurberiana* Piper). This community usually supports a richer species diversity than big sagebrush communities at lower elevations. Common forbs include Carey's balsamroot (*Balsamorhiza careyana* Gray), long-leaved phlox, yarrow (*Achillea millefolium* L.), cushion pussytoes (*Antennaria dimorpha* [Nutt.] Torr. & Gray), Cusick's sunflower (*Helianthus cusickii* Gray), slender hawksbeard (*Crepis atribarba* Heller), silver and sulphur lupine (*Lupinus leucophyllus* Dougl. Ex Lindl. and *Lupinus sulphureus* Dougl. Ex Hook.), and several daisy fleabanes (*Erigeron* species). Microbiotic crusts consisting of lichens, mosses, cyanobacteria, and green algae cover interplant spaces between bunchgrasses and shrubs.

2.1.7 Threetip Sagebrush/Bluebunch Wheatgrass

At the highest elevations in the hills surrounding the lower Columbia Basin and the Yakima Valley, threetip sagebrush sometimes replaces big sagebrush as the dominant shrub. Bluebunch wheatgrass and Sandberg's bluegrass are still important grasses in the understory of threetip sagebrush; however, Idaho fescue (*Festuca idahoensis* Elmer) another bunchgrass, becomes abundant only at higher elevations and on north-facing slopes where more soil moisture is available. The presence of threetip sagebrush and increased abundance of Idaho fescue is related to increased precipitation and decreased air and soil temperatures occurring at higher elevations. Threetip sagebrush and big sagebrush can also often occur as co-dominant shrub species on the hillsides of the Columbia Basin. Unlike big sagebrush, threetip sagebrush can resprout following wildfires.

2.1.8 Plant Communities on Lithosols (stony soils)

Lithosol is a term for the gravelly, rocky, talus soils associated with basalt outcrops and cliffs. Basalt outcrops, cliffs (scarps), and loose rock at the base of cliffs or on slopes (called screes) are found along the crests and slopes of the Rattlesnake Hills, Yakima Ridge, Umtanum Ridge, the Saddle Mountains, Manashtash Ridge, and Gable Mountain. This type of habitat is also common in the areas known as the

channeled scablands, Yakima Canyon, and along the eastern end of the Columbia River Gorge. This type of landform in the lower Columbia Basin is determined by the underlying basalts, which may be exposed above the soil on ridgetops or where wind and water erode the fine soils away. As the basalt weathers, a rocky soil type is formed—lithosol. On Hanford, these soils are found on Gable Butte, Gable Mountain, Umtanum Ridge, Yakima Ridge, and Rattlesnake Mountain.

The plant communities that establish on these stony soils can be quite diverse. Usually lithosols support scattered short-statured shrubs and grasses such as those found in communities dominated by rock buckwheat (*Eriogonum sphaerocephalum* Dougl. Ex Benth.)/Sandberg's bluegrass, thyme buckwheat (*Eriogonum thymoides* Benth.)/Sandberg's bluegrass, rigid sagebrush/Sandberg's bluegrass, and narrowleaf goldenweed (*Haplopappus stenophyllus* Gray)/Sandberg's bluegrass. Characteristic species found on ridgetops include rosy balsamroot (*Balsamorhiza rosea* A. Nels. & J.F. Macbr.), thyme buckwheat, Hood's phlox (*Phlox hoodii* Richards.), and daggerpod (*Phoenicaulis cheiranthoides* Nutt.). Many wildflowers found on deeper soils at lower elevations also occur on lithosols, but plants growing along the wind-swept ridgetops are usually shorter than similar ones found at lower elevations.

The shrub component of several of these communities is often co-dominated by big sagebrush especially at the margins or ecotonal boundaries of the community where soils may become deeper and less rocky. Rigid (or stiff) sagebrush communities may occur as islands where pockets of lithosols or basalt outcrops occur within the boundaries of larger big sagebrush stands. Rock and slender (*Eriogonum microthecum* Nutt.) buckwheat may also have similar distributions within big sagebrush stands, or may exist as co-dominant shrubs on shallow rocky soils.

2.1.9 Abandoned Fields

Cultivated fields along the western and eastern shores of the Columbia River, along the Cold Creek Valley, and in the Snively Basin on the ALE Reserve were abandoned in 1943 when the federal government acquired the land for what is now the Hanford Site. The most extensive of these old-field habitats are located west of the Columbia River near the Hanford townsite and White Bluffs townsite. Residents were relocated, and farming and livestock grazing ceased. Exotic annual species, particularly cheatgrass, tumble mustard (*Sisymbrium altissimum*), jagged chickweed (*Holosteum umbellatum*), and Russian thistle (*Salsola kali*) now dominate the vegetation on these fields. On the Snively Ranch above 1,950 ft (600 m) in the Rattlesnake Hills, black rye (*Secale cereale*) dominates the old fields, while lower elevation old fields are occupied by cheatgrass (*Bromus tectorum* L.) and bulbous bluegrass (*Poa bulbosa* L.).

Other areas of the lower Columbia Basin that have been disturbed by wildfire, livestock grazing, and heavy machinery or construction activities may support similar vegetation as that seen in old fields. Cheatgrass and other exotic annuals often dominate these communities because they have excellent seed germination and dispersal and are adapted to the climate. Shrub species such as green and gray rabbitbrush are sometimes able to colonize these sites. In some abandoned fields along the Columbia River, the native warm-season bunchgrass, sand dropseed has successfully re-established in sandy and cobble substrates. Shade trees planted around scattered farm houses on the Hanford Site and other areas of the Basin—mostly black locust, Siberian elm, and white poplar—have survived for more than 50 years without irrigation water.

2.1.10 Rare Plant Communities and Element Occurrences

Because the Hanford Site has not been subject to the same pressures for agricultural and urban development over the past 50 years, some plant communities on site are relatively rare outside the Site boundaries. In addition, the protection from grazing and other types of land use has allowed plant communities within the Hanford Site boundaries to retain native forb species and biotic soil crusts that are lacking or poorly represented in other areas in eastern Washington. When the vegetation cover mapping for the Hanford Site was conducted (Figure 2.3), plant communities were rated as to the condition and size of the stand as well as the rarity of the stand. Community characteristics were evaluated, and certain stands were designated as element occurrences within Washington State by the Washington Natural Heritage Program (part of the Department of Natural Resources). Characteristics evaluated for each shrub-steppe community included the acreage of the community within the state, the relative amount of alien species in the community, and the condition of the microbiotic crust. Figure 2.4 indicates the element occurrences designated on the Hanford Site.

Other plant community types or features exist that have special habitat status on the site. These include vernal ponds—small bodies of water that exist seasonally and have distinctive vegetational patterns that occur below the ridgelines of Gable Butte and Gable Mountain and at the extreme eastern end of Umtanum Ridge. The Nature Conservancy has also designated portions of the plant communities found at the base of the north side of Gable Mountain as special habitat areas because they potentially include populations of rare annual native species not found elsewhere on the site. The top of Umtanum Ridge is also designated as a special habitat area for similar reasons.

Another special habitat area encompasses the sand dune complex found just west of the Columbia River. This area represents one of the few moving sand dune areas in Washington State and harbors a great deal of plant species diversity. Few invasive alien species are present within the dunes, and the plant communities represent unique resources within the state. This area has also been included as part of the Hanford National Monument.

2.2 Disturbance Effects on Habitats and Seral Stages

Certain landscape-scale events and types of land use can drastically alter the composition and structure of the native shrub-steppe plant communities found on the Hanford Site. One of the most dramatic influences in the shrub-steppe is wildfire. Wildfires typically occur in late summer and early fall in the Mid-Columbia region. At this time of year, most of the perennial cool-season grasses and perennial forbs have completed a reproductive cycle and are beginning to senesce and become dormant until either fall rains provide additional moisture or spring growth occurs the following year. Many Hanford Site native plants are not seriously damaged by wildfire because they are dormant or semi-dormant, and many

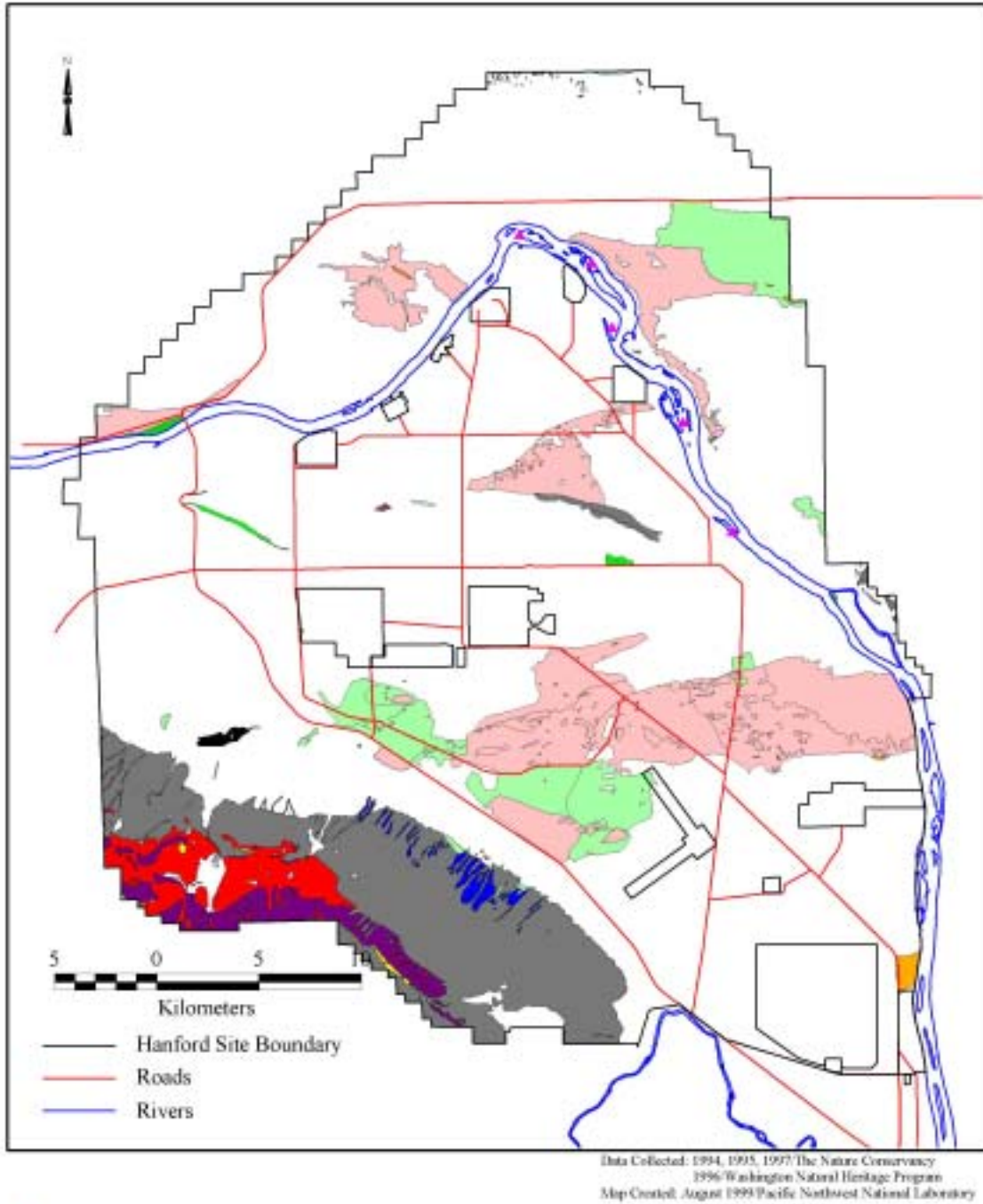


Figure 2.4. Locations and Types of Element Occurrences on the Hanford Site



Figure 2.4. (contd)

perennial plants can resprout from roots in the late fall or early spring following the fire. This is not the case for big sagebrush, which must propagate from seed, and is typically killed by wildfire. Sagebrush seeds can germinate and begin to re-establish in the spring months following the fire if environmental and vegetative conditions are favorable—that is, precipitation, soil moisture and temperature and adequate for germination, and the area has not been heavily invaded by competing alien weed species. Sagebrush seedlings do not appear to be successful in establishing within cheatgrass or other alien species monocultures. Gray and green rabbitbrush can resprout after fires and often establish as the dominant shrub in the years following wildfires.

Other disturbances that impact community structure and function are those associated with prior construction and development activities. Areas that have been graveled or paved as parking lots, old streets (such as those at the Hanford townsite) and homesteads exhibit a number of different species and cover types. Gray and green rabbitbrush appear to be particularly well-suited to re-invading areas where soils were compressed, the top soils removed, and gravels or asphalt applied. Many such areas now support gray rabbitbrush/Sandberg's bluegrass cover.

In describing the current plant communities found on the Hanford Site, it is important to recognize and understand the role of introduced invasive plant species. A number of exotic or alien species have been introduced to the Intermountain West since the turn of the century that can successfully invade sagebrush-dominated communities and drastically change community composition, structure and function. When native plants are displaced by Mediterranean exotic species, the introduced plants can become the dominant or common species in many places. Of the over 700 species of vascular plants in this area, approximately 20% are considered non-native.

Exotic species that invade communities and readily displace native forbs include a number of noxious weeds such as rush skeletonweed (*Chondrilla juncea*) and especially the knapweeds: white knapweed (*Centaurea diffusa* Lam.), Russian knapweed (*Centaurea repens* L.), yellow star-thistle (*Centaurea solstitialis* L.), and spotted knapweed (*Centaurea maculosa* Lam.). The term noxious is actually a legal description, and these weeds are regulated by state and county weed boards depending on the distribution of the species and its potential threat. A noxious weed is a non-native plant that is generally highly aggressive, which can cause problems for natural areas, agriculture, and/or recreation. See Section 4.2 for a list of noxious weeds currently found here.

Another type of invasion most often occurs after some type of ground breaking disturbance or stress to soils and vegetation. Cheatgrass or downy brome, Russian thistle (*Salsola kali* L.), and tumble mustard (*Sisymbrium altissimum* L.) are common weedy species introduced in the late 1800s and early 1900s that can rapidly invade and dominate disturbed soils on the site. Historical farm sites along the Columbia River on the Hanford Site that were abandoned in 1943 were invaded by cheatgrass and tumble mustard and are still identified as monocultures of these alien species.

In the lower Columbia Basin, distribution and abundance of native plants has been significantly altered by the introduction of cheatgrass. Plant communities dominated by cheatgrass are a persistent and widespread feature of the Columbia Basin landscape. These monocultures and the persistence and dominance of cheatgrass in native shrub stands compound the effects of wildfires on the shrub-steppe.

Although most plants of the shrub-steppe survive wildfires to grow again the following year, a number of shrub species do not. Because cheatgrass is a winter annual grass, it grows, flowers, and produces seed very early in the growing season. Most cheatgrass at elevations below 984 ft (300 m) will senesce and die before the middle of May in a normal rainfall year in the Columbia Basin. The remaining standing dead grass is highly flammable and can act to carry the fire more efficiently from shrub to shrub or produce very hot, fast fires in monocultures of cheatgrass. Unfortunately, cheatgrass seeds that are buried in the soil or even lying on the soil surface are seldom all burned and killed by the fire. This seed source can then germinate after fall rains, and the annual cheatgrass begins to establish and may dominate a site in the years following a fire. The progression of succession and the invasion of the shrub-steppe plant communities by invasives such as cheatgrass after wildfire is highly dependent on the composition and condition of the plant community before the fire as well as the climate during the years following the fire.

Grazing is another type of disturbance that can impact the composition of shrub-steppe communities found in the Columbia Basin. Shrub-steppe land evolved without the influence or presence of large grazing mammals. Before the 1800s, grazing in the lower Columbia Basin was limited to small numbers of deer, wapiti (elk), and antelope. Livestock-palatable native bunchgrasses, which form the understory of the shrub-steppe, are easily damaged by overgrazing, and the grass often is unable to recover. Trampling by livestock can destroy the microbial crust and damage the grasses leaving the bare soils open to invasion by non-natives. In places that have been heavily grazed, non-native plant species such as cheatgrass and tumble mustard quickly invade.

3.0 Vascular Plants of the Hanford Site

In the following pages, we have provided information about each species that has been identified on or near the Hanford Site. Species are listed alphabetically within families, which are also listed alphabetically. We, therefore, have made no attempt to arrange the taxa in any phylogenetic or systematic fashion.

Information provided for each species includes the scientific name with taxonomic authority, varietal designations, where appropriate, and an accepted common name. Common synonyms for the scientific name are also provided. In most cases, we have assigned scientific names based on Hitchcock and Cronquist (1973), acknowledging that there are more recent taxonomic treatments of many groups. We feel that as long as Hitchcock and Cronquist (1973) remains the most commonly used and most authoritative guide to the flora of the Pacific Northwest, these names will be most often encountered by persons attempting to identify plants in our area. We have attempted to provide the most current and appropriate synonym for all species, which we have most often obtained from the *Synthesis of the North American Flora* (Kartesz and Meacham 1999). We hope this information will be useful to those who are interested in becoming more familiar with recent developments in plant taxonomy. We have also provided the accepted U.S. Department of Agriculture (USDA) code for each species (USDA 2001); when more than one code is listed, the official USDA code is listed first, followed by the code usually used during field work on Hanford.

Additional information provided for each species includes the life form (graminoid, herb, tree, shrub, etc.), life span (annual or perennial), and origin (introduced or native). Determination of native or alien status is relative and not always obvious. Many plants that may not have been present prior to European settlement of the Columbia Basin, may still be natives of the general region. Species that are clearly of Eurasian origin, or clearly brought in from other parts of North America, are considered introduced; otherwise, species are considered native. We have probably been fairly liberal in assigning native status to some species. Where possible, we followed indications about species origin provided in Hitchcock et al. (1955-1969). Finally, we have provided a brief description of the Hanford Site distribution, taxonomic notes, and other information about each species, followed by a list of specimens collected on or near the Hanford Site, with the herbarium where each can be found.

There have been several changes in the herbarium designations used since the previous Hanford plant list was published (Sackschewsky et al. 1992). The herbarium that was previously housed at the ALE Headquarters and formerly designated as “PNL” is now housed at the WSU Tri-Cities campus and is designated as “PNNL-TC.” The herbarium formerly maintained by Westinghouse Hanford Company (WHC) is now maintained by PNNL, and is designated “PNNL.” Other herbariums where specimens are located include “WS” – the Marion Owenby Herbarium at Washington State University, Pullman, WA; “WTU” – University of Washington Herbarium, Seattle, WA; and “BRY” – Brigham Young University Herbarium, Provo, UT.

Aceraceae

- Acer saccharinum* L. silver maple
USDA Code: Acsa2 (Acsa) **lifeform:** tree **origin:** Introduced **duration:** perennial
Distribution/Notes: Introduced tree, persisting at Hanford townsite.
Collections: (BRY): Baird 1284; (PNNL): CZM 348

Aizoaceae (Molluginaceae)

- Mollugo verticillata* L. carpetweed
USDA Code: Move **lifeform:** forb **origin:** Introduced **duration:** annual
Distribution/Notes: Uncommon in wet ground along the Columbia River at 100-B Area and around buildings in north Richland.
Collections: (BRY): Baird 1345a; (PNNL): MRS 295

Alismataceae

- Alisma gramineum* Lej. narrow-leaf waterplantain
USDA Code: Algr **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Occasional in wetland areas, collected on the Wahluke Slope.
Collections: (PNNL): MRS 276

- Sagittaria cuneata* Sheldon wapato
USDA Code: Sacu **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Known from older specimens collected near Kennewick and reported by TNC along the Columbia River through Hanford and on ALE.
Collections: (WS): Jones 375; (WTU): Caplow & Beck 95121

Amaranthaceae

- Amaranthus albus* L. white pigweed
USDA Code: Amal (Amalb) **lifeform:** forb **origin:** Introduced **duration:** annual
Distribution/Notes: Introduced, widespread weed of disturbed areas, collected in Dry Creek Valley and at 100-H Area.
Collections: (BRY): Baird 1277, 1245; (WS): O'Farrell 72-246

- Amaranthus graecizans* L. prostrate pigweed
Amaranthus blitoides S. Wats.
USDA Code: Ambl **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Reported from central Hanford by TNC.
Collections: (WTU): Caplow & Beck 95049

Anacardiaceae

Rhus glabra L. smooth sumac
USDA Code: Rhgl **lifeform:** tree **origin:** Native **duration:** perennial
Distribution/Notes: Commonly scattered along waterways, occasionally planted and persisting, e.g., Snively Springs and south of the 300 Area.
Collections: (BRY): Baird 1138; (PNNL): CZM 441; (PNNL-TC): Warren 8-16-78; (WS): O'Farrell 72-251

Rhus radicans L. poison ivy
Toxicodendron rydbergii (Small ex. Rydb.) Greene
USDA Code: Tory (Rhra6) **lifeform:** vine **origin:** Native **duration:** perennial
Distribution/Notes: Common, widespread species, reported from ALE during the 1970s, but the O'Farrell specimen was not found at WSU, also reported by Mastrogioseppe and Gill (1983) from Priest Rapids area, but a specimen was not found at WSU.
Collections: (WS): O'Farrell 74-307

Apiaceae

Anthriscus scandicina (Weber ex. Wiggers) Mansf. bur chervil
Anthriscus caucalis Bieb.
USDA Code: Anca14 (Ansc) **lifeform:** forb **origin:** Introduced **duration:** annual
Distribution/Notes: Introduced weedy species, widespread in shady bottom land, collected along the Yakima River at Richland and reported by TNC on ALE.
Collections: (BRY): Baird 14

Berula erecta (Huds.) Coville cut-leaf water parsnip
USDA Code: Beer **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Reported by Mastrogioseppe and Gill (1983) from wet areas in the Priest Rapids region.
Collections: Mastrogioseppe 2592, 2643

Cicuta douglasii (DC.) Coult. & Rose western water hemlock
USDA Code: Cido **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Reported by Mastrogioseppe and Gill (1983) from wet areas in the Priest Rapids region. Also observed along Yakima River.
Collections: Mastrogioseppe 2425, 2641

Cymopterus terebinthinus (Hook.) Torr. & Gray turpentine springparsley
Pteryxia terebinthina (Hook.) Coult. & Rose var. *terebinthina*
USDA Code: Pttet (Cyte) **lifeform:** forb **origin:** Native **duration:** perennial

- Distribution/Notes:** Very common in sandy areas throughout Hanford.
- Collections:** (PNNL): MRS-51; P&R-55; JGL-1, 2, 3, 4, 5, 6; (BRY): Baird 26, 199, 539, 569, 649; (PNNL-TC): Davis 4-2-52; Rickard 4-16-86; (WS): O'Farrell 72-179, 71-180; St. John 8111, 8130
- Daucus carota* L.** Queen Anne's lace
- USDA Code: Daca4 (Daca)** **lifeform:** forb **origin:** Introduced **duration:** perennial
- Distribution/Notes:** Reported by Mastrogiuseppe and Gill (1983) from wet areas in the Priest Rapids region.
- Collections:** None Available
- Lilaeopsis occidentalis* Coult. & Rose** lilaeopsis
- USDA Code: Lioc** **lifeform:** forb **origin:** Native **duration:** perennial
- Distribution/Notes:** Scattered in mudflats along Columbia River.
- Collections:** (PNNL): GLF 170; (WTU): Caplow & Beck 94067
- Lomatium canbyi* (Coult. & Rose) Coult. & Rose** Canby's desertparsley
- USDA Code: Loca4 (Loca)** **lifeform:** forb **origin:** Native **duration:** perennial
- Distribution/Notes:** Local on dry, rocky areas on top of Rattlesnake and Umtanum ridges.
- Collections:** (PNNL): Baird-1553; (BRY): Baird 786; (PNNL-TC): Johnson & Rickard 4-22-56; (WS): O'Farrell 72-188; Cotton 567
- Lomatium dissectum* (Nutt.) Mathias & Constance** fernleaf desertparsley
- USDA Code: Lodi** **lifeform:** forb **origin:** Native **duration:** perennial
- Distribution/Notes:** Local on rocky north slopes and talus near the top of Rattlesnake Mountain.
- Collections:** (PNNL): Baird-789; (PNNL-TC): Woodley & Sauer 5-18-76; (WS): O'Farrell 71-45, 72-196; Cotton 332
- Lomatium geyeri* (S. Wats.) Coult. & Rose** Geyer's desertparsley
- USDA Code: Loge2 (Loge)** **lifeform:** forb **origin:** Native **duration:** perennial
- Distribution/Notes:** Local on loamy talus slopes of Umtanum Ridge.
- Collections:** (PNNL): Baird-1544; (BRY): Baird 635; (WTU): Caplow & Beck 95016
- Lomatium gormanii* (T.J. Hoell) Coult. & Rose** Gorman's desertparsley
- USDA Code: Logo** **lifeform:** forb **origin:** Native **duration:** perennial
- Distribution/Notes:** Scattered on loamy, often rocky areas, primarily on the slopes and top of Rattlesnake Mountain, but also collected on north slope of Gable Mountain. TNC also found this species at various locations on the North Slope and along the Columbia River.

Collections: (BRY): Baird 557, 584, 757, 785; (PNNL-TC): Sauer 4-9-76; Schlessmann 3-24-76; Schlessmann 3-29-76; Pendleton 3-11-59; (WS): St. John 8090; (WTU): Caplow & Beck 95007

Lomatium grayi (Coul. & Rose) Coul. & Rose Gray's desertparsley

USDA Code: Logr **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Very common and widespread throughout Hanford, especially in rocky-silty soils along moist or drying drainages and water courses, e.g., Rattlesnake Mountain, Snively Canyon, China Bar, and 100 Areas.

Collections: (PNNL): Baird-787; MRS-99; JGL-07; (BRY): Baird 604, 608, 712, 968; (PNNL-TC): Davis 4-2-52; Schlessmann 4-9-76; Sauer 5-30-75 #4, 6-17-75 #11, 4-12-78, 5-15-80; Rickard & Cline 5-1-70; McShane 4-29-79; (WS): O'Farrell 71-1; St. John 8118, Beattie 3960

Lomatium hambleniae Mathias & Constance Coeur d'Alene desertparsley

Lomatium farinosum (Hook.) Coul. & Rose var. *hambleniae* (Mathias & Constance)

USDA Code: Lofah (Loha) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Uncommon on Hanford, collected on ALE, and reported from the Wahluke Slope and the Priest Rapids vicinity.

Collections: (WS): O'Farrell 72-173, 72-177; (WTU): Caplow & Beck 94023

Lomatium macrocarpum (Nutt. Ex Torr. & Gray) bigseed desertparsley

USDA Code: Loma3 (Loma) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Common and widespread in a number of habitats, as on Rattlesnake and Gable mountains, the Central Plateau, and across the Wahluke Slope.

Collections: (PNNL): MRS-78; P&R-56; JGL-08; (BRY): Baird 550, 575, 622, 694, 784; (PNNL-TC): no name 4-11-73; (WS): O'Farrell 71-8, 72-178; Cotton 564, Beattie 3961

Lomatium triternatum (Pursh) Coul. & Rose nineleaf desertparsley

USDA Code: Lotr2 (Lotr) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Common and widespread in rocky-loamy soils on slopes of main hills and ridges in area, mostly with bunchgrasses, e.g., Rattlesnake Mountain, Snively Basin, and Umtanum Ridge.

Collections: (BRY): Baird 580, 641, 722, 754, 796; (PNNL-TC): Sauer 6-17-75 #12; Rickard & Cline 5-1-70; (WS): St. John 8082; O'Farrell 71-76, 74-298

Lomatium tuberosm Hoover Hoover's desertparsley

USDA Code: Lotu **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Washington State threatened species endemic on steep basalt talus slopes in the Umtanum Ridge/Priest Rapids area. Found on the extreme western edge of the Hanford Site.

Collections: (PNNL): Baird-1543, 1552, 1558; (PNNL-TC): Sauer 4-20-78; (WS): Mastrogiuseppe 3236, 3237

Perideridia gairdneri (Hook. & Arn.) Mathias Gairdner's yampah

USDA Code: Pega3 (Pega) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Collected at White Bluffs and in the Rattlesnake Hills. Not observed on or near Hanford Site since the early 20th century.

Collections: (WS): Lake & Hull 8-1-1892; Cotton 661

Apocynaceae

Apocynum cannabinum L. common dogbane

USDA Code: Apca **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Very common in wet areas along the Columbia River, around springs, and at Cold Creek.

Collections: (PNNL): MRS-161; CZM 387, 466; (BRY): Baird 1229, 1372; (PNNL-TC): Sauer & Durham 8-7-75 #16; (WS): O'Farrell 71-104

Apocynum sibiricum Jacq. Indian hemp

Apocynum cannabinum L.

USDA Code: ApcA (Apsi) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Collected at Rattlesnake Springs, now included within *A. cannabinum*.

Collections: (WS): O'Farrell 71-104

Asclepiadaceae

Asclepias fascicularis Dcne. narrow-leaved milkweed

USDA Code: Asfa **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Rare in our area; collected on Island 11 in the Columbia River.

Collections: (PNNL-TC): Sauer 6-6-80

Asclepias speciosa Torr. showy milkweed

USDA Code: Assp **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Local, often in moist disturbed areas near the Columbia River, the Hanford townsite, river islands, and ALE.

Collections: (BRY): Baird 1098; (PNNL-TC): Sauer & Durham 8-7-75 #10, (PNNL): CZM 394

Asteraceae

Achillea millefolium L. yarrow

USDA Code: Acmi **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Very common and widespread in a number of habitats, especially with sagebrush and bunchgrass.

- Collections:** (PNNL): P&R-38, PB-01; (BRY): Baird 20, 1050, 1144b, 1187; (PNNL-TC): Newsome & Sauer 9-27-77; Sauer 6-10-75 #11; Sauer 5-30-75 #10; Sauer & Durham 8-7-75 #3; no name 5-7-80; Rickard 5-22-86; (WS): O'Farrell 71-84
- Agoseris glauca*** (Pursh) Raf. pale mountain dandelion
USDA Code: Aggl **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Relatively uncommon, collected in dry sites in the 200 Areas.
Collections: (PNNL): P&R-37; CZM 362, JGL-09
- Agoseris grandiflora*** (Nutt.) Greene showy mountain dandelion
USDA Code: Aggr **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Occasional in moist soil, collected along the Columbia River at 100-K Area and on Rattlesnake Ridge in and above Snively Basin.
Collections: (PNNL): Baird-1130; (BRY): Baird 1202, 1304; (PNNL-TC): Uresk 5-29-73
- Agoseris heterophylla*** (Nutt.) Greene annual mountain dandelion
USDA Code: Aghe2 (Aghe) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Scattered throughout central Hanford and ALE, often in disturbed areas.
Collections: (BRY): Baird 973; (PNNL): MRS 214
- Ambrosia acanthicarpa*** Hook. bur ragweed
USDA Code: Amac2 (Amac) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Common, widespread native weed of disturbed sandy or gravelly areas.
Collections: (PNNL): P&R-15; JGL-10, 11; /RFG-01; /VAU-01; (BRY): Baird 1444; (PNNL-TC): Pendleton 9-16-58; Sauer & Newsome 9-27-77; (WS): O'Farrell 71-152; Cotton 630
- Anaphalis margaritacea*** (L.) Benth. pearly everlasting
USDA Code: Anma **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Introduced ornamental, persisting at Hanford townsite.
Collections: (PNNL-TC): Sauer & Newsome 9-27-77
- Antennaria dimorpha*** (Nutt.) Torr. & Gray low pussytoes
USDA Code: Andi2 (Andi) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Common on dry loamy slopes and stony areas on top of the main hills and ridges in the region; occasionally observed among sagebrush at lower elevations.
Collections: (PNNL): MRS 214; JGL-12; (BRY): Baird 551, 577, 643, 721; (PNNL-TC): Pendleton 4-10-59; Warren 4-18-78; (WS): O'Farrell 71-10, Langham 209; St. John 8085, 8099

Antennaria microphylla Rydb. rosy pussytoes
USDA Code: Anmi3 (Anmi) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Reported on the ALE Reserve by TNC.
Collections: (PNNL): Caplow & Beck 94038

Antennaria umbrinella Rydb. umber pussytoes
USDA Code: Anum **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Collected on northern slopes of Rattlesnake Hills; also observed by TNC.
Collections: (WS): Cotton 1280, 570

Arctium minus Bernh. burdock
USDA Code: Armi2 (Armi) **lifeform:** forb **origin:** Introduced **duration:** perennial
Distribution/Notes: Introduced weed of disturbed areas, collected at Snively Springs and reported on Wahluke Slope and along the Columbia River by TNC.
Collections: (WS): O'Farrell 72-241

Arnica sororia Greene twin arnica
USDA Code: Arso2 (Arso) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Reported by Mastrogiuseppe and Gill (1983) from wet areas in the Priest Rapids region.
Collections: Mastrogiuseppe 2422

Artemisia campestris L. Pacific sagebrush
 ssp. *borealis* (Pallas) Hall & Clements var. *scouleriana* (Hook.)
USDA Code: Arca12 (Arca) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Var. *scouleriana* - common along the Columbia River, primarily above the high water mark. Variety *wormskioldii* - very rare taxon known from near Beverly, WA; probably does not occur on the Hanford Site proper.
Collections: (PNNL): Baird-1432; MRS-179; JGL-13; GIB-40; (PNNL-TC): Warren 8-12-80; Sauer et al. 5-12-80

Artemisia douglasiana Bess. Douglas' sagebrush
USDA Code: Ardo3 (Ardo) **lifeform:** sub-shrub **origin:** Native **duration:** perennial
Distribution/Notes: Located in Cold Creek in the vicinity of gate 120.
Collections: (PNNL): MRS-8-1-97; (WTU): Caplow & Beck 94050

Artemisia dracunculus L. tarragon
USDA Code: Ardr4 (Ardr) **lifeform:** sub-shrub **origin:** Native **duration:** perennial
Distribution/Notes: Widespread, often of waste or disturbed places, observed along the Columbia River, scattered in the 100 Areas, within the former 1100 Area, and collected at Snively Springs.
Collections: (WS): O'Farrell 72-256

Artemisia lindleyana Bess Columbia River mugwort

USDA Code: Arli2 (Arli) **lifeform:** sub-shrub **origin:** Native **duration:** perennial

Distribution/Notes: State Watch List species scattered in moist ground along the shore of the Columbia River, e.g., 100-D Area and China Bar; can be confused with *A. ludoviciana*.

Collections: (PNNL-TC): Davis 9-28-51; Warren 8-5-80, 8-12-80; Sauer 5-1-80; (WTU): Caplow & Beck 95135, 95137

Artemisia ludoviciana Nutt. prairie sagebrush

USDA Code: Arlu **lifeform:** sub-shrub **origin:** Native **duration:** perennial

Distribution/Notes: Common and widespread in a variety of habitats, both dry and wet, but primarily along the shores of the Columbia River.

Collections: (PNNL): MRS-109, 114, 142, 167; GIB-41; (BRY): Baird 174, 1231, 1309, 1330, 1399, 1431; (PNNL-TC): Warren, 8-12-80, 8-5-80; Pendleton 8-25-59; Sauer & Durham 8-7-75 #19; Newsome & Sauer 9-27-77; no collector 5-7-80; Sauer et al. 5-12-80

Artemisia rigida (Nutt.) Gray stiff sagebrush

USDA Code: Arri2 (Arri) **lifeform:** shrub **origin:** Native **duration:** perennial

Distribution/Notes: Locally common on dry, rocky outcrops such as Gable Mountain, Gable Butte, and Umtanum Ridge.

Collections: (PNNL): JGL-14, 15, 16; (BRY): Baird 179; (PNNL-TC): Sauer & Thorp 4-22-77

Artemisia tridentata Nutt. big sagebrush

USDA Code: Artr2 (Artr) **lifeform:** shrub **origin:** Native **duration:** perennial

Distribution/Notes: Dominant shrub over most of the Hanford Site. On the Site, most are assignable to subspecies *wyomingensis*, but some (i.e., near Yakima River delta) are assignable to subspecies *tridentata*.

Collections: (PNNL): P&R-11; JGL-17, 18, 19; VAU-02; (BRY): Baird 1279, 1335, 1443; (WS): O'Farrell 71-171; (PNNL-TC): Sauer & Durham 8-7-75 #12; Sauer 8-5-74, 8-24-76

Artemisia tripartita Rydb. threetip sagebrush

USDA Code: Artr4 (Artrp) **lifeform:** shrub **origin:** Native **duration:** perennial

Distribution/Notes: Local on rocky loam; the dominant shrub at many locations along the upper slopes of Rattlesnake Ridge.

Collections: (PNNL): CZM 455; (BRY): Baird 1305; (WS): O'Farrell 73-275; (PNNL-TC): Pendleton 4-10-59

- Aster campestris*** Nutt. western meadow aster
Symphyotrichum campestre (Nutt.) Nesom var. *campestre*
USDA Code: Sycac (Ascam) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Scattered along the Columbia River in moist or wet ground, as at Hanford Slough and 100-D Area gravel bar.
Collections: (PNNL-TC): Warren & Sauer 10-6-80; Warren 8-12-80; Sauer & Durham 8-7-75 #15
- Aster frondosus*** (Nutt.) Torr. & Gray alkali aster
Symphyotrichum frondosum (Nutt.) Nesom
USDA Code: Syfr2 (Asfr) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Occasional in wet areas, collected at Hanford townsite, reported from Priest Rapids.
Collections: (PNNL-TC): Newsome & Sauer 9-29-77
- Aster hesperius*** Gray western marsh aster
Symphyotrichum lanceolatum (Willd.) Nesom ssp. *hesperium* (Gray) Nesom
USDA Code: Syla6 (Ashe) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Common in wet areas, especially along the Columbia River.
Collections: (PNNL): Baird-1320, 1392; MRS-182, 192; GIB-46; (BRY): Baird 1076, 1121, 1374; (PNNL-TC): Warren & Sauer 10-6-80; Warren no date
- Aster occidentalis*** (Nutt.) Torr. & Gray var. *intermedius* Gray western mountain aster
Symphyotrichum spathulatum (Lindl.) Nesom var. *intermedium* (Gray) Nesom
USDA Code: Syspi (Asoc) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Occasional near the Columbia River, as on slopes of Umtanum Ridge.
Collections: (PNNL-TC): Davis 10-18-51; Pendleton 9-10-58; (PNNL): MRS 257
- Aster pansus*** (Blake) Cronq. heath-leaved aster
Symphyotrichum ericoides (L.) Nesom var. *pansum* (Blake) Nesom
USDA Code: Syerp2 (Aspa) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Reported by Mastrogiuseppe and Gill (1983) from flood bars in the Priest Rapids region.
Collections: None Available
- Aster subspicatus*** Nees Douglas' aster
Symphyotrichum subspicatum (Nees) Nesom var. *subspicatum*
USDA Code: Sysu4 (Assub) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Local in waste areas, collected at Hanford townsite.
Collections: (PNNL-TC): Sauer & Newsome 9-29-77

- Balsamorhiza careyana*** Gray Carey's balsamroot
USDA Code: Baca **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Common and widespread in sandy and loamy areas throughout Hanford, often with sagebrush.
Collections: (PNNL): P&R-31; JGL-20, 21; RFG-02; (BRY): Baird 15, 540, 560, 623; (WS): O'Farrell 71-34; (PNNL-TC): Pendleton 4-17-59; Sauer 5-17-75; Davis 4-10-52
- Balsamorhiza hookeri*** (Hook.) Nutt. Hooker's balsamroot
USDA Code: Baho **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Local on steep rocky-loamy slopes of Umtanum Ridge.
Collections: (BRY): Baird 634; (PNNL-TC): unknown collector 4-2-80
- Balsamorhiza rosea*** A. Nels. & J.F. Macbr. rosy balsamroot
USDA Code: Baro2 (Baro) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: State Watch List species local in rocky areas, on tops of highest hills and ridges, such as Rattlesnake and Umtanum ridges, Badger Mountain, and Jump-off-Joe. Occasionally hybridizes with *B. careyana*.
Collections: (PNNL): Baird-763; (BRY): Baird 558, 578, 590, 784, 798; (WS): O'Farrell 71-16; (PNNL-TC): Johnson & Rickard 4-22-78; Pendleton 4-20-59; Sauer 5-17-76
- Bidens cernua*** L. nodding beggarticks
USDA Code: Bice **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Collected from wet areas along the Columbia River near Kennewick. Not reported from Hanford vicinity since the 1920s.
Collections: (WS): Jones 376
- Bidens frondosa*** L. leafy beggarticks
USDA Code: Bifr **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Widespread in wet areas, collected in 200 Area, reported along the Columbia River and on Wahluke Slope.
Collections: (PNNL): P&R-28; (PNNL-TC): Warren and Sauer 6-10-80
- Brickellia oblongifolia*** Nutt. thoroughwort
USDA Code: Brob **lifeform:** sub-shrub **origin:** Native **duration:** perennial
Distribution/Notes: Collected in rocky gulches in the Rattlesnake Hills, also recently observed in Pit 30 within the Central Plateau.
Collections: (WS): Cotton 710

- Centaurea diffusa* Lam. tumble knapweed
USDA Code: Cedi3 (Cedi) *lifeform:* forb *origin:* Introduced *duration:* perennial
Distribution/Notes: Introduced noxious weed of disturbed areas; widespread, especially along the Columbia River and the 100-F and 100-H Areas.
Collections: (PNNL): Baird-1209
- Centaurea maculosa* auct. Non Lam. spotted knapweed
Centaurea biebersteinii DC.
USDA Code: Cebi2 (Cema) *lifeform:* forb *origin:* Introduced *duration:* perennial
Distribution/Notes: Introduced noxious weed; observed near Energy Northwest and the Hanford townsite.
Collections: None Available
- Centaurea repens* L. Russian knapweed
Acroptilon repens (L.) DC.
USDA Code: Acre3 (Cere) *lifeform:* forb *origin:* Introduced *duration:* perennial
Distribution/Notes: Introduced noxious weed of disturbed areas; widespread, as at White Bluffs townsite, 100-F Area, McGee Ranch, and along Army Loop Road.
Collections: (PNNL): Baird-1208, DL 1; (BRY): Baird 198; (PNNL-TC): Sauer 6-5-80; Klepper & Sauer 6-26-74; Davis 5-18-52
- Centaurea solstitialis* L. yellow starthistle
USDA Code: Ces03 (Ceso) *lifeform:* forb *origin:* Introduced *duration:* annual
Distribution/Notes: Introduced noxious weed of disturbed areas; locally common, as at Hanford townsite.
Collections: (PNNL): GIB-01, 02, 03; CZM 390; (BRY): Baird 1268, 1282
- Chaenactis douglasii* (Hook.) Hook. & Arn. hoary falseyarrow
USDA Code: Chdo *lifeform:* forb *origin:* Native *duration:* perennial
Distribution/Notes: Common and widespread throughout the Hanford Site, often in sand.
Collections: (PNNL): Baird-875; MRS-119; P&R-70; JGL-22, 23, 24; (BRY): Baird 923, 932, 964, 982, 1042; (WS): O'Farrell 71-62; (PNNL-TC): Warren 5-22-80; Rickard & Cline 6-1-70; Sauer 6-26-74, 5-30-75 #15, 6-10-75 #3; Rickard 5-23-86
- Chondrilla juncea* L. rush skeletonweed
USDA Code: Chju *lifeform:* forb *origin:* Introduced *duration:* perennial
Distribution/Notes: Introduced noxious weed, primarily scattered throughout southern portions of the Hanford Site.
Collections: None Available

- Chrysopsis villosa* (Pursh) Nutt. Ex DC hairy golden-aster
Heterotheca villosa (Pursh) Shinners.
USDA Code: Hevi4 (Hevi) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Local in sandy-gravels along the Columbia River, as at White Bluffs and 100-H Area.
Collections: (PNNL): Baird-1087; MRS-156; GIB-45; (BRY): Baird 195, 204, 997; (PNNL-TC): Sauer 5-30-75 #23; Sauer & Durham 8-7-75 #2; Sauer 5-28-80; Fitzner 5-11-78; Sauer et al. 5-12-80; Hall 5-21-85
- Chrysothamnus nauseosus* (Pallas ex Pursh) Britt. gray rabbitbrush
 ssp. *albicaulis* (Nutt.) Hall & Clements
Ericameria nauseosa (Pallas ex Pursh) Nesom & Baird ssp. *nauseosa* var. *speciosa* (Nutt.)
USDA Code: Ernas2 (Chna) **lifeform:** shrub **origin:** Native **duration:** perennial
Distribution/Notes: Common shrub found throughout Hanford in a variety of habitats; dominates some disturbed areas.
Collections: (PNNL): P&R-24; JGL-25; VAU-03; (BRY): Baird 1434; (WS): O'Farrell 72-248; (PNNL-TC): Sauer & Newsome 9-27-77; Pendleton 10-3-58; Whittaker 10-1-52
- Chrysothamnus viscidiflorus* (Hook.) Nutt. green rabbitbrush
USDA Code: Chvi8 (Chvi) **lifeform:** shrub **origin:** Native **duration:** perennial
Distribution/Notes: Common shrub found throughout Hanford in a variety of habitats. Primarily var. *viscidiflorus*, but some plants on ALE appear to be var. *lanceolatus* (Nutt.) Hall & Clements.
Collections: (PNNL): P&R-17; JGL-26, 27; VAU-04, 05; (BRY): Baird 1302; (WS): O'Farrell 71-170; (PNNL-TC): Pendleton 10-3-58; Sauer 5-31-78, 9-27-77
- Cichorium intybus* L. chicory
USDA Code: Ciin **lifeform:** forb **origin:** Introduced **duration:** perennial
Distribution/Notes: Introduced weed; scattered along the Columbia River and at Snively Canyon Springs.
Collections: (PNNL): GIB-32; (WS): O'Farrell 72-255a; (PNNL-TC): Warren 8-16-78
- Cirsium arvense* (L.) Scop. Canada thistle
USDA Code: Ciar4 (Ciar) **lifeform:** forb **origin:** Introduced **duration:** perennial
Distribution/Notes: Introduced troublesome weed; widespread, mostly near water courses, as at Bobcat Springs, Cold Creek, and Hanford townsite.
Collections: (PNNL): Baird-1286; (BRY): Baird 1232, 1337; (WS): O'Farrell 72-234; (PNNL-TC): Warren 8-16-78

Cirsium undulatum (Nutt.) Spreng. wavyleaved thistle

USDA Code: Ciun **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Scattered in a variety of habitats on Hanford, e.g., Bobcat Canyon Spring, Priest Rapids, and White Bluffs townsite.

Collections: (BRY): Baird 1094, 1185; (PNNL-TC): Pendleton 6-19-59; Sauer & Durham 8-7-75 #6; Warren 8-16-78

Cirsium vulgare (Savi) Ten. bull thistle

USDA Code: Civu **lifeform:** forb **origin:** Introduced **duration:** perennial

Distribution/Notes: Introduced weed, scattered in disturbed sites, near the Columbia River, Cold Creek Valley, and north Richland.

Collections: (PNNL): CZM 400; (BRY): Baird 1241; (WS): O'Farrell 72-235; (PNNL-TC): Davis 7-20-52

Conyza canadensis (L.) Cronq. horseweed

USDA Code: Coca5 (Coca) **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Common weed of moist sites, widespread including along the Columbia River, White Bluffs townsite, West Lake, and Wahluke Slope.

Collections: (PNNL): MRS 291; P&R-20; VAU-06; (BRY): Baird 1430, 1437; (WS): O'Farrell 72-245

Coreopsis atkinsoniana Dougl. Ex Lindl. Columbia tickseed

Coreopsis tinctoria Nutt. var. *atkinsoniana* (Dougl. Ex Lindl.) H.M. Parker ex E.B. Sm.

USDA Code: Cotia (Coat) **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Common along the shores of the Columbia River, mostly below high water mark.

Collections: (PNNL): MRS-154; GIB-04, 05; (BRY): Baird 166, 192, 1079, 1181, 1207, 1395; (PNNL-TC): Warren & Sauer 10-6-80; Newsome and Sauer 9-27-77; Sauer and Durham 8-7-75 #20; Sauer & Owzarski 5-15-80

Crepis atrabarba Heller slender hawksbeard

Crepis atribarba Heller ssp. *originalis* (Babcock & Stebbins) Babcock & Stebbins

USDA Code: Crato (Crat) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Scattered but common in sagebrush communities in sandy and silty soils.

Collections: (PNNL): MRS-71, 248; P&R-63; CZM 358; JGL-28; (BRY): Baird 838, 905, 1060; (WS): O'Farrell 71-106; (PNNL-TC): Rogers & DW Uresk 5-31-73; Rickard & Cline no date; Rickard & Fitzner 5-22-86

*Crepis barbiger*a Leib. Ex Coville Leiberg's hawksbeard

Crepis atribarba Heller ssp. *originalis* (Babcock & Stebbins) Babcock & Stebbins

USDA Code: Crato (Crba) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Local, collected on Rattlesnake Ridge within snow patch vegetation. This taxon is now included within *C. atribarba* ssp. *originalis*.

Collections: (PNNL-TC): D. Watson 6-10-59; (WS): Daubenmire 59156

***Crepis intermedia* Gray** Gray's hawksbeard

USDA Code: Crin4 (Crpin) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Local, collected on the White Bluffs.

Collections: (BRY): Baird 699

***Crepis modocensis* Greene** low hawksbeard

Crepis modocensis Greene ssp. *rostrata* (Coville) Babcock & Stebbins

USDA Code: Crmor (Crmo) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Local in rocky areas on top of main hills and ridges in the area.

Collections: (BRY): Baird 555; (WS): O'Farrell 71-79, 72-215

***Crepis occidentalis* Nutt. ssp. *conjuncta* (Jepson)** western hawksbeard

USDA Code: Crocc (Croc) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Local; collected on top of Rattlesnake Ridge; reported on lithosols in the Priest Rapids vicinity.

Collections: (PNNL-TC): Sauer 6-10-75 #12

***Crepis runcinata* (James) Torr. & Gray** dandelion hawksbeard

ssp. *hispidulosa* (T.J. Howell ex Rydb.) Babcock & Stebbins

USDA Code: Crruh2 (Crru) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Reported from wet areas in the Priest Rapids vicinity by Mastroguseppe and Gill (1983).

Collections: Mastroguseppe 2450

***Crocidium multicaule* Hook.** spring gold

USDA Code: Crmu **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Occasional along the Columbia River, possibly collected on Hanford but no location given on specimen label (other specimens at PNNL-TC are from Umatilla, OR).

Collections: (PNNL-TC): no collector 5-80

***Eatonella nivea* (D.C. Eat.) Gray** white eatonella

USDA Code: Eani **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Washington State threatened species; local on steep, sandy slopes near Vernita Bridge.

Collections: (WTU): Caplow & Beck 95036

Erigeron annuus (L.) Pers. daisy fleabane

USDA Code: Eran **lifeform:** forb **origin:** Introduced **duration:** annual

Distribution/Notes: Uncommon; found along the Columbia River, collected near Coyote Rapids.

Collections: (PNNL): MRS-313

Erigeron corymbosus Nutt. longleaf fleabane

USDA Code: Erco5 (Ercor) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Local on upper slopes of Rattlesnake Ridge.

Collections: (PNNL-TC): Thorp 7-13-76; (WS): O'Farrell 71-140; Cotton 689; (WTU): Caplow & Beck 95061

Erigeron divergens Torr. & Gray diffuse fleabane

USDA Code: Erdi4 (Erdi) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Scattered along the shore of the Columbia River, as at Vernita and 100-F Area, also collected in Snively Canyon.

Collections: (PNNL): Baird-1120, CZM 665; (BRY): Baird 168

Erigeron filifolius (Hook.) Nutt. threadleaf fleabane

USDA Code: Erfi2 (Erfi) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Common, widespread, mostly with sagebrush and bunchgrass, throughout the Hanford Site.

Collections: (PNNL): Baird-889, 921; MRS-73, 77, 130; P&R-65; PB-02; /VAU-07; /GIB-06; (BRY): Baird 930, 953, 965, 1045, 1113; (WS): O'Farrell 71-64; Cotton 363, 701; (PNNL-TC): Sauer 5-16-75 #5; Rickard & Cline 6-1-70; unknown collector 5-31-73; Rickard 5-22-86

Erigeron linearis (Hook.) Piper desert yellowdaisy

USDA Code: Erli **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Scattered throughout Hanford, as along Cold Creek, on the White Bluffs, along the Columbia River near Vernita, and near top of Rattlesnake Ridge.

Collections: (PNNL): Baird-884, 976; MRS-134; CZM 340, 666; JGL-29; (BRY): Baird 159, 773, 1046, 1295; (WS): O'Farrell 71-110; Lake & Hull 8-9-1892; (PNNL-TC): Sauer 6-10-75 #6, #28

Erigeron piperianus Cronq. Piper's daisy

USDA Code: Erpi3 (Erpi) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Scattered throughout Hanford, collected at 100-H Area, Horn Rapids, and the 200 Areas; Washington State sensitive species, but quite common among bunchgrass along the lower to middle slopes of Rattlesnake Ridge.

Collections: (PNNL): MRS-128, 129; CZM 320; JGL-30; (BRY): Baird 143, 725, 728, 996; (WS): O'Farrell 71-145, 74-296; (PNNL-TC): Warren 5-3-79; Sauer 5-16-75; (WTU): Caplow & Beck 94029

Erigeron poliospermus Gray cushion fleabane

USDA Code: Erpo2 (Erpo) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Common and widespread, often on gravelly substrates, from hilltops to the Columbia River.

Collections: (PNNL): MRS-21, 107, 153; /JGL-31, 32; (BRY): Baird 45, 548, 589, 615, 705, 716, 954, 972, 1043, 1196; (WS): O'Farrell 71-80; Cotton 331; (PNNL-TC): Sauer 6-10-75 #2, #22, 4-12-78; Pendleton 4-21-59; Davis 4-15-53; Gano 5-1-79

Erigeron pumilus Nutt. shaggy fleabane

USDA Code: Erpu2 (Erpu) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Common and widespread, mostly with sagebrush-bunchgrass, throughout Hanford.

Collections: (PNNL): Baird-995; CZM 664; MRS-53, 74; /VAU-08; P&R-75; (BRY): Baird 841, 874, 966, 971, 988, 1047, 1160; (PNNL-TC): Sauer 6-16-75; no collector 5-7-80

Eriophyllum lanatum (Pursh) Forbes var. *integrifolium* (Hook.) Smiley woolly sunflower

USDA Code: Erlai (Erla) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Local in rocky-silty sites in drainages of Rattlesnake Ridge, Snively Basin, and at Priest Rapids.

Collections: (BRY): Baird 601, 769, 860; (WS): O'Farrell 71-109, 74-299; Cotton 405; Bennett no #; (PNNL): Pendleton 6-19-59; Davis 5-6-53; Rickard & Cline 5-1-70; Rotenberry 5-29-75 #4; Warren 5-31-78

Filago arvensis L. field fluffweed

Logfia arvensis (L.) Holub

USDA Code: Loar5 (Fiar) **lifeform:** forb **origin:** Introduced **duration:** annual

Distribution/Notes: Introduced weed. Uncommon on Hanford; collected on lower slopes of Umtanum Ridge and at the Basalt Waste Isolation Project borehole site, west of the 200 West Area.

Collections: (BRY): Baird 177, 1269

Gaillardia aristata Pursh blanket flower

USDA Code: Gaar **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Common among cobbles all along the Columbia River.

Collections: (PNNL): MRS-93, 208; CZM 354; (BRY): Baird 153, 709, 886, 999, 1008, 1077, 1394; (PNNL-TC): Sauer 5-30-75 #1, #11; Pendleton 9-10-58; Davis 5-11-53; Sauer 8-7-75 #18; Warren 5-80; Sauer & Owzarski 5-15-80; Warren 5-6-80; (WS): Beattie 3959

- Gaillardia X grandiflora*** Van Houtte Indian blanket flower
USDA Code: Gagr **lifeform:** forb **origin:** Introduced **duration:** perennial
Distribution/Notes: Hybrid garden plant; escaped and persisting along Horn Rapids Road.
Collections: (BRY): Baird 170, 1129
- Gnaphalium chilense*** Spreng. cottonbatting cudweed
Pseudognaphalium stramineum (Kunth) W.A. Weber
USDA Code: Psst7 (Gnch) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Scattered in wet areas near the Columbia River and at West Lake, ALE, and Wahluke Slope.
Collections: (PNNL): Baird-1357; P&R-21, 29; GIB-07, 08; (BRY): Baird 1411, 1436; (WS): O'Farrell 72-239; (PNNL-TC): Warren 8-12-80
- Gnaphalium microcephalum*** Nutt. var. ***thermale*** (E. Nels.) Kartesz slender cudweed
Pseudognaphalium canescens (DC.) W.A. Weber ssp. ***thermale*** (E. Nels.) Kartesz
USDA Code: Pscat (Gnmi) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Reported from wet areas near Priest Rapids by Mastrogiuseppe and Gill (1983).
Collections: Mastrogiuseppe 2680
- Gnaphalium palustre*** Nutt. lowland cudweed
USDA Code: Gnpa **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Common on wet gravel-bars along Columbia River, as at 100-B, 100-H, and 100-K Areas and other moist areas.
Collections: (PNNL): MRS-178; GIB-57; (BRY): Baird 175, 959, 1314, 1347, 1375; (PNNL-TC): Warren & Sauer 10-6-80
- Grindelia columbiana*** (Piper) Rydb. Columbia River gumweed
USDA Code: Grco **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Widespread, mostly along the Columbia River but occasional in drier disturbed areas, e.g., 100-D and 100-H Areas, White Bluffs townsite, and 200 East Area.
Collections: (PNNL): JGL-33; (BRY): Baird 1377, 1397, 1433; (PNNL-TC): Sauer 6-6-80; (WS): Lake & Hull 8-11-1892
- Haplopappus resinosus*** (Nutt.) Gray Columbia goldenweed
Ericameria resinosa Nutt.
USDA Code: Erre8 (Hare) **lifeform:** sub-shrub **origin:** Native **duration:** perennial
Distribution/Notes: Local on basalt cliffs and talus slopes of Umtanum Ridge.
Collections: (BRY): Baird 178

Haplopappus stenophyllus Gray narrowleaf goldenweed
Stenotus stenophyllus (Gray) Greene

USDA Code: Stst5 (Hast) **lifeform:** sub-shrub **origin:** Native **duration:** perennial

Distribution/Notes: Common in rocky areas on the tops of main hills and ridges.

Collections: (BRY): Baird 720, 750, 765, 772; (WS): O'Farrell 71-53; Bennett 36; Cotton 346; (PNNL-TC): Johnson & Rickard 4-22-66; Sauer 6-10-75 #10; Warren 4-18-78; Gano 5-1-79

Helenium autumnale L. sneezeweed

USDA Code: Heau **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Common in wet areas long the Columbia River, as at 100-D, 100-B, and 100-H Areas.

Collections: (PNNL): MRS-185, 191; GIB-33; (BRY): Baird 1324, 1393; (PNNL-TC): Warren & Sauer no date; Newsome & Sauer; unknown collector 9-10-58

Helianthus annuus L. common sunflower

USDA Code: Hean3 (Hean) **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Widespread in disturbed sites, mostly along the Columbia River or near roads, as White Bluffs townsite.

Collections: (PNNL): VAU-9; (BRY): Baird 1312

Helianthus cusickii Gray Cusick's sunflower

USDA Code: Hecu2 (Hecus) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Common in silty soil at middle elevations of Rattlesnake Mountain, and along the Cold Creek drainage and McGee Ranch areas; scattered elsewhere, as on the White Bluffs.

Collections: (PNNL): Baird-970; MRS-152; JGL-34, 35; (BRY): Baird 700, 726, 800; (PNNL-TC): Sauer 6-21-74; Warren 5-22-80; Sauer 6-5-80; no collector 5-79; (WS): O'Farrell 71-60; (WTU): Caplow & Beck 94021, 97037

Hieracium cynoglossoides Arv.-Touv. houndstongue hawkweed

USDA Code: Hicy **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Collected in early 1900s on steep north slope of Rattlesnake Hills; elevation 3,500 feet, also observed on ALE by TNC.

Collections: (WS): Cotton 677

Hymenopappus filifolius Hook. Columbia cutleaf

USDA Code: Hyfi **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Common in sandy areas and dunes, as along Army Loop Road, the 300 Area, and White Bluffs townsite.

Collections: (PNNL): CZM 406A; JGL-36, 37; (BRY): Baird 818, 1092; (WS): O'Farrell 73-264; (PNNL-TC): Klepper & Sauer 6-21-74; Davis 5-21-53; Pendleton 10-3-58; Davis 5-23-53; Pendleton 6-18-54; Sauer 6-10-75 #4; Sauer & Owzarski 5-15-80

Iva axillaris Pursh poverty weed
USDA Code: Ivax **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Collected along Highway 24 north of the Yakima barricade.
Collections: (PNNL): MRS 7-25-00

Iva xanthifolia Nutt sumpweed
USDA Code: Ivxa **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Collected in Snively Canyon.
Collections: (PNNL): CZM 443; (WS): O'Farrell 72-252

Lactuca serriola L. prickly lettuce
USDA Code: Lase **lifeform:** forb **origin:** Introduced **duration:** annual
Distribution/Notes: Introduced; common, widespread, and sometimes troublesome weed of disturbed areas throughout the Hanford Site.
Collections: (PNNL): JGL-38; VAU-10, 11; (BRY): Baird 1416; (PNNL-TC): Rickard & Cline 9-4-70; Warren 8-16-78; Rickard 7-17-86

Lagophylla ramosissima Nutt. rabbitleaf
USDA Code: Lara **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Uncommon; widely scattered in uplands, 100 and 200 Areas.
Collections: (PNNL): MRS 321

Layia glandulosa (Hook.) Hook. & Arn. white-daisy tidytips
USDA Code: Lag15 (Lagl) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Relatively common in sandy areas, throughout central and southern Hanford.
Collections: (PNNL): MRS-43; P&R-34; JGL-39; /RFG-03, 04; (BRY): Baird 707; (WS): O'Farrell 74-286; (PNNL-TC): Warren 4-14-78; Warren & Sauer 10-6-80; Anderson 4-20-85; Sauer & Owzarski 5-15-80

Machaeranthera canescens (Pursh) Gray hoary aster
USDA Code: Maca2 (Maca) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Widespread in both natural and disturbed places, mainly in sandy soil, throughout Hanford.
Collections: (PNNL): MRS-145; P&R-13; JGL-40; /RFG-05; (WS): O'Farrell 71-151; (PNNL-TC): Combs 8-1-75 #1; Sauer & Newsome 9-27-77; Pendleton 10-3-58; Davis 10-1-52; Anderson 25-85; Rickard 7-17-86; Combs 8-1-75

- Madia exigua* (Sm.) Gray little tarweed
USDA Code: Maex **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Collected at crest of Rattlesnake Mountain.
Collections: (WS): O'Farrell 72-229
- Matricaria chamomilla* L. 1755 & 1763, non 1753 wild chamomile
Matricaria recutita L.
USDA Code: Mare6 (Mach) **lifeform:** forb **origin:** Introduced **duration:** annual
Distribution/Notes: Introduced and uncommon; collected at Bennett Spring.
Collections: (BRY): Baird 1340
- Matricaria matricarioides* auct. Non (Less.) Porter pineapple weed
Matricaria discoidea DC.
USDA Code: Madi6 (Mama) **lifeform:** forb **origin:** Introduced **duration:** annual
Distribution/Notes: Introduced weed; collected at waste places near the Columbia River at Richland.
Collections: (BRY): Baird 674
- Microseris troximoides* Gray false mountain dandelion
Nothocalais troximoides (Gray) Greene
USDA Code: Notr2 (Mitr) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Rocky areas on Rattlesnake Ridge, Umtanum Ridge, and Wahluke Slope.
Collections: (PNNL): MRS 196; (BRY): Baird 556, 616, 761; (WS): O'Farrell 72-197; Cotton 323; (PNNL-TC): Pendleton 4-17-59
- Onopordum acanthium* L. Scotch thistle
USDA Code: Onac **lifeform:** forb **origin:** Introduced **duration:** perennial
Distribution/Notes: Very large species of thistle observed near south gate of 300 Area.
Collections: None Available
- Senecio hydrophilus* Nutt. alkali-marsh groundsel
USDA Code: Sehy2 (Sehy) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Collected in wet areas along the Columbia River at Kennewick and on ALE.
Collections: (WS): O'Farrell 71-72; Jones 371
- Senecio integerrimus* Nutt. var. *exaltatus* (Nutt.) Cronq. lambstongue groundsel
USDA Code: Sein2 (Sein) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Local in bunchgrass areas on upper slopes and top of Rattlesnake Ridge and in washes near Priest Rapids.
Collections: (BRY): Baird 777; (PNNL-TC): Sauer 6-10-75 #9

- Senecio pauperculus*** Michx. balsam groundsel
Packera paupercula (Michx.) A. & D. Löve
USDA Code: Papa20 (Sepa) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Occasional along the shore of the Columbia River, such as at Vernita and White Bluffs townsite.
Collections: (BRY): Baird 880, 1007; (WS): Beattie 3963; (PNNL-TC): Sauer 5-15-80; no collector 5-7-80
- Senecio serra*** Hook. butterweed groundsel
USDA Code: Sese2 (Sese) **lifeform:** forb **origin:** Introduced **duration:** annual
Distribution/Notes: Collected on north slopes of Rattlesnake Hills. Not observed in Hanford vicinity since the early 20th century.
Collections: (WS): Cotton 675
- Senecio vulgaris*** L. common groundsel
USDA Code: Sevu **lifeform:** forb **origin:** Introduced **duration:** annual
Distribution/Notes: Widespread garden/lawn weed reported along the Columbia River.
Collections: None Available
- Solidago canadensis*** L. meadow goldenrod
 var. *salebrosa* (Piper) M.E. Jones & var. *gilvocanescens* Rydb.
USDA Code: Soca6 (Soca) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Local in wet areas; collected along the stream at Rattlesnake Springs. Mastrogiuseppe and Gill (1983) reported two varieties in the Priest Rapids vicinity.
Collections: (PNNL): MRS 183; (BRY): Baird 1358
- Solidago gigantea*** Ait. smooth goldenrod
USDA Code: Sogi **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Local in wet areas; collected south of Hanford townsite.
Collections: (PNNL-TC): Pendleton 10-7-58
- Solidago graminifolia*** (L.) Salisb. bushy goldenrod
Euthamia graminifolia (L.) Greene var. *graminifolia*
USDA Code: Eugr5(Sogr) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Scattered in wet areas, as at 100-D Area gravel bar and Hanford slough.
Collections: (PNNL): MRS 310; (PNNL-TC): Warren & Sauer 10-6-80
- Solidago missouriensis*** Nutt. Missouri goldenrod
USDA Code: Somi2 (Somi) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Scattered in wet areas, as at 100-F Area gravel bar and streams in the Rattlesnake Hills.
Collections: (WS): Cotton 480; St. John 8091; (PNNL-TC): Warren no date

- Solidago occidentalis*** (Nutt.) Torr. & Gray western goldenrod
Euthamia occidentalis Nutt.
- USDA Code: Euoc4 (Sooc)** **lifeform:** forb **origin:** Native **duration:** perennial
- Distribution/Notes:** Common in wet or moist areas, as at Hanford slough, Hanford townsite, and Snively Springs.
- Collections:** (PNNL): MRS-190; GIB-47; (BRY): Baird 1400; (WS): O'Farrell 71-156; (PNNL-TC): Warren 8-12-80; Newsome & Sauer 9-27-77; Warren 8-16-78
-
- Sonchus asper*** (L.) Hill prickly sowthistle
- USDA Code: Soas** **lifeform:** forb **origin:** Introduced **duration:** annual
- Distribution/Notes:** Introduced weed of wet or moist areas; collected at Rattlesnake Springs; reported from ALE and Wahluke Slope.
- Collections:** (WS): O'Farrell 71-236, 71-238
-
- Sonchus oleraceus*** L. common sowthistle
- USDA Code: Sool** **lifeform:** forb **origin:** Introduced **duration:** annual
- Distribution/Notes:** Local on disturbed sites; collected in North Richland.
- Collections:** (PNNL): MRS-224
-
- Sonchus uliginosus*** Bieb. marsh sowthistle
Sonchus arvensis L. ssp. *uliginosus* (Bieb.) Nyman
- USDA Code: Soaru (Soul)** **lifeform:** forb **origin:** Introduced **duration:** perennial
- Distribution/Notes:** Introduced weed of wet or moist areas; collected in 200 Areas ditches, West Lake, and north Richland.
- Collections:** (PNNL): MRS 324; GIB-34; (BRY): Baird 1199
-
- Stephanomeria paniculata*** Nutt. stiff wirelettuce
- USDA Code: Stpa2 (Stpan)** **lifeform:** forb **origin:** Native **duration:** annual
- Distribution/Notes:** Scattered in dry areas, mostly where sandy, e.g., Dry Creek Valley, 200 Areas, and Basalt Waste Isolation Project borehole site; reported from flood bars near Priest Rapids.
- Collections:** (PNNL): unknown collector; (BRY): Baird 1218, 1243, 1270; (WS): Lake & Hull 690
-
- Stephanomeria tenuifolia*** (Raf.) Hall bush wirelettuce
Stephanomeria minor (Hook.) Nutt.
- USDA Code: Stmi13 (Stte)** **lifeform:** sub-shrub **origin:** Native **duration:** perennial
- Distribution/Notes:** Scattered in loamy or silty soils on slopes of Rattlesnake and Umtanum ridges, Gable Mountain, and along Cold Creek.
- Collections:** (PNNL): GIB-09, 10; (BRY): Baird 165, 201, 1233, 1240, 1306, 1336; (WS): O'Farrell 71-143; Lake & Hull 812

Taraxacum officinale G.H. Weber ex Wiggers dandelion

USDA Code: Taof **lifeform:** forb **origin:** Introduced **duration:** perennial

Distribution/Notes: Introduced ubiquitous weed of many habitats, primarily moist areas.

Collections: (PNNL): P&R-45; (WS): O'Farrell 72-181; St. John 8127; (PNNL-TC): Rickard & Cline 5-1-70; Rickard 4-16-86

Tetradymia canescens DC. gray horsebrush

USDA Code: Teca2 (Teca) **lifeform:** shrub **origin:** Native **duration:** perennial

Distribution/Notes: Locally dominant shrub of sagebrush-bunchgrass areas on and near the top of Rattlesnake Ridge.

Collections: (PNNL): CZM 454; (BRY): Baird 1299, 1333; (WS): O'Farrell 72-141, 74-308; Cotton 695; (PNNL-TC): Pendleton 6-19-59

Townsendia florifer (Hook.) Gray showy Townsend-daisy

Townsendia florifera (Hook.) Gray

USDA Code: Tofl2 (Tofl) **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Common and widespread in sandy-gravelly areas, as at the bergmounds near the Yakima barricade, the west end of Gable Mountain, and south of the Hanford townsite.

Collections: (PNNL): MRS-40, 80, 219; P&R-50; GIB-11; /JGL-41; (BRY): Baird 44, 600, 828, 931, 952, 1044, 1108; (WS): O'Farrell 71-43; Beattie 3955; Bennett 44; (PNNL-TC): Whittaker 5-6-52; Sauer 6-16-75 #3

Tragopogon dubius Scop. yellow salsify

USDA Code: Trdu **lifeform:** forb **origin:** Introduced **duration:** annual

Distribution/Notes: Introduced, common and widespread weed, especially in disturbed areas, throughout Hanford.

Collections: (PNNL): JGL-42, 43, 44; VAU-12; (BRY): Baird 906; (PNNL-TC): Sauer 4-12-78; Rickard & Fitzner 5-22-86

Xanthium strumarium L. cocklebur

USDA Code: Xast **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Widespread weed of disturbed areas, especially near the Columbia River, i.e., near 100-D Area.

Collections: (PNNL): GIB-11a; (BRY): Baird 1396; (WS): O'Farrell 71-163; (PNNL-TC): Warren & Sauer 10-6-80; Sauer & Durham 8-7-75 #7

Betulaceae

Betula occidentalis Hook. red birch

USDA Code: Beoc2 (Beoc) **lifeform:** tree **origin:** Native **duration:** perennial

Distribution/Notes: Reported by Mastrogiuseppe and Gill (1983) in washes and other wetter areas in the Priest Rapids vicinity.

Collections: Mastrogiuseppe 2134

Bignoniaceae

- Catalpa bignonioides* Walt. catalpa
USDA Code: Cabi8 (Cabi) **lifeform:** tree **origin:** Introduced **duration:** perennial
Distribution/Notes: Introduced ornamental tree, persisting on the floodplain at White Bluffs
townsite and near the Columbia River north of Ringold.
Collections: (BRY): Baird 1266; (PNNL): CZM 375

Boraginaceae

- Amsinckia intermedia* Fisch. & C.A. Mey. ranchers fiddleneck
Amsinckia menziesii (Lehm.) A. Nels. & J.F. Macbr. var. *intermedia* (Fisch & C.A. Mey.)
USDA Code: Ammei2 (Amin) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Reported by Mastrogioseppe and Gill (1983) near Priest Rapids.
Collections: Mastrogioseppe 1340
- Amsinckia lycopsoidea* Lehm. fiddleneck
USDA Code: Amly **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Common, widespread weed, often in disturbed areas, throughout Hanford.
Collections: (PNNL): Baird-1086; MRS-26; (BRY): Baird 527, 581, 811, 993;
(PNNL-TC): Sauer 4-12-78; Pendleton, 4-21-59; McShane 4-30-79;
Gano 5-2-79
- Amsinckia retrorsa* Suksdorf rigid fiddleneck
Amsinckia menziesii (Lehm.) A. Nels. & J.F. Macbr. var. *menziesii*
USDA Code: Amme (Amre) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Reported by Mastrogioseppe and Gill (1983) near Priest Rapids.
Collections: Mastrogioseppe 2375
- Amsinckia tessellata* Gray devil's lettuce
USDA Code: Amte3 (Amte) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Common, widespread weed, often in disturbed areas, throughout Hanford.
Collections: (PNNL): MRS-34; P&R-76; JGL-45, 46; (BRY): Baird 2, 535, 693, 945,
1051, 1156; (WS): O'Farrell 71-23; (PNNL-TC): no collector 5-10-73;
Rogers 5-6-75
- Asperugo procumbens* L. catchweed
USDA Code: Aspr **lifeform:** forb **origin:** Introduced **duration:** annual
Distribution/Notes: Reported by Mastrogioseppe and Gill (1983) from wet areas in the Priest
Rapids vicinity.
Collections: Mastrogioseppe 2402

- Coldenia nuttallii* Hook. desert mat
Tiquilia nuttallii (Hook.) A. Richards.
USDA Code: Tinu2 (Conu) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Scattered in sandy areas near Gable Mountain, 200 West Area, and Army Loop Road.
Collections: (PNNL): CZM-645; Baird-1064; MRS-151; JGL-47; (BRY): Baird 1069, 1274; (PNNL-TC): Sauer 5-13-77; Pendleton 8-29-59
- Cryptantha ambigua* (Gray) Greene obscure cryptantha
USDA Code: Cram3 (Cram) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Uncommon; collected in sagebrush area along Route 11-A and in Rattlesnake Hills.
Collections: (PNNL): MRS-72, 236; (WS): Griffiths & Cotton 24
- Cryptantha circumscissa* (Hook. & Arn.) I.M. Johnston matted cryptantha
USDA Code: Crci2 (Crci) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Common and widespread on sand with sagebrush and in dune areas.
Collections: (PNNL): MRS-48; P&R-51; VAU-13; /JGL-48, 49, 50; (BRY): Baird 141, 328, 804, 989, 1063, 1071; (WS): O'Farrell 71-56; (PNNL-TC): Rickard 5-20-86
- Cryptantha fendleri* (Gray) Greene Fendler's cryptantha
USDA Code: Crfe3 (Crfe) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Widespread, although relatively uncommon in sandy areas, as at the 200 and 300 Areas and Hanford townsite.
Collections: (PNNL): Baird-1139; MRS-64, 223, 237; VAU-14; /GIB-12, 13; /JGL-51, 52; (BRY): Baird 975; (PNNL-TC): Thorpe 6-5-75; Whittaker 4-29-52; Warren & Hinds 5-20-80; (WTU): Caplow & Beck 95070, 97034
- Cryptantha flaccida* (Dougl. Ex Lehm.) Greene weak-stemmed cryptantha
USDA Code: Crfl4 (Crfl) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Reported by TNC on ALE and central Hanford.
Collections: (WTU): Caplow & Beck 94025, 95032
- Cryptantha interrupta* (Greene) Payson bristly cryptantha
USDA Code: Crin4 (Cryin) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Local on the White Bluffs and reported from the Rattlesnake Hills. These specimens are probably assignable to *C. spiculifera*.
Collections: (BRY): Baird 148; (WS): Cotton 359

Cryptantha leuophaea (Dougl. Ex Lehm.) Payson gray cryptantha

USDA Code: Crle6 (Crle) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Locally common on open sand and sand dunes, as south of the Hanford townsite. Washington State sensitive species.

Collections: (PNNL): Baird-898, 1106; MRS-32, 144; ARJ-01; (BRY): Baird 35; (PNNL-TC): Sauer 5-13-77; Warren & McShane 5-12-80; (WTU): Caplow & Beck 94031

Cryptantha pterocarya (Torr.) Greene winged cryptantha

USDA Code: Crpt **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Common and widespread, especially on sand and sandy areas.

Collections: (PNNL): CZM 648; MRS-29, 55, 69; P&R-47; JGL-53, 54, 55; (BRY): Baird 32, 526, 545, 592, 702, 725a, 833, 1110; (WS): O'Farrell 71-24, 71-58; (PNNL-TC): Sauer 4-26-76; Whitaker 4-29-52; Rickard 5-20-86

Cryptantha scoparia A. Nels. desert cryptantha

USDA Code: Crsc2 (Crsc) **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Reported from ALE by TNC. This species is on the 1997 Washington State Review 1 list.

Collections: (WTU): Caplow & Beck 95010

Cryptantha spiculifera (Piper) Payson Snake River cryptantha

USDA Code: Crsp4 (Crsp) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Due to taxonomic revisions, previous reports of *C. interrupta* on the Hanford Site probably refer to this species; the true *C. interrupta* occurs in northeast Nevada and adjacent Idaho. Local on the White Bluffs; reported from Rattlesnake Hills. Washington State sensitive species.

Collections: (BRY): Baird 148; (WS): Cotton 359; (WTU): Caplow & Beck 94027, 94071, 94072

Cryptantha torreyana (Gray) Greene Torrey's cryptantha

USDA Code: Crto4 (Crto) **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Reported from ALE by TNC.

Collections: (WTU): Caplow & Beck 94033, 94044

Hackelia arida (Piper) I.M. Johnston sagebrush stickseed

Hackelia diffusa (Lehm.) I.M. Johnston var. *arida* (Piper) R.L. Carr

USDA Code: Hadia (Haar) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Rocky-gravelly areas on north side of Rattlesnake and Umtanum ridges. Using Hitchcock and Cronquist (1973) some populations will key to this; all are probably var. *cottonii* (Piper) Carr X var. *arida* intermediates. The variety *cottonii* is not recognized by Hitchcock and Cronquist; see Gentry and Carr (1976) for additional information.

Collections: (BRY): Baird 628, 780; (WS): Cotton 360, 579, 650

Hackelia diffusa (Lehm.) I.M. Johnston diffuse stickseed

Hackelia diffusa (Lehm.) I.M. Johnston var. *cottonii* (Piper) R.L. Carr

USDA Code: Hadic (Hadi) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Uncommon; collections from the base of Umtanum Ridge (Davis) and from ALE; as with the preceding species, populations are probably var. *arida* X var. *cottonii* intermediates.

Collections: (PNNL): MRS 243; (WS): O'Farrell 71-75, 72-206, 73-282, 74-306; (PNNL-TC): Davis 6-11-53; (WTU): Caplow & Beck 94024

Heliotropium curassavicum L. salt heliotrope

USDA Code: Hecu3 (Hecur) **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Weed of waste places; collected at Richland.

Collections: (PNNL): WHR 8-23-95; (BRY): Baird 172; (WTU): Caplow & Beck 97049

Lappula redowskii auct. Non (Hornem.) Greene western stickseed

Lappula occidentalis (S. Wats.) Greene var. *occidentalis*

USDA Code: Laoco (Lare) **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Uncommon but widespread throughout Hanford in a number of habitats, as at Hanford townsite, Priest Rapids, and slopes of Rattlesnake Ridge.

Collections: (PNNL): MRS-39; JGL-56, 57; (BRY): Baird 46, 548a, 584a, 724a; (WS): O'Farrell 74-305; Cotton 407; (PNNL-TC): Rickard & Cline 6-22-70; Sauer 4-12-78; Warren & Hines 5-20-80

Lithospermum arvense L. corn gromwell

Buglossoides arvensis (L.) I.M. Johnston

USDA Code: Buar3 (Litar) **lifeform:** forb **origin:** Introduced **duration:** annual

Distribution/Notes: Introduced weed; scattered on the upper slopes of the Rattlesnake Ridge in bunchgrass areas.

Collections: (BRY): Baird 771

Lithospermum ruderale Dougl. Ex Lehm. western gromwell

USDA Code: Liru4 (Liru) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Common on slopes and hills, mostly with bunchgrass, such as Rattlesnake Ridge.

Collections: (BRY): Baird 713, 727, 779; (WS): O'Farrell 71-37; (PNNL-TC): Rickard & Cline 5-1-70; Sauer 6-17-75 #2, 5-31-78; Warren 5-2-79

Mertensia longiflora Greene small bluebells

USDA Code: Melo4 (Melo) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Local along drainages near the top of Rattlesnake Ridge; collected near Bennett Ranch.

Collections: (BRY): Baird 751; (WS): O'Farrell 72-191

- Mertensia oblongifolia*** (Nutt.) G. Don leafy bluebells
USDA Code: Meob **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Local on slopes of Rattlesnake and Umtanum ridges.
Collections: (BRY): Baird 1557; (WS): O'Farrell 71-74; Cotton 328; (PNNL-TC): Pendleton 4-20-59
- Myosotis laxa*** Lehm. small forget-me-not
USDA Code: Myla **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Local in moist areas along the Columbia River.
Collections: (PNNL): Baird-1020; MRS-163; (BRY): Baird 1287; (PNNL-TC): Pendleton 6-27-53
- Myosotis micrantha*** auct. Non Pallas ex Lehm. blue forget-me-not
Myosotis strica Link ex Roemer & J.A. Schultes
USDA Code: Myst2 (Mymi) **lifeform:** forb **origin:** Introduced **duration:** annual
Distribution/Notes: Introduced weed of moist areas; scattered near the Columbia River; reported by TNC on ALE and the Wahluke Slope.
Collections: (PNNL): MRS-87
- Pectocarya linearis*** (Ruiz & Pavó) DC. winged combseed
 var. *penicillata* (Hook. & Arn.) M.E. Jones
Pectocarya penicillata (Hook. & Arn.) A. DC.
USDA Code: Pepi26 (Peli) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Uncommon; collected on major ridges, Cold Creek Valley, and near 100-N Area. Currently on the Washington State Review 1 list.
Collections: (PNNL): GLF 177; MRS 217; (BRY): Baird 594; (WS): Griffiths & Cotton 22; (WTU): Caplow & Beck 95043
- Pectocarya setosa*** Gray bristly combseed
USDA Code: Pese **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: State Watch List species local on steep slopes above Vernita Bridge.
Collections: (WTU): Caplow & Beck 95037, 95052
- Plagiobothrys tenellus*** (Nutt. ex Hook.) Gray Pacific popcornflower
USDA Code: Plte **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Uncommon; collected in sandy areas north of Richland.
Collections: (BRY): Baird 844

Brassicaceae

- Arabidopsis thaliana* (L.) Heynh. common wallcress
USDA Code: Arth **lifeform:** forb **origin:** Introduced **duration:** annual
Distribution/Notes: Introduced weed of waste places; collected at Richland near the Columbia River; also observed on Wahluke Slope.
Collections: (BRY): Baird 675
- Arabis cusickii* S. Wats. Cusick's rockcress
USDA Code: Arcu **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Local in rocky areas on slopes and tops of Rattlesnake and Umtanum ridges, Wahluke Slope.
Collections: (BRY): Baird 1555, 1563; (WS): O'Farrell 72-189; (PNNL-TC): Warren 4-7-78
- Arabis sparsiflora* Nutt. elegant rockcress
USDA Code: Arsp **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Observed and collected at Rattlesnake Hills and Priest Rapids.
Collections: (WS): O'Farrell 71-73, 72-198, 73-261; St. John 8095; Cotton 562
- Camelina microcarpa* DC. littlepod falseflax
USDA Code: Cami2 (Camic) **lifeform:** forb **origin:** Introduced **duration:** annual
Distribution/Notes: Local on Wahluke Slope.
Collections: (PNNL): Caplow & Beck 94043
- Capsella bursa-pastoris* (L.) Medik. shepherd's purse
USDA Code: Cabu2 (Cabu) **lifeform:** forb **origin:** Introduced **duration:** annual
Distribution/Notes: Introduced, widespread weed of disturbed areas throughout the west, but uncommon on Hanford.
Collections: (BRY): Baird 12; (PNNL-TC): Rickard 4-20-78
- Cardamine oligosperma* Nutt. little western bittercress
USDA Code: Caol **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Scattered along the Columbia River and moist areas on the Wahluke Slope.
Collections: (PNNL): MRS 296
- Cardamine pensylvanica* Muhl. Ex Willd. Pennsylvania bittercress
USDA Code: Cape3 (Cape) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Scattered along the Columbia River; collected near the 300 Area and west of 100-K Area.
Collections: (PNNL): MRS 209 213; (PNNL-TC): Davis 5-7-53

- Cardaria chalapensis* (L.) Hand.-Maz. hoarycross
USDA Code: Cach10 (Cach) *lifeform:* forb *origin:* Introduced *duration:* perennial
Distribution/Notes: Introduced weed of disturbed areas, as at White Bluffs townsite; also reported on ALE and Wahluke Slope.
Collections: (PNNL): Baird-993A; JGL-58
- Cardaria draba* (L.) Desv. whitetop
USDA Code: Cadr *lifeform:* forb *origin:* Introduced *duration:* perennial
Distribution/Notes: Noxious weed, infesting Rattlesnake Springs.
Collections: (WS): O'Farrell 71-105
- Cardaria pubescens* (C.A. Mey.) Jarmolenko globepodded hoarycross
USDA Code: Capu6 (Capu) *lifeform:* forb *origin:* Introduced *duration:* perennial
Distribution/Notes: Locally common at 100-F Area; reported from ALE and Priest Rapids.
Collections: (PNNL): GLF-181
- Chorispora tenella* (Pallas) DC. blue mustard
USDA Code: Chte2 (Chte) *lifeform:* forb *origin:* Introduced *duration:* annual
Distribution/Notes: Introduced weed; widespread and common in disturbed areas.
Collections: (PNNL): JGL-59; (BRY): Baird 22; (WS): O'Farrell 71-25; (PNNL-TC): Rickard 4-18-86
- Descurainia pinnata* (Walt.) Britt. western tansymustard
USDA Code: Depi2 (Depi) *lifeform:* forb *origin:* Native *duration:* annual
Distribution/Notes: Common; widespread in many areas and habitat types; tends to increase with disturbance.
Collections: (PNNL): MRS-106; P&R-61; VAU-15, 16; RFG-06; JGL-59, 60, 61, 62, 63, 64, 65, 66; (BRY): Baird 25, 537, 542, 561, 582, 701; (WS): O'Farrell 71-19, 73-277; Beattie 3967; Cotton 364; (PNNL-TC): Davis 4-23-52; Sauer 4-12-78, 4-18-78; Rickard 5-20-86, 4-16-86, 4-18-86
- Descurainia richardsonii* O.E. Schulz Richardson's tansymustard
Descurainia incana (Bernh. Ex Fisch. & C.A. Mey.) Dorn
 ssp. *incisa* (Engelm.) Kartesz & Gahndi
 ssp. *viscosa* (Rydb.) Kartesz & Gandhi
USDA Code: Dein5 (Deri) *lifeform:* forb *origin:* Native *duration:* perennial
Distribution/Notes: Observed primarily in the Priest Rapids/Umtanum Ridge area; TNC reported var. *sonnei* (Robins.) Hitchc.; Mastroggiuseppe and Gill (1983) reported var. *viscosa* (Rydb.) Peck.
Collections: (PNNL-TC): Sauer 4-20-78; (WTU): Caplow & Beck 97001

- Descurainia sophia*** (L.) Webb ex Prantl flixweed
USDA Code: Deso2 (Deso) **lifeform:** forb **origin:** Introduced **duration:** annual
Distribution/Notes: Introduced weed; common and widespread in disturbed areas.
Collections: (PNNL): MRS-25; rfg-07; VAU-17; JGL-67; (BRY): Baird 664; (WS): O'Farrell 73-273; (PNNL-TC): no collector 5-10-73; Davis 4-16-52; Rickard & Cline 5-1-70; Sauer 4-18-78
- Draba nemorosa*** L. Wood's whitlowgrass
USDA Code: Drne **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Local and uncommon along the Columbia River, as at White Bluffs townsite.
Collections: (PNNL): unknown collector (3-29-59); (PNNL-TC): Davis 4-21-53, 5-7-53, Pendleton 4-13-59
- Draba verna*** L. spring whitlowgrass
USDA Code: Drve2 (Drve) **lifeform:** forb **origin:** Introduced **duration:** annual
Distribution/Notes: Common; early spring herb widespread throughout Hanford.
Collections: (PNNL): P&R-46; RFG-08; (BRY): Baird 39, 583, 753; (WS): O'Farrell 71-4; (PNNL-TC): Sauer 4-12-78, 3-30-76; Pendleton 3-15-59
- Erucastrum gallicum*** (Willd.) O.E. Schulz dog mustard
USDA Code: Erga **lifeform:** forb **origin:** Introduced **duration:** annual
Distribution/Notes: Reported by TNC from ALE, central Hanford, and Wahluke Slope.
Collections: None Available
- Erysimum asperum*** (Nutt.) DC. rough wallflower
Erysimum capitatum (Dougl. Ex Hook.) Greene var. *capitatum*
USDA Code: Ercac (Eras) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Common spring wildflower of sandy areas throughout Hanford.
Collections: (PNNL): MRS-62; P&R-60; JGL-68, 69, 70; RFG-09; ARJ-02; (BRY): Baird 18, 536, 567, 1112; (WS): O'Farrell 71-20; (PNNL-TC): Sauer 4-12-78; McShane 4-30-79; Gano 4-27-79; Hinds 5-20-80; Rickard 4-16-86, 5-20-86
- Erysimum occidentale*** (S. Wats.) B.L. Robins. pale wallflower
USDA Code: Eroc3 (Eroc) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Occasional and scattered; easily confused with the preceding species; collected in the Rattlesnake Hills and at Hanford along the Columbia River and at Priest Rapids.
Collections: (BRY): Baird 935; (WS): Bennett 26; St. John 8112; (PNNL-TC): Sauer 5-22-75 #3; Davis 5-5-52, 5-5-52; Rickard & Cline 6-1-70

- Hutchinsia procumbens*** (L.) Desv. hutchinsia
USDA Code: Hupr **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Reported by TNC on central Hanford (probably in the vicinity of Umtanum Ridge); also reported at Priest Rapids by Mastrogioseppe and Gill (1983).
Collections: (WS): Mastrogioseppe 2254; (WTU): Caplow & Beck 97004
- Idahoia scapigera*** (Hook.) A. Nels. & J.F. Macbr. scalepod
USDA Code: Idsc **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Reported by Mastrogioseppe and Gill (1983) in lithosols and washes near Priest Rapids.
Collections: (WS): Mastrogioseppe 2260
- Lepidium densiflorum*** Schrad. prairie pepperweed
USDA Code: Lede **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Local in sandy areas near the Columbia River east of 100-D Area.
Collections: (PNNL): MRS-18; CZM 322
- Lepidium dictyotum*** Gray veiny peppergrass
USDA Code: Ledi2 (Ledi) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Reported by TNC on central Hanford.
Collections: None Available
- Lepidium latifolium*** L. broadleaf pepperweed
USDA Code: Lela2 (Lela) **lifeform:** forb **origin:** Introduced **duration:** perennial
Distribution/Notes: Introduced weed; widespread in disturbed areas, mostly in deep soils and bottomlands, rarely or not in sand.
Collections: (PNNL): MRS 322; (BRY): Baird 208, 1230
- Lepidium perfoliatum*** L. clasping pepperweed
USDA Code: Lepe2 (Lepe) **lifeform:** forb **origin:** Introduced **duration:** annual
Distribution/Notes: Common; widespread weed of disturbed areas.
Collections: (PNNL): JGL-71; VAU-18; (BRY): Baird 11, 639; (WS): O'Farrell 72-208; (PNNL-TC): Sauer 6-26-75 #1, 4-18-78
- Lepidium virginicum*** L. tall pepperweed
 Probably var. *pubescens* (Greene) Thellung
USDA Code: Levi3 (Levi) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Scattered on gravelbars and wet areas near the Columbia River, e.g., 100-F and 100-K Areas. Reported from Wahluke Slope.
Collections: (PNNL): MRS-82; (BRY): Baird 1126, 1131

- Lesquerella douglasii*** S. Wats. Columbia bladderpod
USDA Code: Ledo2 (Ledo) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Common along the Columbia River, above and below the high water mark, Priest Rapids (China Bar), 100-B Area, between 100-D and 100-H Areas, and the White Bluffs.
Collections: (PNNL): CZM 377; Baird-887; JGL-72, 73; (BRY): Baird 107, 606, 651, 610, 887; (PNNL-TC): Sauer 5-26-76, 5-30-75 #16a,b; Hanson 5-18-61; Davis 4-22-53; Fitzner, 5-11-78; Warren 4-30-79
- Lesquerella tuplashensis*** Rollins, F. Beck & F. Caplow White Bluffs bladderpod
USDA Code: Letu7 (Letu) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Washington State endangered species endemic to the White Bluffs; first discovered by TNC in 1994.
Collections: (WTU): Caplow & Beck 94001, 94002, 95004, 95005, 95053, 97052
- Malcolmia africana*** (L.) Ait. F. malcolmia
USDA Code: Maaf **lifeform:** forb **origin:** Introduced **duration:** annual
Distribution/Notes: Observed on ALE along the 1,200-foot road; TNC noted the plant on Umtanum Ridge.
Collections: None Available
- Phoenicaulis cheiranthoides*** Nutt. daggerpod
USDA Code: Phch **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Local on rocky slopes and hilltops, e.g., Rattlesnake and Umtanum ridges.
Collections: (PNNL): Baird-1548; (BRY): Baird 774; (WS): O'Farrell 71-18; (PNNL-TC): Warren 4-7-78
- Raphanus sativus*** L. wild radish
USDA Code: Rasa2 (Rasa) **lifeform:** forb **origin:** Introduced **duration:** annual
Distribution/Notes: Reported by TNC on the Wahluke Slope.
Collections: None Available
- Rorippa columbiae*** (Suksdorf ex B.L. Robins.) Suksdorf ex T.J. Howell Columbia yellowcress
 Hitchcock and Cronquist lists this taxa as:
Rorippa calycina (Engelm.) Rydb. var. *columbiae* (Suksdorf ex B.L. Robins.) Rollins
USDA Code: Roco3 (Roco) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Local in gravel and cobble of the Columbia River's edge; submerged for much of the year but must be above water to successfully reproduce. Extirpated from much of its range and now primarily known only from the section of the Columbia River flowing through the Hanford Site. Listed as threatened in Washington State.

Collections: (PNNL): Baird-1401, 1423, 1429; MRS-173, 330; (BRY): Baird 1010, 1089, 1351, 1369, 1420, 1421, 1422, 1424; (PNNL-TC): Warren 8-12-80, 5-30-80; Davis 5-8-53; Sauer 9-10-82, 10-22-82, 10-29-82

Rorippa curvisiliqua (Hook.) Bess. Ex Britt. western yellowcress

USDA Code: Rocu **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Local on gravelbars and wet areas along the Columbia River, as at 100-B Area.

Collections: (PNNL): MRS 210; (BRY): Baird 1009, 1354, 1365; (WS): St. John 8121

Rorippa islandica (Oeder) Borbás marsh yellowcress
Rorippa palustris (L.) Bess.

USDA Code: Ropa2 (Rois) **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Somewhat common on gravelbars and wet areas along the Columbia River; collected at 100-B and 100-D Areas and Hanford townsite.

Collections: (PNNL): Baird-1355; MRS-174, 298, 302, 308; GLF-173; GIB-35; (BRY): Baird 1310, 1328, 1367, 1403; (PNNL-TC): Sauer & Warren 10-6-80; Newsome & Sauer 9-27-77; Warren & Hinds 5-20-80

Rorippa nasturtium-aquaticum (L.) Hayek watercress

USDA Code: Rona2 (Rona) **lifeform:** forb **origin:** Introduced **duration:** perennial

Distribution/Notes: Introduced and widespread in wet areas, mainly near or in the Columbia River, as at White Bluffs townsite, Rattlesnake Springs, and Snively Canyon.

Collection: (PNNL): VAU-19; (BRY): Baird 1011, 1368; (WS): O'Farrell 71-93, 71-138

Rorippa obtusa (Nutt.) Britt. bluntnleaf yellowcress
Rorippa curvipes Greene var. *truncata* (Jepson) Rollins

USDA Code: Rocut (Roob) **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Common on gravelbars and wet areas along the Columbia River, as at 100-B, 100-D, 100-K, and 100-H Areas.

Collections: (PNNL): Baird-1326; GLF-169; MRS-293; GIB-48; (BRY): Baird 1027, 1144, 1327, 1352, 1353, 1366, 1402; (PNNL-TC): Warren 8-5-80

Schoenocrambe linifolia (Nutt.) Greene lavacress

USDA Code: Scli **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Local on slopes of Umtanum Ridge at Priest Rapids.

Collections: (PNNL): MRS 245; (PNNL-TC): Davis 5-6-53; Warren 4-20-78

Sisymbrium altissimum L. Jim Hill's tumbledustard

USDA Code: Sial **lifeform:** forb **origin:** Introduced **duration:** annual

Distribution/Notes: Introduced; ubiquitous weed of disturbed areas.

Collections: (PNNL): P&R-79; JGL-74, 75; VAU-20, 21; (BRY): Baird 3, 538; (WS): O'Farrell 72-213; (PNNL-TC): Fitzner 5-11-78; Sauer 5-30-75 #24; Rickard 5-20-86

Sisymbrium loeselii L. Loesel's tumbledustard

USDA Code: Silo3 (Silo) **lifeform:** forb **origin:** Introduced **duration:** annual

Distribution/Notes: Introduced weed; local and uncommon along the Columbia River, at base of Umtanum Ridge, and at Hanford townsite.

Collections: (PNNL): MRS-246; Baird-913; (BRY): Baird 200, 202, 913; (PNNL-TC): Sauer 5-30-80

Streptanthella longirostris (S. Wats.) Rydb. beaked sandcress

USDA Code: Stlo4 (Strlo) **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Uncommon; collected in Cold Creek Valley and dunes north of the Wye barricade. Reported from Wahluke Slope.

Collections: (PNNL): MRS 27, 206; (WS): O'Farrell 74-287; (WTU): Caplow & Beck 95003

Thelypodium integrifolium (Nutt) Endl. Ex Walp. entireleaved thelypody

USDA Code: Thin **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Reported by Mastrogiuseppe and Gill (1983) in wet areas near Priest Rapids.

Collections: Mastrogiuseppe 2683, 2652

Thelypodium laciniatum (Hook.) Endl. Ex Walp. cutleaf ladysfoot mustard

USDA Code: Thla **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Scattered and locally common in sandy areas, often with sagebrush, i.e., 200 Area, Wahluke Slope, and Umtanum Ridge.

Collections: (PNNL): P&R-41; RFG-10, /VAU-22; (BRY): Baird 17, 565, 646, 950; (WS): O'Farrell 71-32; Cotton 1109; (PNNL-TC): Rickard 4-16-86; Gano 5-6-79

Cactaceae

Opuntia erinacea Engelm. & Bigelow ex Engelm. prickly pear

var. *columbianum* (Griffiths) L. Benson

USDA Code: Operc2 (Oper) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Probably occurs on the Hanford Site and may be common form, although not included in Hitchcock and Cronquist (1973). More specimens from the area need to be examined to determine abundance and distribution.

Collections: None Available

Opuntia fragilis (Nutt.) Haw. brittle pricklypear

USDA Code: Opfr **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Reported growing on roadside in 100 Areas and possibly near 100-B/C Area; no collection made. Possibly misidentified as per discussion under *O. polycantha*. *O. fragilis* is currently on the Washington State Review 1 list.

Collections: None Available

Opuntia polyacantha Haw. starvation pricklypear

USDA Code: Oppo **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Common and widespread in sandy areas, mostly with sagebrush, throughout Hanford. However, populations may represent either *O. erinacea* var. *columbiana* (which is not included in Hitchcock and Cronquist 1973) or could be hybrids of *O. polycantha*, *O. erinacea* var. *columbiana*, and/or *O. fragilis* (Benson 1982).

Collections: (PNNL): 848A; CZM 640; (BRY): Baird 848a; (WS): O'Farrell 73-266; Dunn 203

Pediocactus simpsonii (Engelm.) Britt. & Rose hedgehog cactus
var. *robustior* (Coul.) L. Benson

USDA Code: Pesir (Pesi) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Found mainly to the west and northwest of the Hanford Site; reported by Mastrogiuseppe and Gill (1983) from lithosols near Priest Rapids. Currently on the Washington State Review 1 list.

Collections: None Available

Callitrichaceae

Callitriche palustris L. water starwort

USDA Code: Capa52 (Capa) **lifeform:** forb **origin:** native **duration:** perennial

Distribution/Notes: Known only from older (1920s) collection along the Columbia River at Kennewick; specimen not found at Washington State University.

Collections: (WS): Jones 369

Cannabinaceae

Cannabis sativa L. hemp

USDA Code: Casa3 (Casa) **lifeform:** forb **origin:** Introduced **duration:** annual

Distribution/Notes: Introduced; once cultivated for fiber and now an occasional weed. Found growing on lower slopes of Umtanum Ridge; local and uncommon.

Collections: (BRY): Baird 181

Capparidaceae

- Cleome lutea* Hook. yellow bee-plant
USDA Code: Cllu2 (Cllu) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Scattered, mainly in dry soil near the Columbia River, as at 100-D Area and Hanford townsite.
Collections: (PNNL): MRS-101; CZM 472; GIB-14, 15; (BRY): Baird 158, 203, 1068, 1182; (WS): O'Farrell 71-164; (PNNL-TC): Warren & Hines 5-20-80

Caprifoliaceae

- Sambucus caerulea* Raf. blue elderberry
Sambucus nigra L. ssp. *caerulea* (Raf.) R. Bolli
USDA Code: Saca3 (Saca) **lifeform:** shrub **origin:** Native **duration:** perennial
Distribution/Notes: Local in drainages of Rattlesnake and Umtanum ridges.
Collections: (PNNL): CZM 444; (BRY): Baird 183; (WS): O'Farrell 71-132; (PNNL-TC): Sauer 5-31-78; Warren 8-16-78
- Symphoricarpos albus* (L.) Blake common snowberry
USDA Code: Syal **lifeform:** shrub **origin:** Native **duration:** perennial
Distribution/Notes: Reported from ALE by TNC.
Collections: (WTU): Caplow & Beck 94035
- Symphoricarpos oreophilus* Gray mountain snowberry
USDA Code: Syor2 (Syor) **lifeform:** shrub **origin:** Native **duration:** perennial
Distribution/Notes: Observed in moist areas in the Rattlesnake Hills; uncommon.
Collections: (WS): O'Farrell 71-117; Cotton 694

Caryophyllaceae

- Arenaria franklinii* Dougl. Ex Hook. Franklin's sandwort
USDA Code: Arfr **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Local in sandy areas, e.g., dune fields, 200 West Area, Umtanum Ridge. Some specimens may key to var. *thompsonii*, which is a rare species.
Collections: (PNNL): JGL-76, 77; (BRY): Baird 33, 859; (WS): O'Farrell 71-28; (PNNL-TC): Sauer 6-10-75 #27; Rickard 5-23-86 - potentially var. *thompsonii*; (PNNL): Baird-895; MRS-30; (BRY): Baird 926; (PNNL-TC): Sauer et al. 4-12-80; Sauer et al. 5-22-8

- Arenaria pusilla* S. Wats. dwarf sandwort
Minuartia pusilla (S. Wats.) Mattf.
- USDA Code:** Mipu7 (Arpu) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Reported by TNC within central Hanford.
Collections: (WTU): Caplow & Beck 97007, 97013
- Cerastium nutans* Raf. nodding chickweed
USDA Code: Cenu2 (Cenu) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Uncommon along the Columbia River; collected at the Hanford townsite, reported from the Wahluke Slope by TNC.
Collections: (WS): St. John 8124; (PNNL-TC): Davis 5-7-53
- Cerastium viscosum* auct. Non L. sticky chickweed
Cerastium glomeratum Thuill.
- USDA Code:** Cegl2 (Cevi) **lifeform:** forb **origin:** Introduced **duration:** annual
Distribution/Notes: Uncommon introduced weed; collected along the Columbia River at Hanford townsite.
Collections: (PNNL): MRS-118; (BRY): Baird 911
- Cerastium vulgatum* L. 1762, non 1755 common chickweed
Cerastium fontanum Baumg. ssp. *vulgare* (Hartman) Greuter Burdet
- USDA Code:** Cefov2 (Cevu) **lifeform:** forb **origin:** Introduced **duration:** perennial
Distribution/Notes: Scattered weed of disturbed and cultivated areas; collected at Richland and Allard.
Collections: (PNNL): MRS-211; (PNNL-TC): Davis 5-9-53
- Dianthus armeria* L. grass pink
USDA Code: Diar **lifeform:** forb **origin:** Introduced **duration:** annual
Distribution/Notes: Introduced weed, or escaped from cultivation, locally persisting along the Columbia River. Collected along the Columbia River at 100-H Area.
Collections: (PNNL): MRS-158
- Gypsophila paniculata* L. baby's breath
USDA Code: Gypa **lifeform:** forb **origin:** Introduced **duration:** perennial
Distribution/Notes: Introduced weed, often cultivated; locally established at Hanford townsite and elsewhere on central Hanford.
Collections: (PNNL): Baird-1285; CZM 411
- Holosteum umbellatum* L. jagged chickweed
USDA Code: Houm **lifeform:** forb **origin:** Introduced **duration:** annual
Distribution/Notes: Introduced and naturalized; very common throughout Hanford.
Collections: (PNNL): MRS-84; JGL-78, 79; (BRY): Baird 525; (WS): O'Farrell 71-6; (PNNL-TC): Rickard 4-18-86

- Loeflingia squarrosa* Nutt. ssp. *squarrosa* loeflingia
USDA Code: Losqs (Losq) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Populations in the vicinity of Gable Mountain are disjunct from primary distribution of the species; Hanford has the only known populations in Washington of this state threatened species.
Collections: (PNNL): Caplow & Beck 95023; (WTU): Caplow & Beck 95039, 97023
- Sagina procumbens* L. procumbent pearlwort
USDA Code: Sapr **lifeform:** forb **origin:** Introduced **duration:** perennial
Distribution/Notes: Introduced weed collected in north Richland.
Collections: (PNNL): MRS 266
- Saponaria officinalis* L. bouncingbet
USDA Code: Saof4 (Saof) **lifeform:** forb **origin:** Introduced **duration:** perennial
Distribution/Notes: Escaped from cultivation; persisting in north Richland.
Collections: (PNNL): CZM 672
- Silene douglasii* Hook. Douglas' catchfly
USDA Code: Sido **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Local in bunchgrass areas on Rattlesnake Ridge.
Collections: (BRY): Baird 1301; (WS): O'Farrell 71-119; Cotton 676
- Silene menziesii* Hook. Menzies' catchfly
 ssp. *menziesii* var. *viscosa* (Greene) C.L. Hitchc. & Maguire
USDA Code: Simev2 (Sime) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Uncommon; found in Cold Creek Valley, near Priest Rapids, and at Rattlesnake Springs.
Collections: (WS): O'Farrell 71-97, 73-278; Cotton 398
- Spergularia marina* (L.) Griseb. saltmarsh sandspurry
Spergularia salina J.& K. Presl
USDA Code: Spsa5 (Spma) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Reported by TNC - central Hanford.
Collections: (WTU): Caplow & Beck 97047
- Stellaria longipes* Goldie longstalk starwort
USDA Code: Stlo2 (Stlo) **lifeform:** forb **origin:** Native **duration:** Perennial
Distribution/Notes: Collected near Cold Creek in early 20th century; not reported since.
Collections: (WS): Cotton 397

Stellaria nitens Nutt. shining starwort

USDA Code: Stni **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Diminutive herb; often overlooked; local on grassy slopes at base of Umtanum Ridge and along the Columbia River.

Collections: (BRY): Baird 633a

Ceratophyllaceae

Ceratophyllum demersum L. coontail

USDA Code: Cede4 (Cede) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Reported in Watson et al. (1984) to occur in the Columbia River.

Collections: None Available

Chenopodiaceae

Atriplex nuttallii S. Wats. ssp. *falcata* (M.E. Jones) saltsage

Atriplex falcata (M.E. Jones) Standl.

USDA Code: Atfa (Atnu) **lifeform:** shrub **origin:** Native **duration:** perennial

Distribution/Notes: Collected on White Bluffs north of Ringold.

Collections: (PNNL): CZM-374; RR-1, 2; Beck & Caplow 94026; (WTU): Caplow & Beck 97030

Atriplex patula L. var. *hastata* auct. Non (L.) Gray fat-hen saltbush

Atriplex prostrata Bouchér ex DC.

USDA Code: Atpr (Atpa) **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Widespread weed; collected at Rattlesnake Springs.

Collections: (BRY): Baird 1360

Atriplex rosea L. tumble saltbush

USDA Code: Atro **lifeform:** forb **origin:** Introduced **duration:** annual

Distribution/Notes: Introduced weed; collected at Rattlesnake Springs.

Collections: (WS): O'Farrell 71-161

Atriplex truncata (Torr. Ex S. Wats.) Gray wedgescale orache

USDA Code: Attr **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Reported by TNC from central Hanford.

Collections: (WTU): Caplow & Beck 97050

Bassia hyssopifolia (Pallas) Kuntz smotherweed

USDA Code: Bahy **lifeform:** forb **origin:** Introduced **duration:** annual

Distribution/Notes: Introduced weed; locally common in alkaline areas, as at West Lake, Rattlesnake Springs, and near Priest Rapids.

Collections: (PNNL): P&R-14; (BRY): Baird 1439; (WS): O'Farrell 71-159, 71-160; (PNNL-TC): Fitzner 7-15-74

***Chenopodium album* L.** lamb's quarters

USDA Code: Chal7 (Chal) **lifeform:** forb **origin:** Introduced **duration:** annual

Distribution/Notes: Common, widespread weed of disturbed and waste places.

Collections: (PNNL): GIB-36, 42; (PNNL-TC): Sauer 8-9-74

***Chenopodium botrys* L.** Jerusalem oak

USDA Code: Chbo2 (Chbo) **lifeform:** forb **origin:** Introduced **duration:** annual

Distribution/Notes: Introduced weed; widespread, often along moist drainages and streams where sandy or gravelly.

Collections: (PNNL-TC): Sauer 8-9-74

***Chenopodium leptophyllum* (Moq.) Nutt. ex S. Wats.** slimleaf goosefoot

USDA Code: Chle4 (Chle) **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Scattered in a variety of moist to dry habitats, as at the 200 Areas, along the Columbia River at 100-K Area, Dry Creek Valley, and slopes of Rattlesnake Ridge.

Collections: (PNNL): CZM-653; MRS-75; P&R-42; (BRY): Baird 830, 1210, 1244, 1334; (WS): O'Farrell 71-101; (PNNL-TC): Sauer & Hines 7-5-74

***Chenopodium rubrum* L.** red goosefoot

USDA Code: Chru **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Local in saline marshes around West Lake.

Collections: (BRY): Baird 1435

***Corispermum hyssopifolium* L. p.p.** common bugseed

Corispermum pacificum Mosyakin

USDA Code: Copa37 (Cohy) **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Introduced; uncommon; collected in dunes north of the Wye Barricade.

Collections: (PNNL-TC): Pendleton 10-3-58

***Ceratoides lanata* (Pursh) J.T. Howell** winterfat

Krascheninnikovia lanata (Pursh) A.D.J. Meeuse & Smit

Listed as *Eurotia lanata* (Pursh) Moq. In Hitchcock and Cronquist (1973)

USDA Code: Krla2 (Cela) **lifeform:** shrub **origin:** Native **duration:** perennial

Distribution/Notes: Common shrub, mostly with bunchgrass and sagebrush; widespread on Hanford, as on Gable Mountain, the White Bluffs, Saddle Mountains, and slopes of Rattlesnake Ridge.

Collections: (PNNL): MRS-270; CZM 376; GIB-58; (BRY): Baird 146, 695, 723, 1248; (WS): O'Farrell 71-144; Dunn 184; (PNNL-TC): Gano 5-2-79

Grayia spinosa (Hook.) Moq. spiny hopsage

Listed as *Atriplex spinosa* in Hitchcock and Cronquist (1973)

USDA Code: Grsp **lifeform:** shrub **origin:** Native **duration:** perennial

Distribution/Notes: Common shrub; often found with sagebrush in more alkaline or clay soils; widespread on Hanford.

Collections: (PNNL): P&R-80; JGL-80; VAU-23; ARJ-03 WJW-01; (BRY): Baird 27, 541, 568, 619, 946; (WS): O'Farrell 71-82; Scott 5-31-22; St. John 8109; (PNNL-TC): Davis 5-5-52; Pendleton 4-13-59; Warren 4-27-78, 5-1-79; Sauer 4-20-78; McShane 4-30-79; Rickard & Fitzner 5-22-86; Rickard 4-18-86

Kochia scoparia (L.) Schrad. summer cypress

Bassia scoparia (L.) A.J. Scott

USDA Code: Basc5 (Kosc) **lifeform:** forb **origin:** Introduced **duration:** annual

Distribution/Notes: Common around the southern and eastern edges of the Hanford Site and throughout Richland.

Collections: (PNNL): CZM 373

Salsola kali L. Russian thistle

Salsola tragus L. (?)

USDA Code: Satr12 (Saka) **lifeform:** forb **origin:** Introduced **duration:** annual

Distribution/Notes: Introduced, ubiquitous, troublesome weed. Normally one of the first colonizers of disturbed areas throughout Hanford. Confusing taxonomy; species has also been assigned to *S. iberica*, which is currently subsummed by *S. tragus*.

Collections: (PNNL): P&R-08, 44; JGL-81, 82, 83, 84, 85; /VAU-24; /WJW-02; (BRY): Baird 1140, 1273; (WS): O'Farrell 71-162

Sarcobatus vermiculatus (Hook.) Torr. greasewood

USDA Code: Save4 (Save) **lifeform:** shrub **origin:** Native **duration:** perennial

Distribution/Notes: Dominant shrub of alkaline soils; often found in soils with higher clay content, as at Rattlesnake Springs and on the White Bluffs; also reported from the Priest Rapids area.

Collections: (PNNL): CZM-445; Baird-1364; (WS): O'Farrell 71-148

Suaeda occidentalis (S. Wats.) S. Wats. slender seepweed

Suaeda calceoliformis (Hook.) Moq.

USDA Code: Suca2 (Suoc) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Known from very old collections along the Columbia River at White Bluffs townsite; also observed at Borden Spring above Priest Rapids by Mastrogiuseppe and Gill (1983).

Collections: (WS): Lake & Hull 678 (8-9-1892); Mastrogiuseppe 2645

Convolvulaceae

- Convolvulus arvensis* L. field bindweed
USDA Code: Coar4 (Coar) **lifeform:** forb **origin:** Introduced **duration:** perennial
Distribution/Notes: Introduced weed in a wide range of habitats, both wet and dry. Often near the Columbia River; sometimes growing where periodically submerged. Widespread on Hanford.
Collections: (PNNL): GIB-16; (BRY): Baird 1163, 1915; (PNNL-TC): Sauer & Durham 8-7-75 #5

Cornaceae

- Cornus stolonifera* Michx. red-osier dogwood
Cornus sericea L.
USDA Code: Cost **lifeform:** shrub **origin:** Native **duration:** perennial
Distribution/Notes: Tall shrub of moist or wet areas, especially on bottom land near streams known from Snively and Bobcat canyons, and canyons near Priest Rapids.
Collections: (WS): O'Farrell 73-258; (PNNL-TC): Warren 8-16-78, 8-16-78, 5-11-79; Gano 5-2-79

Crassulaceae

- Crassula aquatica* (L.) Schoenl. pigmy-weed
USDA Code: Craq **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Reported from along the Columbia River by TNC.
Collections: None Available
- Sedum leibergii* Britt. Leiberg's stonecrop
USDA Code: Sele **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Locally common on rocky or gravelly areas on top Rattlesnake Ridge.
Collections: (PNNL): CZM 677; (WS): O'Farrell 73-280; Cotton 703

Cucurbitaceae

- Echinocystis lobata* (Michx.) Torr. & Gray wild cucumber
USDA Code: Eclo **lifeform:** vine **origin:** Native **duration:** annual
Distribution/Notes: Common on moist bottom land along rivers; collected at Richland along the Yakima River.
Collections: (BRY): Baird 1389

Cupressaceae

Juniperus occidentalis Hook. Western Juniper
USDA Code: Juoc **lifeform:** tree **origin:** Native **duration:** perennial
Distribution/Notes: Collected west of Richland near the Yakima River; one individual located south of Gable Butte.
Collections: (WS): Willmsen 11-23-26

Juniperus scopulorum Sarg. Rocky Mountain juniper
USDA Code: Jusc2 (Jusc) **lifeform:** tree **origin:** Native **duration:** perennial
Distribution/Notes: Scattered and relatively uncommon on the Hanford Site; mainly found near the Columbia River between Priest Rapids Dam and the 100-B Area.
Collections: (PNNL): Baird-1198; MRS-105; GIB-17, 18; (BRY): Baird 207, 1155; (WS): Jones 421; (PNNL-TC): Sauer 5-15-80

Thuja orientalis L. Oriental arborvitae
Platycladus orientalis (L.) Franco
USDA Code: Plor80 (Thjoc) **lifeform:** tree **origin:** Introduced **duration:** perennial
Distribution/Notes: Introduced tree; persisting where planted, as at homestead north of Ringold, and Army sites on the Wahluke Slope.
Collections: (PNNL): CZM 484; MRS-328

Cuscutaceae

Cuscuta denticulata Engelm. desert dodder
USDA Code: Cude2 (Cude) **lifeform:** vine **origin:** Native **duration:** perennial
Distribution/Notes: A Washington State sensitive species. Very local, small population found along a dry drainage in Cold Creek Valley in early 1980s. Also found by TNC on the White Bluffs during mid-1990s; parasitic on desert shrubs.
Collections: (PNNL): Baird-1238; Caplow & Beck 94047; (WTU): Caplow & Beck 94047, 94048, 94051

Cuscuta epithimum (L.) L. common dodder
USDA Code: Cuep **lifeform:** vine **origin:** Introduced **duration:** perennial
Distribution/Notes: Introduced parasite, often on crop plants; collected growing on *Artemisia ludoviciana* on Locke Island in the Columbia River.
Collections: (PNNL-TC): Sauer 5-30-80

Cuscuta indecora Choisy plain dodder
USDA Code: Cuin **lifeform:** vine **origin:** Introduced **duration:** perennial
Distribution/Notes: Widespread parasite; troublesome on crop plants; local on roadside weeds at Hanford townsite; probably not native to this region.
Collections: (BRY): Baird 1281; (PNNL-TC): Davis 7-30-53

Cuscuta pentagona Engelm. var. *calycina* Engelm. field dodder
Cuscuta pentagona Engelm. var. *pentagona*
USDA Code: Cupep2 (Cupe) **lifeform:** vine **origin:** Native **duration:** perennial
Distribution/Notes: Reported from a variety of locations on the Hanford Site by TNC.
Collections: None Available

Cyperaceae

Carex amplifolia Boott big-leaf sedge
USDA Code: Caam10 (Caam) **lifeform:** graminoid **origin:** Native **duration:** perennial
Distribution/Notes: Collected in Snively Creek on ALE.
Collections: (PNNL): Caplow & Beck 94049

Carex aperta Boott Columbia sedge
USDA Code: Caap3 (Caap) **lifeform:** graminoid **origin:** Native **duration:** perennial
Distribution/Notes: Uncommon in wet areas along the Columbia River, e.g., gravelbars at 100-F Area.
Collections: (PNNL): MRS-24; (BRY): Baird 1123a; (WS): Beattie 3936

Carex aquatilis Wahlenb. water sedge
USDA Code: Caaq **lifeform:** graminoid **origin:** Native **duration:** perennial
Distribution/Notes: Uncommon; reported by TNC from along the Columbia River.
Collections: None Available

Carex athrostachya Olney slenderbeak sedge
USDA Code: Caat3 (Caat) **lifeform:** graminoid **origin:** Native **duration:** perennial
Distribution/Notes: Common sedge found along the Columbia River and in other wet areas.
Collections: (PNNL): MRS-194; (BRY): Baird 1001, 1014, 1034, 1260; (PNNL-TC): Warren & Sauer 10-6-80; Warren 8-12-80

Carex aurea Nutt. golden sedge
USDA Code: Caau3 (Caau) **lifeform:** graminoid **origin:** Native **duration:** perennial
Distribution/Notes: Collected in the Rattlesnake Hills during the early 20th century.
Collections: (WS): Cotton 709

Carex brevior (Dewey) Mackenzie short-beaked sedge
USDA Code: Cabr10 (Cabr) **lifeform:** graminoid **origin:** Native **duration:** perennial
Distribution/Notes: Uncommon; scattered along the Columbia River; collected between 100-N and 100-D Areas.
Collections: (PNNL): MRS-259

- Carex diandra* Schrank lesser panicle sedge
USDA Code: Cadi4 (Cadi) *lifeform:* graminoid *origin:* Native *duration:* perennial
Distribution/Notes: Reported by Mastrogioseppe and Gill (1983) from wet areas in the Priest Rapids vicinity.
Collections: None Available
- Carex douglasii* Boott Douglas' sedge
USDA Code: Cado2 (Cado) *lifeform:* graminoid *origin:* Native *duration:* perennial
Distribution/Notes: Common along the Columbia River and other wet areas.
Collections: (PNNL): MRS-91, 115, 116, 117; (BRY): Baird 611, 1033; (WS): O'Farrell 71-111; Cotton 572
- Carex filifolia* Nutt. threadleaf sedge
USDA Code: Caf1 *lifeform:* graminoid *origin:* Native *duration:* perennial
Distribution/Notes: Older collection from moist areas in the Rattlesnake Hills. Also observed by TNC on ALE.
Collections: (WS): Cotton 329
- Carex hystericina* Muhl. Ex Willd. porcupine sedge
USDA Code: Cahy4 (Cahy) *lifeform:* graminoid *origin:* Native *duration:* perennial
Distribution/Notes: Reported by Mastrogioseppe and Gill (1983) from wet areas in the Priest Rapids vicinity.
Collections: Mastrogioseppe 2440, 2659
- Carex lanuginosa* auct. Non Michx. woolly sedge
Carex pellita Muhl ex Willd.
USDA Code: Cala30 (Cala) *lifeform:* graminoid *origin:* Native *duration:* perennial
Distribution/Notes: Collected in wet areas along the Columbia River, as at 100-F and 100-K Areas.
Collections: (PNNL): MRS -207, 240, 258, 261; (BRY): Baird 1035, 1123
- Carex lenticularis* Michx. Kellogg's sedge
Carex lenticularis Michx. (could be var. *lipocarpa* (Holm) L.A. Standly
USDA Code: Cale8 (Cale) *lifeform:* graminoid *origin:* Native *duration:* perennial
Distribution/Notes: Collected in wet areas along the Columbia River, as at Vernita and east White Bluffs.
Collections: (PNNL): MRS-227; Baird-1015; (BRY): Baird 1261
- Carex microptera* MacKenzie smallwinged sedge
USDA Code: Capr5 (Capr) *lifeform:* graminoid *origin:* Native *duration:* perennial
Distribution/Notes: Collected in moist areas in the Rattlesnake Hills, 3,500-foot elevation. Not reported since the early 20th century.
Collections: (WS): Cotton 700

- Carex praegracilis* W. Boott clustered field sedge
USDA Code: Capr5 (Capr) *lifeform:* graminoid *origin:* Native *duration:* perennial
Distribution/Notes: Uncommon; collected at McGee Well and reported at Priest Rapids by Mastrogiuseppe and Gill (1983).
Collections: (BRY): Baird 802
- Carex siccata* Dewey silvertop sedge
USDA Code: Casi12 (Casi) *lifeform:* graminoid *origin:* Native *duration:* perennial
Distribution/Notes: Reported by Mastrogiuseppe and Gill (1983) from wet areas in the Priest Rapids vicinity.
Collections: None Available
- Carex vulpinoidea* Michx. fox sedge
USDA Code: Cavu2 (Cavu) *lifeform:* graminoid *origin:* Native *duration:* perennial
Distribution/Notes: Scattered along shore of the Columbia River.
Collections: (PNNL): MRS-260, 278, 290, 304, 309
- Cyperus aristatus* Rottb. awned flatsedge
Cyperus squarrosus L.
USDA Code: Cyar3 (Cyar) *lifeform:* graminoid *origin:* Native *duration:* annual
Distribution/Notes: Somewhat common on gravelbars and flats along the Columbia River, as at Coyote Rapids and 100-F Area.
Collections: (PNNL): MRS-172, 268; GIB-49, 59; (BRY): Baird 1380; (PNNL-TC): Warren 8-12-80
- Cyperus erythrorhizos* Muhl. redroot flatsedge
USDA Code: Cyer2 (Cyer) *lifeform:* graminoid *origin:* Native *duration:* perennial
Distribution/Notes: Collected at Hanford townsite along the Columbia River near high water mark.
Collections: (PNNL): GLF-176; MRS-193; (PNNL-TC): Sauer & Newsome 9-27-77
- Cyperus esculentus* L. yellow flatsedge
USDA Code: Cyes *lifeform:* graminoid *origin:* Introduced *duration:* perennial
Distribution/Notes: Uncommon weedy species of gardens and waste places such as near Richland and on Wahluke Slope.
Collections: (BRY): Baird 1388; (WTU): Caplow & Beck 95141
- Cyperus rivularis* Kunth shining flatsedge
Cyperus bipartitus Torr.
USDA Code: Cybi6 (Cyri) *lifeform:* graminoid *origin:* Native *duration:* annual
Distribution/Notes: State sensitive species found scattered in wetlands along the Columbia River.
Collections: (PNNL): GLF-174; (UW?): R. Schuller 2090, 8-29-84; (WTU): Caplow & Beck 94055, 95110, 95123

- Cyperus strigosus* L. straw-colored flatsedge
USDA Code: Cyst **lifeform:** graminoid **origin:** Native **duration:** perennial
Distribution/Notes: Reported by Mastrogioseppe and Gill (1983) from flood bars in the Priest Rapids vicinity and by the TNC.
Collections: (WTU): Caplow & Beck 95134
- Eleocharis acicularis* (L.) Roemer & J.A. Schultes needle spikerush
USDA Code: Elac **lifeform:** graminoid **origin:** Native **duration:** perennial
Distribution/Notes: Somewhat common in wet gravels near the Columbia River, i.e., 100-B Area, Hanford townsite, and Wahluke Slope.
Collections: (BRY): Baird 1293, 1349
- Eleocharis ovata* (Roth) Roemer & J.A. Schultes ovoid spikerush
 could be *E. ovata*, *E. englemanni* Steud. or *E. obtusa* (Willd.) J.A. Schultes
USDA Code: Elov **lifeform:** graminoid **origin:** Native **duration:** annual
Distribution/Notes: Uncommon; collected along the Columbia River at 100-D Area.
Collections: (PNNL): Baird-1405; (WTU): Caplow & Beck 94062
- Eleocharis palustris* (L.) Roemer & J.A. Schultes common spikerush
USDA Code: Elpa3 (Elpa) **lifeform:** graminoid **origin:** Native **duration:** perennial
Distribution/Notes: Common in wet areas all along the Columbia River.
Collections: (PNNL): MRS-83; (BRY): Baird 1000, 1016, 1032, 1292, 1331, 1338; (WS): O'Farrell 72-220a; (PNNL-TC): Warren 8-12-80
- Eleocharis rostellata* (Torr.) Torr. beaked spikerush
USDA Code: Elro2 (Elro) **lifeform:** graminoid **origin:** Native **duration:** perennial
Distribution/Notes: Reported by Mastrogioseppe and Gill (1983) from wet areas in the Priest Rapids vicinity.
Collections: None Available
- Eriophorum gracile* W.D.J. Koch slender cottongrass
USDA Code: Ergr8 (Ergr) **lifeform:** graminoid **origin:** Native **duration:** perennial
Distribution/Notes: Reported by Mastrogioseppe and Gill (1983) from wet areas in the Priest Rapids vicinity.
Collections: Mastrogioseppe 3254
- Hemicarpha micrantha* (Vahl) Pax aristulate lipocarpha
Lipocarpha aristulata (Coville) G. Tucker
USDA Code: Liar6 (Hemi) **lifeform:** graminoid **origin:** Native **duration:** annual
Distribution/Notes: Scattered in mudflats along the Columbia River.
Collections: (PNNL): GLF-171; (WTU): Caplow & Beck 94054

Scirpus acutus Muhl. Ex Bigelow hardstem bulrush

Schoenoplectus acutus (Muhl. Ex Bigelow) A. & D. Löve var. *acutus*

USDA Code: Scac3 **lifeform:** graminoid **origin:** Native **duration:** perennial

Distribution/Notes: Widespread in wet areas, such as Gable Mountain Pond, West Lake, Rattlesnake Springs, and Bennett Springs.

Collections: (PNNL): P&R-19; (BRY): Baird 892, 1136, 1339, 1361; (PNNL-TC): Fitzner 7-15-74

Scirpus americanus Pers. threesquare bulrush

Schoenoplectus americanus (Pers.) Volk. Ex Schinz & R. Keller

(but ours may be a variety of *S. pungens* Vahl)

USDA Code: Scam6 (Scam) **lifeform:** graminoid **origin:** Native **duration:** perennial

Distribution/Notes: Widespread in wet areas, as on ALE, West Lake, and Wahluke Slope.

Collections: (PNNL): P&R 22; (BRY): Baird 894, 1441; (WS): O'Farrell 71-99; (PNNL-TC): Fitzner 7-15-74

Scirpus maritimus L. seacoast bulrush

Schoenoplectus maritimus (L.) Lye

USDA Code: Scma8 (Scma) **lifeform:** graminoid **origin:** Native **duration:** perennial

Distribution/Notes: Widespread in wet areas such as along the Columbia River, on Wahluke Slope; formerly at Gable Mountain Pond.

Collections: (PNNL): P&R-04, 69; GIB-37; (BRY): Baird 1440; (PNNL-TC): Fitzner 7-15-74

Scirpus microcarpus J.& K. Presl small-fruited bulrush

USDA Code: Scmi2 (Scmi) **lifeform:** graminoid **origin:** Native **duration:** perennial

Distribution/Notes: Reported by Mastrogiuseppe and Gill (1983) from wet areas in the Priest Rapids vicinity.

Collections: None Available

Scirpus validus Vahl softstem bulrush

Schoenoplectus tabernaemontani (K.C. Gmel.) Palla

USDA Code: Scta2 (Scva) **lifeform:** graminoid **origin:** Native **duration:** perennial

Distribution/Notes: Widespread in wet areas, as at White Bluffs slough and Hanford townsite; formerly at Gable Mountain Pond.

Collections: (PNNL): P&R-68; (WS): O'Farrell 72-214; (PNNL-TC): Newsome & Sauer 9-27-77; Warren 8-12-80; Fitzner 7-15-74

Dipsicaceae

Dipsacus sylvestris Huds. teasel
Dipsacus fullonum L.
USDA Code: Difu2 (Disy) **lifeform:** forb **origin:** Introduced **duration:** perennial
Distribution/Notes: Scattered along the Yakima River.
Collections: None Available

Elaeagnaceae

Elaeagnus angustifolia L. Russian olive
USDA Code: Elan **lifeform:** tree **origin:** Introduced **duration:** perennial
Distribution/Notes: Introduced tree; now well established along rivers and wetter areas throughout the region.
Collections: (PNNL): CZM-382; unknown collector; (BRY): Baird 983

Equisetaceae

Equisetum arvense L. common horsetail
USDA Code: Eqar **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Occasional along the Columbia River in wet sites, as at 100-H and 100-K Areas.
Collections: (PNNL): CZM-658; (BRY): Baird 1038, 1315, 1385; (WS): O'Farrell 71-102

Equisetum hyemale L. Dutch scouringrush
USDA Code: Eqhy **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Scattered along the Columbia River in wet areas, north Richland, and Island 12.
Collections: (PNNL): /JGL-87; (PNNL-TC): Pendleton 6-18-59; Sauer & Durham 8-7-75 #9

Equisetum laevigatum A. Braun smooth scouringrush
USDA Code: Eqla **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Common along the Columbia River in wet sites, Hanford townsite, 100-D and 100-H Areas.
Collections: (PNNL): CZM-346; Baird-917; P&R-67; (BRY): Baird 1124, 1154, 1168

Equisetum palustre L. marsh horsetail

USDA Code: Eqpa **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Uncommon along the Columbia River in wet areas; collected at 100-B Area.

Collections: (PNNL): GIB-60

Equisetum variegatum Schleich. Ex F. Weber & D.M.H. Mohr northern scouringrush

USDA Code: Eqva **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Occasional along the Columbia River in wet sites, such as at the Hanford townsite, 100-H and 100-K Areas.

Collections: (BRY): Baird 917a, 1332, 1386

Euphorbiaceae

Eremocarpus setigerus (Hook.) Benth. doveweed

Croton setigerus Hook.

USDA Code: Crse11 (Erse) **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Very local, but common, on dry, sparsely vegetated desert pavement, near the Columbia River east of Vernita, and along roadways north of Vernita Bridge.

Collections: (PNNL): GIB-61; MRS-326

Euphorbia esula L. leafy spurge

USDA Code: Eues **lifeform:** forb **origin:** Introduced **duration:** perennial

Distribution/Notes: Noxious weed reported on ALE by TNC.

Collections: None Available

Euphorbia glyptosperma Engelm. corrugate-seed spurge

Chamaesyce glyptosperma (Engelm.) Small

USDA Code: Chgl13 (Eugl) **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Scattered in dry, sandy areas, as near Basalt Waste Isolation Project borehole site.

Collections: (PNNL): VAU-25; (BRY): Baird 1272; (WS): Lake & Hull 641

Euphorbia serpyllifolia Pers. thymeleaf spurge

Chamaesyce serpyllifolia (Pers.) Small

USDA Code: Chse6 (Euse) **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Common weed; occasionally found in moist sand and gravel along the Columbia River, on ALE, and the Wahluke Slope.

Collections: (BRY): Baird 1317, 1373, 1404; (PNNL-TC): Sauer & Durham 8-7-75 #8

Euphorbia supina Raf. milk spurge
Chamaesyce maculata (L.) Small
USDA Code: Chma15 (Eusu) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Collected in Richland.
Collections: (PNNL): Zufelt 7-24-00

Fabaceae

Alhagi pseudalhagi (Bieb.) Desv. ex B.Keller & Schaparenko camelthorn
Alhagi maurorum Medik.
USDA Code: Alma12 (Alps) **lifeform:** forb **origin:** Introduced **duration:** perennial
Distribution/Notes: Noxious weed reported from along irrigation canals on Wahluke Slope; may have been eradicated.
Collections: None Available

Astragalus caricinus (M.E. Jones) Barneby buckwheat milkvetch
USDA Code: Asca12 (Asca) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Common and widespread in sagebrush areas on sandy loams.
Collections: (PNNL): CZM-320; Baird-888, 978; MRS-33, 38; P&R-87; (BRY): Baird 36, 431, 534, 543, 602, 704, 724, 813, 908, 920, 933, 978, 980, 986, 1053; Caplow & Beck 97027; (PNNL-TC): Baird 36

Astragalus columbianus Barneby Columbia milkvetch
USDA Code: Asco9 (Asco) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Washington State threatened species; endemic to the northwest part of the Hanford Site and southeast portion of the Yakima Training Center, from near the Columbia River to the top of Umtanum and Yakima ridges.
Collections: (PNNL): MRS 201, 202; CZM 418; Baird-605; (BRY): Baird 169, 599, 629, 642, 648, 1239; Beck & Caplow 94004; (PNNL-TC): Sauer 4-22-77, Mastrogiuseppe 1288

Astragalus conjunctus S. Wats. Dr. Bill's locoweed
 var. *rickardii* Welsh, F. Caplow and K. Beck
USDA Code: Ascor2 (Ascor) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Endemic to the northwest faces of Rattlesnake Mountain, Horse Heaven Hills, and in Wasco County, Oregon. Currently on the Washington State Review 1 list. Earlier reports of *A. reventiformis* and possibly *A. arrectus* from our area may actually refer to this taxon. Variety not in Hitchcock and Cronquist (1973).
Collections: (PNNL): Baird-775; (WTU): Caplow & Beck 94046, 95083; (BRY): Caplow & Beck 95038

- Astragalus geyeri* Gray** Geyer's milkvetch
USDA Code: Asge **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: An annual milkvetch that occurs on the Wahluke Slope, near the top of the White Bluffs. Listed as sensitive in Washington State.
Collections: (WTU): Caplow & Beck 94042
- Astragalus lentiginosus* Dougl. Ex Hook.** freckled milkvetch
USDA Code: Asle8 (Aslen) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Uncommon; collected on Rattlesnake Ridge near Bennett Ranch.
Collections: (BRY): Baird 755
- Astragalus purshii* Dougl. Ex Hook.** woolly-pod milkvetch
 vars. *glareosus* (Dougl.) Barnaby and *purshii*.
USDA Code: Aspu9 (Aspu) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Common and widespread with sagebrush; most collections assignable to var. *purshii*, but some collections, mainly from the top of the Rattlesnake Ridge, are var. *glareosus* (Dougl.) Barneby (Baird 795, Johnson & Rickard 4-22-66, and Genoway 4-9-53).
Collections: (PNNL): JGL-88, 89; (BRY): Baird 101, 107, 547, 576, 617, 703, 718, 759, 795; (WS): O'Farrell 71-11, 71-17, 71-27; Cotton 552; Bennett 23; (PNNL-TC): Johnson & Rickard 4-22-66; Genoway 4-9-53; Sauer 4-26-76, 5-16-75, 6-10-75 #23, 4-20-78; Warren 4-18-78, 4-7-78; no collector 4-2-80; (WTU): Caplow & Beck 95006
- Astragalus reventiformis* (Rydb.) Barneby** Yakima milkvetch
USDA Code: Asre6 (Asre) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Many of the earlier reports of this species from the Rattlesnake Hills are now probably referable to *A. conjunctus* var. *rickardii*. Otherwise, this species occurs on all major ridges and hills in the area.
Collections: (BRY): Baird 109, 633, 794; (PNNL-TC): no collector 6-11-76
- Astragalus sclerocarpus* Gray** stalked-pod milkvetch
USDA Code: Assc6 (Assc) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: State Watch List species that is common and widespread throughout Hanford, primarily on open sand with sagebrush and dunes.
Collections: (PNNL): Baird-900, 908, 979; MRS-16, 52, 54, 65, 70; P&R-82, 90; JGL-90, 91, 92, 93, 94; (BRY): Baird 16, 521, 806, 826, 851, 934, 942, 1061, 1096, 1109; (WS): O'Farrell 71-31, 71-55, 71-57; (PNNL-TC): Pendleton 4-15-58; Sauer 5-20-75; Warren, 5-9-78; Sauer 6-6-80, 5-9-78, 5-20-80; Sauer & Owzarski 5-80; Rickard 5-20-86

Astragalus spaldingii Gray Spalding's milkvetch

USDA Code: Assp4 (Assp) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Local in bunchgrass areas near the top of Rattlesnake Ridge.

Collections: (PNNL): CZM 446, 663; (BRY): Baird 768, 862, 1298; (PNNL-TC): Sauer 6-17-75, 5-31-78; Rickard 6-1-70; (WS): Griffiths & Cotton 3, 23; L Smith 6-23-29

Astragalus speirocarpus Gray medick milkvetch

USDA Code: Assp7 (Asspe) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Locally common in canyons and drainages just to the west and northwest of Hanford; collected at Priest Rapids. Some reports of this species in Cold Creek Valley (e.g., Brandt et al. 1990) probably refer to *A. sclerocarpus*.

Collections: (PNNL-TC): Sauer 4-28-78

Astragalus succumbens Dougl. Ex Hook. crouching milkvetch

USDA Code: Assu7 (Assu) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: State Watch List species that is common, widespread and often abundant in sagebrush areas. Perhaps the showiest milkvetch in our area.

Collections: (PNNL): CZM 324, 418; Baird-920, 977; MRS-50, 56, 138; P&R-35; GIB-19; /JGL-95, 96; (BRY): Baird 21, 42, 549, 571, 572, 645, 697, 719, 729, 919, 951, 981, 1041; (PNNL-TC): Sauer 5-22-75, 6-5-80; Whittaker 5-12-52; Warren 4-20-78

Caragana arborescens Lam. Siberian peatree

USDA Code: Caar18 (Caar) **lifeform:** tree **origin:** Introduced **duration:** perennial

Distribution/Notes: Introduced tree; persisting where planted around old building sites off of Army Loop Road, near the Yakima barricade.

Collections: (BRY): Baird 969

Gleditsia triacanthos L. honey locust

USDA Code: Gltr **lifeform:** tree **origin:** Introduced **duration:** perennial

Distribution/Notes: Introduced tree; persisting along the Columbia River as at 100-H Area.

Collections: (PNNL): CZM-396; (BRY): Baird 1276

Glycyrrhiza lepidota Pursh licorice

USDA Code: Glle **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Reportedly common along the Yakima River, near Richland and Horn Rapids.

Collections: (PNNL): MRS 265; (WS): H.E. Willmsen 10-23-26; (WTU): Caplow & Beck 97038

Lotus purshianus F.E. & E.G. Clem. Spanish clover

Lotus unifoliolatus (Hook.) Benth.

USDA Code: Loun (Lopu) **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Occasional along the Columbia River, as at China Bar and 100-B Area.

Collections: (PNNL): MRS-311; Baird-1251; (BRY): Baird 1357a; (WS): Cotton 692

Lupinus laxiflorus Dougl. Ex Lindl. spurred lupine

Lupinus arbustus Dougl. Ex Lindl. ssp. *calcaratus* (Kellogg) D. Dunn

USDA Code: Luar6 (Lula) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Locally abundant on upper slopes of the Rattlesnake Ridge, Bennett Spring.

Collections: (BRY): Baird 872; (WS): O'Farrell 71-71, 72-212; (PNNL-TC): Sauer 6-10-75 #8

Lupinus lepidus Dougl. Ex Lindl. var. *aridus* (Dougl.) Jepson prairie lupine

Lupinus aridus Dougl. ssp. *aridus*

USDA Code: Luara6 (Lulep) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Common along the Columbia River, in dry gravels and cobbles near high water mark.

Collections: (PNNL): Baird-1159; MRS-20, 92, 98, 110; (BRY): Baird 609, 711, 1180; (WS): O'Farrell 74-291; Beattie 3946, 3947, 3948; (PNNL-TC): Warren 8-12-80

Lupinus leucophyllus Dougl. Ex Lindl. velvet lupine

USDA Code: Lule3 (Luleu) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Common on slopes of Rattlesnake and Umtanum ridges. Some years flowering abundantly enough to give a lavender shade to the hills.

Collections: (PNNL): CZM 430, 478; (BRY): Baird 630, 863; (WS): O'Farrell 71-83; (PNNL-TC): Rotenberry 6-23-75 #1; Sauer 9-8-74, 6-21-74, 7-5-74, 6-17-75 #9, 10; 5-16-75 #9

Lupinus pusillus Pursh low lupine

USDA Code: Lupu **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Annual species, common in spring on open sand and dunes especially throughout the 200 Areas.

Collections: (PNNL): CZM-388; Baird-807; MRS-61; P&R-86; JGL-97, 98; (BRY): Baird 563, 909, 927, 940, 1066; (PNNL-TC): Sauer 5-22-75 #4

Lupinus saxosus T.J. Howell rock lupine

USDA Code: Lusa2 (Lusa) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Widespread species, primarily on basalt, known from Hanford by a single, unusual collection on Locke Island.

Collections: (PNNL-TC): Pendleton 4-18-58

Lupinus sericeus Pursh ssp. *sericeus* var. *sericeus* silky lupine

and var. *fikeranus* (C.P. Sm.) C.L. Hitchc.

(Now) var. *flexuosus* (Lindl. Ex J.G. Agardh) C.P. Sm.

USDA Code: Luses4 (Luse) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Uncommon in sandy areas near the Columbia River, as at base of Umtanum Ridge.

Collections: (PNNL): MRS-122; (BRY): Baird 197; (PNNL-TC): Rickard & Hanson 5-5-70; Sauer & Durham 8-7-75; Sauer 5-30-75 #19, 5-22-75 #1a; Fitzner 5-11-78; no collector

Lupinus sulphureus Dougl. Ex Hook. var. *subsaccatus* (Suksdorf) C.L. Hitchc. sulfur lupine

Lupinus bingenensis Suksdorf var. *subsaccatus* Suksdorf

USDA Code: Lube3 (Lusu) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Common and widespread with sagebrush, as on Rattlesnake Ridge and other main hills in region.

Collections: (PNNL): MRS-203; CZM 342; JGL-99, 100, 101; (BRY): Baird 1, 102, 103, 104, 552, 574, 587, 603, 647, 715, 776; (WS): O'Farrell 71-28, 71-40, 71-42, 71-112; Bennett 41; (PNNL-TC): Rickard & Cline 5-1-70, 5-5-70, 4-11-73; Sauer 6-17-75 #5, 5-16-75 #6, 6-10-75 #21; no collector 4-11-73, 6-22-70, 5-79

Lupinus wyethii S. Wats. Wyeth's lupine

USDA Code: Luwy **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Common along the Columbia River in sandy-cobble of the riverbank, as at China Bar, White Bluffs townsite, and 100-H and 100-K Areas.

Collections: (PNNL): MRS-96, 97, 292; (BRY): Baird 154, 610, 882, 998, 1023, 1078, 1091

Medicago lupulina L. black medick

USDA Code: Melu **lifeform:** forb **origin:** Introduced **duration:** annual

Distribution/Notes: Introduced weed of moist waste places, widespread.

Collections: (PNNL): MRS-125; (BRY): Baird 792, 1019; (WS): O'Farrell 72-247; (PNNL-TC): Newsome & Sauer 9-27-77

- Medicago sativa* L. alfalfa
USDA Code: Mesa **lifeform:** forb **origin:** Introduced **duration:** perennial
Distribution/Notes: Introduced forage plant, escaping and established widely.
Collections: (PNNL): MRS 323; (BRY): Baird 974
- Melilotus alba* Medik. white sweetclover
Melilotus officinalis (L.) Lam.
USDA Code: Meof2 (Meal) **lifeform:** forb **origin:** Introduced **duration:** perennial
Distribution/Notes: Introduced forage plant; established all along the Columbia River, occasionally forming dense stands, often along old roads. White flowers. Now subsumed within *M. officinalis*.
Collections: (PNNL): Baird-904; MRS-155; (BRY): Baird 1184, 1223; (WS): O'Farrell 72-237
- Melilotus officinalis* (L.) Lam. yellow sweetclover
USDA Code: Meof2 (Meof) **lifeform:** forb **origin:** Introduced **duration:** perennial
Distribution/Notes: Similar in appearance and distribution as *M. alba*, but with yellow flowers, perhaps not quite as abundant.
Collections: (PNNL): Baird-903; GIB-20; VAU-26
- Onobrychis viciaefolia* Scop. holyclover
USDA Code: Onvi **lifeform:** forb **origin:** Introduced **duration:** perennial
Distribution/Notes: Introduced weed; collected along a roadside east of Benton City.
Collections: (BRY): Baird 78
- Petalostemon ornatum* Dougl. Ex Hook. western prairieclover
Dalea ornata (Dougl. Ex Hook.) Eat. & J. Wright
USDA Code: Daor2 (Peor) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Widespread, mainly in sandy areas, as along Horn Rapids Road, Rattlesnake Mountain, and the Columbia River near Energy Northwest pump house.
Collections: (PNNL): JGL-102; VAU-27, 28; (BRY): Baird 856; (WS): O'Farrell 73-265; (PNNL-TC): Sauer 6-10-75 #5, 6-26-74; Pendleton 6-18-59; Sauer & Owzarski 5-15-80
- Psoralea lanceolata* Pursh dune scurfpea
Psoralidium lanceolatum (Pursh) Rydb.
USDA Code: Psla3 (Psla) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Common and widespread in sandy areas, especially sand dunes.
Collections: (PNNL): MRS-68; CZM 370; CJK-sn; JGL-103; (BRY): Baird 814, 910; (PNNL-TC): Sauer 6-17-75 #1; Pendleton 10-7-58; Warren & Hines

5-20-80; (WS): Snodgrass 07-1903; Dunn 9-16-1902; Lake & Hull 664;
(WTU): Caplow & Beck 97036

Robinia pseudo-acacia L. black locust

USDA Code: Rops **lifeform:** tree **origin:** Introduced **duration:** perennial

Distribution/Notes: Introduced tree; well established in region, but also often planted and persisting, especially along the Columbia River throughout the 100 Areas.

Collections: (PNNL): Baird-808; CZM-351; (WS): O'Farrell 73-263; (PNNL-TC): Warren 8-16-78

Swainsona salsula (Pallas) Taubert salt rattlepod

Sphaerophysa salsula (Pallas) DC.

USDA Code: Spsa3 (Swsa) **lifeform:** forb **origin:** Introduced **duration:** perennial

Distribution/Notes: Introduced weed; forming dense patches in heavy, alkaline soils, as at West Lake and Rattlesnake Springs; also observed near White Bluffs boat launch.

Collections: (PNNL): CZM-384; P&R-30; ARJ-04, 05; GIB-50; (BRY): Baird 110, 1134, 1363; (WS): O'Farrell 71-98; (PNNL-TC): Newsome & Sauer 6-11-76; Sauer & Newsome 9-27-77; Fitzner 7-15-74; Sauer 7-16-74

Trifolium fragiferum L. strawberry clover

USDA Code: Trfr2 (Trfr) **lifeform:** forb **origin:** Introduced **duration:** perennial

Distribution/Notes: Reported by Mastrogiuseppe and Gill (1983) on flood bars near Priest Rapids.

Collections: Mastrogiuseppe 2635

Trifolium macrocephalum (Pursh) Poir. bigheaded clover

USDA Code: Trma3 (Trfma) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Reported by Mastrogiuseppe and Gill (1983) on lithosols near Priest Rapids.

Collections: None Available

Trifolium repens L. white clover

USDA Code: Trre3 (Trre) **lifeform:** forb **origin:** Introduced **duration:** perennial

Distribution/Notes: Introduced; widespread weed in moist places near the Columbia River.

Collections: (PNNL): Baird-1018

Vicia americana Muhl. Ex Willd. American vetch

USDA Code: Viam **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Local; collected in Snively Basin and Cold Creek, reported from Priest Rapids.

Collections: (WS): O'Farrell 73-259; Cotton 399; (PNNL-TC): Sauer 5-31-78; Rickard and Cline 6-1-70

Vicia cracca L. bird vetch
USDA Code: Vicr **lifeform:** forb **origin:** Introduced **duration:** perennial
Distribution/Notes: Introduced weed; locally common, mostly in disturbed areas and around old buildings, potentially occurring at Hanford townsite and near Vernita.
Collections: (PNNL): Baird 879, 910; MRS-102; (BRY): Baird 138, 139

Vicia villosa Roth hairy vetch
USDA Code: Vivi (Vivil) **lifeform:** forb **origin:** Introduced **duration:** annual
Distribution/Notes: Reported by TNC from various locations near the Columbia River. Some specimens previously identified as *V. cracca* may be assignable here.
Collections: (PNNL-TC): Newsome & Sauer 9-27-77; J. A. Hall 5-26-85

Fagaceae

Juglans nigra L. black walnut
USDA Code: Juni **lifeform:** tree **origin:** Introduced **duration:** perennial
Distribution/Notes: Introduced tree; planted and persisting at White Bluffs townsite.
Collections: (PNNL): CZM 485; (BRY): Baird 1022

Quercus sp. oak
Quercus sp.
USDA Code: Oak **lifeform:** tree **origin:** Introduced **duration:** perennial
Distribution/Notes: Reported by TNC near shoreline of the Columbia River.
Collections: None Available

Gentianaceae

Centaureum exaltatum (Griseb.) W. Wight ex Piper western centaury
USDA Code: Ceex **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Uncommon; found along drainages; collected along Cold Creek and in drainage ponds on Wahluke Slope.
Collections: (PNNL): MRS-277; (BRY): Baird 1221; (WS): O'Farrell 72-243; Cotton 665

Geraniaceae

Erodium cicutarium (L.) L'Hér. Ex Ait. storksbill
USDA Code: Erci **lifeform:** forb **origin:** Introduced **duration:** annual
Distribution/Notes: Introduced; very common weed of early spring; very widespread in a number of habitats.
Collections: (PNNL): CZM-355; JGL-108, 109; (BRY): Baird 34; (WS): O'Farrell 71-26; (PNNL-TC): Fitzner 5-11-78; Sauer 5-30-75 #22

Geranium viscosissimum Fisch. & C.A. Mey. Ex C.A. Mey. sticky geranium
USDA Code: Gevi2 (Gevi) **lifeform:** forb **origin:** Introduced **duration:** annual
Distribution/Notes: Collected in the Rattlesnake Hills during the early 20th century; not reported since then.
Collections: (WS): Cotton 467

Grossulariaceae

Ribes aureum Pursh golden currant
USDA Code: Riau **lifeform:** shrub **origin:** Native **duration:** perennial
Distribution/Notes: Scattered along drainages, water courses, and the Columbia River; widespread on Hanford.
Collections: (PNNL): CZM 436; (BRY): Baird 13, 764; (WS): O'Farrell 71-35; Cotton 561; Bennett 32; (PNNL-TC): Pendleton 4-18-59; Rickard & Cline 5-1-70; Warren 8-16-78

Ribes cereum Dougl. squaw currant
USDA Code: Rice **lifeform:** shrub **origin:** Native **duration:** perennial
Distribution/Notes: Scattered on hills and slopes of Rattlesnake and Umtanum ridges.
Collections: (PNNL): CZM-337; (BRY): Baird 162, 781, 865; (WS): O'Farrell 71-44; Cotton 553, 559, 560; Bennett 2; (PNNL-TC): Pendleton 6-19-59; Rickard and Cline 5-1-70; Sauer 4-13-78; Warren 8-16-78

Haloragaceae

Myriophyllum spicatum L. spiked water-milfoil
USDA Code: Mysp2 (Mysp) **lifeform:** forb **origin:** Introduced **duration:** perennial
Distribution/Notes: Scattered in the Columbia River.
Collections: (PNNL): CZM- 408

Hydrangeaceae

Philadelphus lewisii Pursh mockorange
USDA Code: Phle4 (Phle) **lifeform:** shrub **origin:** Native **duration:** perennial
Distribution/Notes: Local in canyons and drainages of Rattlesnake and Umtanum ridges.
Collections: (PNNL): CZM 442; (BRY): Baird 190; (WS): O'Farrell 71-125; (PNNL-TC): Sauer & Newsome 6-11-76; Rickard & Cline 6-1-70; Sauer 5-31-78; Warren 8-16-78

Hydrocharitaceae

Elodea canadensis Michx. Canadian waterweed

USDA Code: Elca7 (Elca) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Reported by TNC as well as in Watson et al. (1984) as occurring in the Columbia River and waste ponds; no specimen cited; also reported along Priest Rapids by Mastrogiuseppe and Gill (1983).

Collections: Mastrogiuseppe 2733

Elodea nuttallii (Planch.) St. John Nuttall's waterweed

USDA Code: Elnu2 (Elnu) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Widespread species; occasionally found on Hanford; collected in the Columbia River at 100-F Area.

Collections: (BRY): Baird 1128

Hydrophyllaceae

Hydrophyllum capitatum Dougl. Ex Benth. Ballhead waterleaf

USDA Code: Hyc4 (Hyc4) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Reported by Mastrogiuseppe and Gill (1983) in wet areas, Priest Rapids.

Collections: Mastrogiuseppe 2420

Nama densum J.G. Lemmon var. *parviflorum* (Greenm.) C.L. Hitchc. purplemat

USDA Code: Nadep (Nade) **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Occasional on open sands and dunes, especially in 200 Areas; currently on the Washington State Review 1 list.

Collections: (PNNL): MRS-150; CZM 650; (BRY): Baird 527, 770, 805, 836, 1065, 1072; (WTU): Caplow & Beck 97005, 97019

Phacelia glandulifera Piper sticky scorpionweed

USDA Code: Phgl2 (Phgl) **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Uncommon; collected in sandy areas west of 200 West Area.

Collections: (PNNL): CZM 651A; (PNNL-TC): Rickard 5-20-86

Phacelia hastata Dougl. Ex Lehm. whiteleaf scorpionweed

USDA Code: Phha **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Common on open sand and dunes; widespread on Hanford.

Collections: (PNNL): Baird-809, 897; MRS-63; JGL-104, 105; (BRY): Baird 38, 850, 861, 928, 991; (WS): O'Farrell 71-129; Griffiths & Cotton 26; (PNNL-TC): Rickard & Cline 6-1-70; Sauer 6-10-75 #29, 6-1-70 #15; Pendleton 6-18-59, 6-8-59, 6-19-59; Sauer et al. 5-12-80; no collector 5-7-80

Phacelia heterophylla Pursh virgate scorpionweed
USDA Code: Phhe2 (Phhe) *lifeform:* forb *origin:* Native *duration:* perennial
Distribution/Notes: Local; collected on rocky slopes at base of Umtanum Ridge.
Collections: (PNNL): MRS-244; (BRY): Baird 164

Phacelia linearis (Pursh) Holz. threadleaf scorpionweed
USDA Code: Phli *lifeform:* forb *origin:* Native *duration:* annual
Distribution/Notes: Common and widespread in a variety of habitats; found often where sandy but also in rocky sites.
Collections: (PNNL): GLF-182; Baird-896; MRS-31; P&R-36; JGL-106, 107; /VAU-29, 30; /RFG-11; (BRY): Baird 187, 588, 625, 708, 842, 870; (WS): O'Farrell 71-113; Cotton 330; (PNNL-TC): Sauer 4-18-78, 4-27-76; Davis 5-7-53; Rickard 6-22-70; Rotenberry 5-29-75 #1; Warren 4-18-78, 5-8-79; Rogers 5-6-75; Gano 5-7-79; Warren & Hinds 5-20-80

Phacelia ramosissima Dougl. ex Lehm. basalt scorpionweed
USDA Code: Phra2 (Phra) *lifeform:* forb *origin:* Native *duration:* perennial
Distribution/Notes: Local on basalt talus at base of Umtanum Ridge.
Collections: (PNNL): MRS-160; (BRY): Baird 163; (WS): O'Farrell 73-276

Hypericaceae (Clusiaceae)

Hypericum formosum Kunth western St. John's-wort
Hypericum scouleri Hook.
USDA Code: Hysc5 (Hyfo) *lifeform:* forb *origin:* Native *duration:* perennial
Distribution/Notes: Known from older collections from moist ground in the Rattlesnake Hills. Also reported from Priest Rapids by Mastroggiuseppe and Gill (1983).
Collections: (WS): Cotton 693; St. John 8093

Hypericum majus (Gray) Britt. Canadian St. John's-wort
USDA Code: Hyma2 (Hyma) *lifeform:* forb *origin:* Native *duration:* annual
Distribution/Notes: Washington State sensitive species. Uncommon; scattered in wet areas along the Columbia River.
Collections: (PNNL): Caplow & Beck 95108; (WTU): Caplow & Beck 94069, 95115

Hypericum perforatum L. Klamath weed
USDA Code: Hype *lifeform:* forb *origin:* Introduced *duration:* perennial
Distribution/Notes: Common along the shore of the Columbia River, often below the high water mark, as at Priest Rapids, 100-D and 100-K Areas, and White Bluffs townsite.
Collections: (PNNL): CZM-406; GIB-62; (BRY): Baird 191, 1088, 1125, 1183, 1206

Iridaceae

Iris missouriensis Nutt. western blue flag
USDA Code: Irmi **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Observed in bottom lands along the Yakima River; no collections made.
 Reported in wet areas near Priest Rapids.
Collections: None Available

Iris pseudacorus L. yellow flag
USDA Code: Irps **lifeform:** forb **origin:** Introduced **duration:** perennial
Distribution/Notes: Along the Columbia River in the Hanford townsite slough; also present in
 the Yakima River delta.
Collections: None Available

Juncaceae

Juncus articulatus L. jointed rush
USDA Code: Juar4 (Juar) **lifeform:** graminoid **origin:** Native **duration:** perennial
Distribution/Notes: Scattered along the shore of the Columbia River, as at Hanford townsite
 and White Bluffs slough; also on ALE and Wahluke Slope.
Collections: (PNNL): MRS-263; CZM-469; (BRY): Baird 1003, 1036, 1234;
 (PNNL-TC): Newsome & Sauer 9-27-77; Warren 8-12-80

Juncus balticus Willd. Baltic rush
USDA Code: Juba **lifeform:** graminoid **origin:** Native **duration:** perennial
Distribution/Notes: Scattered along the shore of the Columbia River, as at White Bluffs
 slough and Priest Rapids.
Collections: (PNNL): MRS-90, 229; (BRY): Baird 652, 1036a; (PNNL-TC): Warren
 8-12-80; Davis 4-24-52; Sauer 5-15-80

Juncus bufonius L. toad rush
USDA Code: Jubu **lifeform:** graminoid **origin:** Native **duration:** perennial
Distribution/Notes: Local, wet areas along the Columbia River and elsewhere; collected in
 moist ground along Cold Creek.
Collections: (BRY): Baird 960

Juncus ensifolius Wikstr. var. *montanus* (Engelm.) dagger-leaf rush
Juncus saximontanus A. Nels.
USDA Code: Juen **lifeform:** graminoid **origin:** Native **duration:** perennial
Distribution/Notes: Reported by Mastrogioseppe and Gill (1983) from wet areas in the
 vicinity of Priest Rapids.
Collections: Mastrogioseppe 2445

- Juncus mertensianus*** Bong. Merten's rush
USDA Code: Jume3 (Jume) **lifeform:** graminoid **origin:** Native **duration:** perennial
Distribution/Notes: Occasional along the shore of the Columbia River; collected near White Bluffs townsite.
Collections: (BRY): Baird 1084, 1085
- Juncus nevadensis*** S. Wats. var. ***columbianus*** (Coville) St. John Sierra rush
USDA Code: Junec (June) **lifeform:** graminoid **origin:** Native **duration:** perennial
Distribution/Notes: Wetland areas along the Columbia River and in moist drainages in the Rattlesnake Hills.
Collections: (PNNL): MRS-294; (WS): Cotton 668, 669 in part
- Juncus nodosus*** L. tuberous rush
USDA Code: Juno2 (Juno) **lifeform:** graminoid **origin:** Native **duration:** perennial
Distribution/Notes: Scattered along the Columbia River in moist ground, as at Hanford townsite.
Collections: (PNNL): GIB-63; (PNNL-TC): Newsome & Sauer 9-27-77
- Juncus regelii*** Buch. Regel's rush
USDA Code: Jure **lifeform:** graminoid **origin:** Native **duration:** perennial
Distribution/Notes: Known only from very old reports from along Snipes Creek on west side of Rattlesnake Mountain; specimen not found at WSU herbarium.
Collections: (WS): Cotton 669 in part
- Juncus tenuis*** Willd. slender rush
Juncus tenuis Willd.; *Juncus occidentalis* Wieg.; or *Juncus dudleyi* Wieg.
USDA Code: Jute **lifeform:** graminoid **origin:** Native **duration:** perennial
Distribution/Notes: Common along the shore of the Columbia River; widespread on Hanford. Mastroggiuseppe and Gill (1983) report both var. *conjestus* and var. *dudleyi* from the Priest Rapids area.
Collections: (PNNL): MRS-262; Baird-1002, 1037; (BRY): Baird 1017, 1153, 1211, 1262; (WS): O'Farrell 71-95
- Juncus torreyi*** Coville Torrey's rush
USDA Code: Juto **lifeform:** graminoid **origin:** Native **duration:** perennial
Distribution/Notes: Occasional along the shore of the Columbia River; collected at Coyote Rapids.
Collections: (BRY): Baird 1381; (WS): O'Farrell 72-250

Juncaginaceae

Triglochin maritimum L. seaside arrowgrass
USDA Code: Trma4 (Trgma) **lifeform:** graminoid **origin:** Native **duration:** perennial
Distribution/Notes: Scattered along the Columbia River, and in drainage ponds on Wahluke Slope. Collected near Allard pumphouse.
Collections: (PNNL): MRS-287; (PNNL-TC): Pendleton 8-25-59; (PNNL): Caplow & Beck 95122

Triglochin palustre L. marsh arrowgrass
USDA Code: Trpa6 (Trpa) **lifeform:** graminoid **origin:** Native **duration:** perennial
Distribution/Notes: Uncommon along the shore of the Columbia River; collected at White Bluffs townsite.
Collections: (BRY): Baird 1080

Lamiaceae

Agastache occidentalis (Piper) Heller western horsemint
USDA Code: Agoc **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Common in rocky-loamy soils atop Rattlesnake Ridge.
Collections: (PNNL): CZM-676; (BRY): Baird 1303; (WS): O'Farrell 71-116; (PNNL-TC): Pendleton 6-19-59; Watson 6-10-59; Warren 8-16-78

Glechoma hederacea L. field balm
USDA Code: Glhe2 (Glhe) **lifeform:** forb **origin:** Introduced **duration:** perennial
Distribution/Notes: Introduced species, reported from ALE by TNC.
Collections: None Available

Lycopus americanus Muhl. Ex W. Bart. cut-leaf bugleweed
USDA Code: Lyam **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Uncommon; scattered along the Columbia River near 100-N Area.
Collections: (PNNL): MRS-316

Lycopus asper Greene rough bugleweed
USDA Code: Lyas **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Uncommon, along the Columbia River in moist ground such as near 100-B Area and Priest Rapids.
Collections: (PNNL): GIB-56

- Marrubium vulgare*** L. horehound
USDA Code: Mavu **lifeform:** forb **origin:** Introduced **duration:** perennial
Distribution/Notes: Introduced weed; occasional in disturbed areas; collected in Snively Canyon.
Collections: (PNNL): CZM-440; (WS): O'Farrell 71-123; (PNNL-TC): Rickard & Cline 9-4-70
- Mentha arvensis*** L. field mint
USDA Code: Mear4 (Mear) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Collected in the Rattlesnake Hills, elevation 3,400 feet. Reported from central Hanford, along the Columbia River, and from Wahluke Slope by TNC.
Collections: (WS): Cotton 699
- Mentha piperita*** L. peppermint
Mentha x piperita L. (pro sp.)
USDA Code: Mepi **lifeform:** forb **origin:** Introduced **duration:** perennial
Distribution/Notes: Collected near upper Snively Spring.
Collections: (PNNL): CZM-476
- Mentha spicata*** L. spearmint
USDA Code: Mesp3 (Mensp) **lifeform:** forb **origin:** Introduced **duration:** perennial
Distribution/Notes: Introduced and cultivated, often escaping; found at Rattlesnake Springs.
Collections: (WS): O'Farrell 71-154
- Monardella odoratissima*** Benth. coyote mint
USDA Code: Mood **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Local on rocky slopes and canyons of Umtanum Ridge and reported from Rattlesnake Ridge and White Bluffs.
Collections: (BRY): Baird 185; (WS): O'Farrell 72-233; Cotton 760; St. John 8089; Lake & Hull 705
- Nepeta cataria*** L. catnip
USDA Code: Neca2 (Neca) **lifeform:** forb **origin:** Introduced **duration:** perennial
Distribution/Notes: Introduced weed; occasional in moist areas, as at Hanford townsite, Coyote Rapids, and elsewhere.
Collections: (BRY): Baird 1224, 1290, 1371
- Physostegia parviflora*** Nutt. Ex Gray purple dragonhead
USDA Code: Phpa10 (Phypa) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Uncommon; collected at Hanford townsite.
Collections: (PNNL-TC): Warren no date

Prunella vulgaris L. selfheal
USDA Code: Prvu **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Common weed elsewhere; rare; often of disturbed areas; collected at White Bluffs townsite; reported from Wahluke Slope.
Collections: (PNNL): GIB-43

Salvia dorrii (Kellogg) Abrams grayball sage
USDA Code: Sado4 (Sado) **lifeform:** shrub **origin:** Native **duration:** perennial
Distribution/Notes: Occasional and scattered in gravelly or rocky areas, often with sagebrush.
Collections: (PNNL): MRS-146; JGL-110, 111, 112, 113; (BRY): Baird 41, 692, 857, 967; (WS): O'Farrell 71-85; Cotton 388, 467; Griffiths & Cotton 25; (PNNL-TC): Sauer 6-17-75 #14; Davis no date; Hanson 6-10-61; Gano 5-2-79; McShane 5-12-79

Stachys palustris L. swamp hedge-nettle
Stachys pilosa Nutt.
USDA Code: Stpi6 (Stpau) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Uncommon; scattered along the Columbia River.
Collections: (PNNL): GLF-172; (WTU): Caplow & Beck 95120

Lemnaceae

Lemna minor L. duckweed
USDA Code: Lemi3 (Lemi) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Widespread floating aquatic plant of ponds and pools; sometimes forming large mats on still water.
Collections: (BRY): Baird 873; (WS): O'Farrell 72-240

Liliaceae

Allium acuminatum Hook. Hooker's onion
USDA Code: Alac4 (Alac) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Reported from the Rattlesnake Hills by TNC and others; neither of the older referenced specimens could be located at WS. Also reported from various habitats in the Priest Rapids area by Mastrogiuseppe and Gill (1983).
Collections: (WS): O'Farrell 73-274; Bennett 4-26; (WTU): Caplow & Beck 94039

Allium cernuum Roth nodding onion
USDA Code: Alce2 (Alce) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Occasional along the shores of the Columbia River, as at Vernita
Collections: (PNNL): MRS-169, 288; GIB-21, 22; (WS): Lake & Hull 8-11-1892

- Allium douglasii* Hook. Douglas' onion
USDA Code: Aldo **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Local; collected on upper slopes of Rattlesnake Ridge.
Collections: (PNNL): CZM-667; (BRY): Baird 1294
- Allium macrum* S. Wats. rock onion
USDA Code: Alma5 (Alma) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Scattered on rocky flats on top of Rattlesnake Ridge and other main ridges and hills in region.
Collections: (BRY): Baird 762, 1562; (WS): O'Farrell 71-15; Bennett 4-13-26; Daubenmire 5817; (PNNL-TC): Pendleton 4-27-59
- Allium robinsonii* Henderson Robinson's onion
USDA Code: Alro **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Common and scattered in a variety of habitats, usually near the Columbia River, as at China Bar, Hanford slough, and Coyote Rapids, but also with sagebrush, as on the Wahluke Slope, Horn Rapids, and Badger Mountain; State Watch List species.
Collections: (PNNL): MRS-194; JGL-114; (BRY): Baird 564, 573, 614; (PNNL-TC): Sauer 6-4-80, 4-17-76, 4-20-78; Davis 4-22-53; Pendleton 4-17-59; no collector 4-79; (WTU): Caplow & Beck 95002
- Allium schoenoprasum* L. chives
USDA Code: Alsc (Alsch) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Common and widespread along the shores of the Columbia River, mostly in gravels.
Collections: (PNNL): MRS-314; JGL-115, 116; (BRY): Baird 193, 607, 825, 1090, 1398; (WS): Beattie 3964; St. John 3319; Lake & Hull 8-9-1892; (PNNL-TC): Sauer 6-5-80; Sauer & Durham 8-7-75 #14; Rickard 4-20-61; Davis 4-24-53, 4-24-52; Sauer et al. 5-12-80; Warren 5-8-79
- Allium scilloides* Dougl. Ex S. Wats. squill onion
USDA Code: Alsc2 (Alsci) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: State Watch List species; local on lower slopes and canyons of Umtanum Ridge.
Collections: (PNNL): MRS-216; Baird-1550; (WTU): Caplow & Beck 95008
- Asparagus officinalis* L. asparagus
USDA Code: Asof **lifeform:** forb **origin:** Introduced **duration:** perennial
Distribution/Notes: Introduced crop plant; escaping and now widespread in deep soils near the Columbia River, as at Hanford townsite and Horn Rapids.
Collections: (PNNL): CZM-352; P&R-01, VAU-31; (BRY): Baird 839; (PNNL-TC): Newsome and Sauer 9-27-77

Brodiaea douglasii S. Wats. Douglas' clusterlily

Triteleia grandiflora Lindl. var. *grandiflora*

USDA Code: Trgrg2 (Brdo) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Common and widespread, especially in sandy or loamy soils as on Rattlesnake Ridge and throughout the 200 Area plateau.

Collections: (PNNL): MRS-44; P&R-39; VAU-32; JGL-117, 118, 119; (BRY): Baird 19, 523; (WS): O'Farrell 71-29; Bennett 4-19-26; (PNNL-TC): Sauer 6-10-75 #20, 4-18-78; Pendleton 4-21-59; Rickard & Cline 5-1-70; no collector 5-11-73

Brodiaea howellii S. Wats. Howell's clusterlily

Triteleia grandiflora Lindl. var. *howellii* (S. Wats) Hoove

USDA Code: Trgrh (Brho) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Collected on 200 Area plateau, not as common as *B. douglasii*.

Collections: (PNNL): P&R-53

Calochortus macrocarpus Dougl. sagebrush mariposa lily

USDA Code: Cama5 (Cama) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Common late-spring flower, mostly with sagebrush; widespread on Hanford.

Collections: (PNNL): CZM-337; Baird-922; MRS-148; JGL-120; /GIB-23; /RFG-12,13; (BRY): Baird 144, 1048; (WS): O'Farrell 71-88; (PNNL-TC): Rickard & Cline 6-1-70; Rickard & Fitzner 5-22-86; (WTU): Caplow & Beck 97078

Fritillaria pudica (Pursh) Spreng. yellow bell

USDA Code: Frpu2 (Frpu) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Scattered in a variety of habitats, sometimes becoming locally abundant, as in 200 Areas.

Collections: (PNNL): Baird-1554; JGL-121, 122; VAU-33, 34; RFG-14; (BRY): Baird 696, 723a, 783, 1554; (WS): O'Farrell 72-174, 72-187; Bennett 4-19-26; St. John 8113; (PNNL-TC): Sauer 4-9-76; Pendleton 4-10-59; Davis 3-26-53, 4-2-52; Rickard 3-21-61; Warren & McShane 5-12-80

Smilacina stellata (L.) Desf. starflower

Maianthemum stellatum (L.) Link

USDA Code: Mast4 (Smst) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Local; collected at Bobcat Spring and the Rattlesnake Hills.

Collections: (WS): O'Farrell 72-205; Cotton 578; (PNNL-TC): Gano 5-79

Yucca filamentosa L. Adam's needle

USDA Code: Yufi **lifeform:** sub-shrub **origin:** Introduced **duration:** perennial

Distribution/Notes: Introduced ornamental, persisting around old buildings and building sites; collected near 100-D Area.

Collections: (BRY): Baird 1179

Yucca glauca Nutt. soapweed
USDA Code: Yugl **lifeform:** sub-shrub **origin:** Introduced **duration:** perennial
Distribution/Notes: Introduced ornamental, persisting around old buildings or building sites; collected in sandy areas of north Richland.
Collections: (PNNL): CZM-427; (BRY): Baird 853, 1137

Zigadenus paniculatus (Nutt.) S. Wats. foothill deathcamas
USDA Code: Zipa2 (Zipa) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Uncommon; collected on Gable Butte and the ALE Reserve.
Collections: (PNNL): JGL-124; (WS): O'Farrell 71-30; Cotton 336; Bennett

Zigadenus venenosus S. Wats. meadow deathcamas
USDA Code: Zive **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Common and widespread in dry to moist sites, especially on Rattlesnake Ridge.
Collections: (PNNL): MRS-42; JGL-123; VAU-35; (BRY): Baird 100; (PNNL-TC): Rickard & Cline 5-1-70; Gano 5-30-79

Linaceae

Linum perenne L. wild blueflax
USDA Code: Lipe2 (Lipe) **lifeform:** forb **origin:** Introduced **duration:** perennial
Distribution/Notes: Local, mainly in grassy areas, as on slopes of Rattlesnake Ridge.
Collections: (WS): Cotton 424; Bennett 50; (PNNL-TC): Sauer 5-20-80; McShane 5-7-79; Gano 5-7-79; Warren 5-11-79

Loasaceae

Mentzelia albicaulis (Dougl. Ex Hook.) Dougl. Ex Torr. & Gray whitestem stickleaf
USDA Code: Meal6 (Mena) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Common and widespread, mostly in sandy areas.
Collections: (PNNL): CZM-641; Baird-832; MRS-45; P&R-32; JGL-126, 127; /VAU-36, 37; /PB-03; (BRY): Baird 706, 803, 938, 1062, 1107; (WS): O'Farrell 71-33, 71-59; (PNNL-TC): Sauer 4-26-76; Rickard 5-3-61, 5-20-86; Whittaker 5-6-52; McShane 4-30-79; Gano 5-10-79; Warren 5-2-79

Mentzelia laevicaulis (Dougl. Ex Hook.) Torr. & Gray blazingstar
USDA Code: Mela2 (Mela) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Scattered, mostly in gravelly areas, as at Gable Butte, Priest Rapids, Bobcat Canyon, and along roadcuts south of West Lake; also reported from Wahluke Slope.

Collections: (PNNL): CZM-410; GIB-24, 25, 38; (BRY): Baird 150, 1226; (WS): O'Farrell 71-66; (PNNL-TC): Davis 6-26-52; Warren 8-16-78, Sauer 8-9-74

Lythraceae

Ammannia coccinea Rottb. scarlet ammannia

Ammannia robusta Heer & Regel

USDA Code: Amro (Amro) **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Scattered along the Columbia River in wet ground; currently on the Washington State Review 1 list.

Collections: (WTU): Caplow & Beck 94065

Lythrum hyssopifolium L. Hyssop loosestrife

USDA Code: Lyhy2 (Lyhy) **lifeform:** forb **origin:** Introduced **duration:** annual

Distribution/Notes: Reported by TNC along the Columbia River.

Collections: (WTU): Caplow & Beck 97048

Lythrum salicaria L. purple loosestrife

USDA Code: Lysa2 (Lysa) **lifeform:** forb **origin:** Introduced **duration:** perennial

Distribution/Notes: Introduced, noxious weed. Increasing at many wetland areas along the Columbia River.

Collections: (PNNL): MRS-284, 289

Rotala ramosior (L.) Koehne toothcup

USDA Code: Rora **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Uncommon and local in wet ground of the Columbia River's edge; currently on the Washington State Review 1 list.

Collections: (PNNL): GLF-8-29-95; (BRY): Baird 1406; (PNNL-TC): Warren & Sauer 10-6-80; (WTU): Caplow & Beck 94060

Malvaceae

Sphaeralcea ambigua Gray apricot globemallow

USDA Code: Spam2 (Spam) **lifeform:** forb **origin:** Introduced **duration:** perennial

Distribution/Notes: Cultivated, but escaped and occasionally persisting; north Richland.

Collections: (PNNL): CZM-397

Sphaeralcea grossulariifolia (Hook. & Arn.) Rydb. gooseberry-leaved globemallow

USDA Code: Spgr2 (Sphgr) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Reported by Mastrogiuseppe and Gill (1983) from shrub-steppe area near Priest Rapids; also collected west of the Yakima barricade.

Collections: Mastrogiuseppe 2358; Grable 2538

Sphaeralcea munroana (Dougl. Ex Lindl.) Spach ex Gray Munro's globemallow

USDA Code: Spmu2 (Spmu) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Common and widespread, mostly in dry silty soils, as along Cold Creek Valley and in the 100 Areas.

Collections: (PNNL): CZM-336; P&R-66; VAU-38, 39; JGL-128, 129, 130, 131; (BRY): Baird 801 812, 854, 876, 985; (WS): O'Farrell 71-81; (PNNL-TC): Fitzner 5-11-78; Sauer 5-30-75 #13; Rickard & Cline 6-1-70; Davis 5-28-53; Pendleton 5-7-58; Sauer & Owzarski 5-15-80; McShane 5-17-79; Warren 5-8-79; Rickard 5-22-86; Rickard and Fitzner 5-22-86

Marsileaceae

Marsilea vestita Hook. & Grev. clover fern

USDA Code: Mave2 (Mave) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Common in wet or, at least seasonally wet areas; often in gravel, mostly along the shore of the Columbia River but also on Wahluke Slope.

Collections: (PNNL): Baird-1143; MRS-89, 121; (BRY): Baird 1158, 1197, 1204, 1316; (PNNL-TC): Davis 7-30-53

Moraceae

Morus alba L. white mulberry

USDA Code: Moal **lifeform:** tree **origin:** Introduced **duration:** perennial

Distribution/Notes: Introduced tree; widely planted and occasionally escaping along the Columbia River.

Collections: (PNNL): CZM 344, 398; (BRY): Baird 822

Nyctaginaceae

Abronia mellifera Dougl. Ex Hook. white sand verbena

USDA Code: Abme **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Common in open sand and dunes; widespread in region.

Collections: (PNNL): MRS-28; P&R-72; JGL-132, 133; VAU-40, 41, 42; (BRY): Baird 941; (PNNL-TC): Newsome and Sauer 6-11-76; Davis 5-15-53, 5-28-53; Sauer 5-9-78; Sauer et al. 5-12-80; (WTU): Caplow & Beck 97022

Oleaceae

Fraxinus pennsylvanica Marsh. green ash

USDA Code: Frpe **lifeform:** tree **origin:** Introduced **duration:** perennial

Distribution/Notes: Introduced tree; planted and persisting at 100-H Area.

Collections: (PNNL): CZM-431; Baird-994

Syringa vulgaris L. lilac
USDA Code: Syvu **lifeform:** shrub **origin:** Introduced **duration:** perennial
Distribution/Notes: Introduced ornamental shrub; persisting at Snively Springs and occasionally around abandoned buildings in the 200 Areas.
Collections: (PNNL): CZM-397; (WS): O'Farrell 73-260; (PNNL-TC): Rickard and Cline 5-1-70; Warren 8-16-78

Onagraceae

Boisduvalia glabella (Nutt.) Walp. smooth spikeprimrose
Epilobium pygmaeum (Speg.) Hoch & Raven
USDA Code: Eppy4 (Bogl) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Reported from near the Columbia River by TNC.
Collections: (WTU): Caplow & Beck 95109

Boisduvalia stricta (Gray) Greene stiff spikeprimrose
Epilobium torreyi (S. Wats.) Hoch & Raven
USDA Code: Epto4 (Bost) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Collected in canyons of the Rattlesnake Hills during very early 20th century; not observed on Hanford since that time.
Collections: (WS): Cotton 690

Epilobium angustifolium L. fireweed
Chamerion angustifolium (L.) Holub
USDA Code: Chan9 (Epan) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Local along water courses; collected at head of Z-ditch, in Upper Snively Basin, and reported from Snipes Creek.
Collections: (PNNL): CZM-477; Baird-1200; (WS): Cotton 883; (PNNL-TC): Sauer 5-31-78

Epilobium glaberrimum Barbey smooth willowherb
USDA Code: Epgl (Epglb) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Uncommon; found along water courses; collected along Cold Creek.
Collections: (BRY): Baird 961; (WS): O'Farrell 71-150

Epilobium glandulosum Lehm. var. *tenu*e (Trel.) C.L. Hitchc. common willowherb
Epilobium halleanum Hausskn.
USDA Code: Epha (Epgln) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Reported on flood bars near Priest Rapids by Mastrogiuseppe and Gill (1983).
Collections: Mastrogiuseppe 2602, 2620

Epilobium minutum Lindl. Ex Lehm. small willowherb

USDA Code: Epmi **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Uncommon; collected along Cold Creek Wash and along Horn Rapids Road.

Collections: (BRY): Baird 176; (PNNL-TC): Hinds 4-25-80

Epilobium palustre L. swamp willowherb

Epilobium palustre L. or *Epilobium leptophyllum* Raf.

USDA Code: Eppa (Eppl) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Reported in wet areas at Priest Rapids by Mastrogiuseppe and Gill (1983).

Collections: Mastrogiuseppe 2433

Epilobium paniculatum Nutt. ex Torr. & Gray tall willowherb

Epilobium brachycarpum K. Presl

USDA Code: Epbr3 (Eppa) **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Common and widespread in sandy soil, especially disturbed areas in sagebrush.

Collections: (PNNL): P&R-07; JGL-134; VAU-43, 44; (WS): O'Farrell 71-165, 72-255b; (PNNL-TC): Sauer 8-5-75 #1a; Combs 8-1-75 #2; Rickard 7-17-86; Sauer 8-8-74

Epilobium watsonii Barbey Watson's willowherb

Epilobium ciliatum Raf. ssp. *watsonii* (Barbey) Hoch & Raven
or ssp. *glandulosum* (Lehm.)

USDA Code: Epci (Epwa) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Very common in wet areas along the Columbia River and other water courses.

Collections: (PNNL): CZM-473; MRS-188, 282, 315; (BRY): Baird 1203, 1225, 1291, 1308, 1319, 1341, 1414; (PNNL-TC): Warren & Sauer 10-6-80

Gayophytum diffusum Torr. & Gray spreading gayophytum

USDA Code: Gadi2 (Gadi) **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Reported by TNC on central Hanford.

Collections: (WTU): Caplow & Beck 95025

Gayophytum ramosissimum Torr. & Gray hairstem gayophytum

USDA Code: Gara2 (Gara) **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Cold Creek valley; reported by TNC from central Hanford.

Collections: (WTU): Caplow & Beck 95057; (PNNL-TC): Sauer 6-11-75

- Ludwigia palustris*** (L.) Ell. false loosestrife
USDA Code: Lupa **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Reported by TNC from moist areas along the Columbia River, central Hanford, and Wahluke Slope.
Collections: (WTU): Caplow & Beck 94061, 95113, 95118
- Oenothera andina*** Nutt. obscure desertprimrose
Camissonia andina (Nutt.) Raven
USDA Code: Caan14 (Caan) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Uncommon; collected in the 200 Areas, and Rattlesnake Hills; scattered elsewhere.
Collections: (PNNL): P&R-88; (WS) Cotton 415
- Oenothera caespitosa*** Nutt. (var. *caespitosa* and *purpurea*) rockrose
Oenothera caespitosa Nutt. ssp. *caespitosa*
USDA Code: Oece2 (Oece) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Washington State sensitive species occurring in cobbled soil near the Columbia River, mostly above the high water mark, as at China Bar. Also found on steep rocky slopes and ridges, i.e., Yakima Ridge near Rattlesnake Springs.
Collections: (PNNL): Baird-1253; (PNNL-TC): Davis 5-6-53; (WTU): Caplow & Beck 94030
- Oenothera contorta*** Dougl. Ex Lehm. bentpod desertprimrose
Camissonia contorta (Dougl. Ex Lehm.) Kearney
USDA Code: Caco34 (Caco) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Uncommon; collected in Cold Creek Valley; reported from ALE.
Collections: (WS): O'Farrell 74-292; (WTU): Caplow & Beck 95019, 95027
- Oenothera hilgardii*** Greene Hilgard's desertprimrose
Camissonia hilgardii (Greene) Raven
USDA Code: Cahi12 (Cahi) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Uncommon; collected at crest of Rattlesnake Mountain and Cold Creek Valley.
Collections: (WS): O'Farrell 71-137; Cotton 400
- Oenothera minor*** (A. Nels.) Munz small-flowered desertprimrose
Camissonia minor (A. Nels.) Raven
USDA Code: Cami23 (Camin) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Washington State review list species. Uncommon: scattered on ALE, near Gable Mountain, and in a gravel pit between the 200 Areas.
Collections: (PNNL): CZM-392; GLF-179; (WTU): Caplow & Beck 95026, 95067, 95074

Oenothera pallida Lindl. pale evening primrose

USDA Code: Oepa **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Common on open sand and sand dunes; widespread.

Collections: (PNNL): CZM-331; MRS-46; P&R-81; JGL-135; PB-04; (BRY): Baird 9, 929, 992; (WS): O'Farrell 71-86; Snodgrass 7-1903; Beattie 3945; (PNNL-TC): Fitzner 5-11-78; Sauer 6-13-75 #1, 5-30-75 #17; Sauer and Durham 8-7-75 #4; McShane 4-30-79; Gano 5-3-79; Warren 5-8-79

Oenothera parvula Nutt. ex Torr. & Gray small desertprimrose

Camissonia parvula (Nutt. ex Torr. & Gray) Raven

USDA Code: Capa39 (Capa) **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Uncommon; collected on stable sand dunes, 200 Areas; reported from Wahluke Slope by TNC.

Collections: (BRY): Baird 835; (PNNL-TC): specimen, but no information ID by Caplow & Beck; (WTU): Caplow & Beck 95018

Oenothera pygmaea Dougl. Ex Lehm. dwarf desertprimrose

Camissonia pygmaea (Dougl. Ex Lehm.) Raven

USDA Code: Capy5 (Capy) **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Washington State threatened species. Local in dry, silty soil on the White Bluffs, near Vernita Bridge, and Pit 11. Reported from ALE.

Collections: (PNNL): MRS 255, 267; (BRY): Baird 151; (WTU): Caplow & Beck 95029, 95033, 97026

Oenothera strigosa (Rydb.) Mackenzie & Bush common eveningprimrose

Oenothera villosa Thunb. ssp. *strigosa* (Rydb.) W. Dietr. & Raven

USDA Code: Oevi (Oest) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Scattered along the shores of the Columbia River.

Collections: (PNNL): CZM-356; MRS-162, 180; (BRY): Baird 206, 1205; (PNNL-TC): Sauer 6-6-80

Orchidaceae

Epipactis gigantea Dougl. Ex Hook. giant helleborine

USDA Code: Epgi **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Reported by Mastrogiuseppe and Gill (1983) at springs near Priest Rapids.

Collections: Mastrogiuseppe 2438, 2677

Spiranthes romanzoffiana Cham. ladies's tresses

USDA Code: Spro **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Reported by TNC along the Columbia River, central Hanford.

Collections: (New York State Museum): Caplow & Beck 95128

Orobanchaceae

Orobanche corymbosa (Rydb.) Ferris flattop broomrape

USDA Code: Orco5 (Orco) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Common and widespread in sandy soil with sagebrush; a root parasite.

Collections: (PNNL): Baird-944; MRS-147; GIB-26; /JGL-136, 137; /VAU-45; (BRY): Baird 1061, 1074, 1217, 1237a, 1257; (PNNL-TC): Thiede 7-80

Orobanche fasciculata Nutt. clustered broomrape

USDA Code: Orfa **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Scattered in mostly rocky-silty soil, as on Umtanum Ridge, the White Bluffs, and Gable Mountain, but also collected in sand at Hanford townsite and the western portion of 200 West Area.

Collections: (PNNL): CZM-643; GLF-5-16-96; (BRY): Baird 156, 1052, 1111, 1118; (PNNL-TC): Sauer 6-14-76

Orobanche grayana G. Beck Gray's broomrape

Orobanche californica Cham. & Schlecht. ssp. *grayana* (G. Beck) Heckard

USDA Code: Orgr **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Reported from ALE. Similar in appearance to *O. corymbosa*; unusual collection in that this species normally does not occur with sagebrush.

Collections: (WS): O'Farrell 71-126

Orobanche ludoviciana Nutt. Suksdorf's broomrape

USDA Code: Orlu **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Reported on Wahluke Slope by TNC.

Collections: None Available

Oxalidaceae

Oxalis corniculata L. creeping yellow wood-sorrel

USDA Code: Oxco **lifeform:** forb **origin:** Introduced **duration:** perennial

Distribution/Notes: Occasional along the Columbia River. Collected at F slough.

Collections: (PNNL): Caplow & Beck 95124.

Plantaginaceae

Plantago lanceolata L. English plantain

USDA Code: Plla **lifeform:** forb **origin:** Introduced **duration:** perennial

Distribution/Notes: Introduced weed of moist areas; widespread and common.

Collections: (PNNL): MRS-140; JGL-138; (BRY): Baird 1005, 1263

Plantago major L. common plantain
USDA Code: Plmaj **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Common widespread weed along rivers and other moist areas.
Collections: (BRY): Baird 1321, 1378

Plantago patagonica Jacq. Indian wheat
USDA Code: Plpa2 (Plpa) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Common, widespread native; found in a variety of habitats, such as ALE, White Bluffs and Hanford townsites, 100 Areas, and Horn Rapids Park.
Collections: (PNNL): CZM-356; MRS-127; P&R-73; JGL-139, 140; (BRY): Baird 142, 810, 878, 987; (WS): O'Farrell 73-267; (PNNL-TC): Fitzner 5-11-78; DW Uresk 5-31-73

Platanaceae

Platanus occidentalis L. sycamore
USDA Code: Ploc **lifeform:** tree **origin:** Introduced **duration:** perennial
Distribution/Notes: Introduced, cultivated shade tree; widely planted on Hanford and often persisting.
Collections: (PNNL): CZM-426

Poaceae

Agropyron caninum (L.) Beauv. ssp. *majus* (Vasey) slender wheatgrass
Elymus trachycaulus (Link) Goud ex Shinnery ssp. *trachycaulus*
USDA Code: Eltrt (Agca) **lifeform:** graminoid **origin:** Native **duration:** perennial
Distribution/Notes: Local along the Columbia River, as at 100-F Area, but also reported from the Rattlesnake Hills and Wahluke Slope.
Collections: (PNNL): MRS-81, 94; (PNNL-TC): Warren 8-12-80; Sauer 5-28-80; (WS): Cotton 667

Agropyron cristatum (L.) Gaertn. crested wheatgrass
USDA Code: Agcr **lifeform:** graminoid **origin:** Introduced **duration:** perennial
Distribution/Notes: Introduced grass, used for revegetation projects on Hanford, occasionally escaping and persisting.
Collections: (PNNL): JGL-141; (BRY): Baird 145, 816, 1132; (WS): O'Farrell 71-122; (PNNL-TC): Rickard 6-11-70

Agropyron dasystachyum (Hook.) Scribn. & J.G. Sm. thickspike wheatgrass

Elymus lanceolatus (Scribn. & J.G. Sm.) Gould ssp. *lanceolatus*

USDA Code: Ellal (Agda) **lifeform:** graminoid **origin:** Native **duration:** perennial

Distribution/Notes: Native grass; scattered in sandy soil and sand dunes and often used in revegetation mixes. A form of this species is also common in riparian areas where it is sometimes referred to as *A. riparium* Scribn. & Smith.

Collections: (PNNL): MRS-79, 94; VAU-46, 47; AS-1; (BRY): Baird 1115; (PNNL-TC): Sauer & Owzarski 5-15-80; Warren 8-12-80

Agropyron intermedium (Host) Beauv. intermediate wheatgrass

Thinopyrum intermedium (Host) Barkworth & D.R. Dewey

USDA Code: Thin6 (Agin) **lifeform:** graminoid **origin:** Introduced **duration:** perennial

Distribution/Notes: Introduced grass; uncommon and likely brought in as a part of or as a contaminant in a seed mixture; observed along roadsides. Collected in 200 Areas and on top of Saddle Mountains.

Collections: (WHC): MRS-27; Baird-1175

Agropyron repens (L.) Beauv. quackgrass

Elymus repens (L.) Gould

USDA Code: Elre4 (Agre) **lifeform:** graminoid **origin:** Introduced **duration:** perennial

Distribution/Notes: Introduced lawn grass; sporadic, not of dry desert areas but of more moist areas, as near the Columbia River at 100-D Area.

Collections: (PNNL): Baird-1161

Agropyron sibiricum (Willd.) Beauv. Siberian wheatgrass

Agropyron fragile (Roth) P. Candargy

USDA Code: Agfr (Agsi) **lifeform:** graminoid **origin:** Introduced **duration:** perennial

Distribution/Notes: Introduced grass; widely used in revegetation mixes, but probably closely related to *A. cristatum* (*A. desertorum*).

Collections: (PNNL): JGL-142; (BRY): Baird 1133, 1148, 1161

Agropyron spicatum Pursh bluebunch wheatgrass

Pseudoroegneria spicata (Pursh) A. Löve

USDA Code: Pssp6 (Agsp) **lifeform:** graminoid **origin:** Native **duration:** perennial

Distribution/Notes: Very common, dominant native grass at higher elevations of the Hanford Site; important range element; found mostly in loamy or sandy soils, as on Rattlesnake Ridge, but also along the Columbia River, as at 100-D Area and around the 300 Area.

Collections: (PNNL): MRS-108, 111, 112; (BRY): Baird 847, 1057, 1147, 1162; (WS): O'Farrell 71-66, 71-146; (PNNL-TC): Sauer 6-17-75 #6; Warren 8-16-78; Beedlow & McShane 6-83

- Agropyron triticeum*** Gaertn. annual wheatgrass
Eremopyrum triticeum (Gaertn.) Nevski
USDA Code: Ertr13 (**Agtr**) **lifeform:** graminoid **origin:** Introduced **duration:** annual
Distribution/Notes: Reported by TNC on the Wahluke Slope.
Collections: None Available
- Agrostis alba*** L. redtop bentgrass
Agrostis gigantea Roth or *Agrostis stolonifera* L.
USDA Code: Agst2 (**Agal**) **lifeform:** graminoid **origin:** Introduced **duration:** perennial
Distribution/Notes: Introduced grass of moist areas, especially near the Columbia River, as at 100-D and 100-H Areas.
Collections: (PNNL): Baird-1191; (BRY): Baird 1146, 1235; (PNNL-TC): Warren 8-12-80
- Agrostis exarata*** Trin. spike bentgrass
USDA Code: Agex **lifeform:** graminoid **origin:** Native **duration:** perennial
Distribution/Notes: Collected in Upper Snively Basin and reported by TNC along the Columbia River.
Collections: (WS): O'Farrell 72-254; Cotton 707
- Agrostis interrupta*** L. interrupted bentgrass
Apera interrupta (L.) Beauv.
USDA Code: Apin (**Agin**) **lifeform:** graminoid **origin:** Introduced **duration:** annual
Distribution/Notes: Introduced grass of moist areas near the Columbia River, e.g., White Bluffs and 100-K Area.
Collections: (PNNL): Baird-936; (BRY): Baird 1012, 1029
- Agrostis scabra*** Willd. ticklegrass
USDA Code: Agsc5 (**Agsc**) **lifeform:** graminoid **origin:** Native **duration:** perennial
Distribution/Notes: Common in wet areas along the Columbia River: occasionally found in standing water.
Collections: (PNNL): Baird-1193; (BRY): Baird 1149, 1259, 1382, 1383; (PNNL-TC): Newsome & Sauer 9-22-77; Warren 8-12-80; Warren and Sauer 10-6-80
- Agrostis tenuis*** Sibthorp colonial bentgrass
Agrostis capillaris L.
USDA Code: Agca5 (**Agte**) **lifeform:** graminoid **origin:** Introduced **duration:** perennial
Distribution/Notes: Scattered, introduced lawn grass; collected in wet areas at White Bluffs townsite.
Collections: (PNNL-TC): Warren 8-12-80

- Alopecurus aequalis* Sobol. meadow foxtail
USDA Code: Alae **lifeform:** graminoid **origin:** Native **duration:** perennial
Distribution/Notes: Uncommon in wet, gravelly areas along the Columbia River; only known from older reports and collections, as at Richland, Hanford, and 300 Area. TNC reported an unidentified species of *Alopecurus* on the Wahluke Slope.
Collections: (WS): St. John 8122; Beattie 3939; Davis 136; (PNNL-TC): Davis 5-7-53
- Aristida longiseta* Steud. red three-awn
Aristida purpurea Nutt. var. *longiseta* (Steud.) Vasey
USDA Code: Arpul (Arlo) **lifeform:** graminoid **origin:** Native **duration:** perennial
Distribution/Notes: Scattered along the shore of the Columbia River in drier situations, i.e., China Bar and 100-D Area.
Collections: (PNNL): Baird-1192; MRS-123; (BRY): Baird 1254; (PNNL-TC): Sauer 5-28-80
- Avena sativa* L. oat
USDA Code: Avsa **lifeform:** graminoid **origin:** Introduced **duration:** annual
Distribution/Notes: Introduced cereal crop; widely escaping, not common; collected along side Highway 241 in Cold Creek Valley.
Collections: (BRY): Baird 1249
- Bromus carinatus* Hook. & Arn. mountain brome
USDA Code: Brca5 (Brca) **lifeform:** graminoid **origin:** Native **duration:** perennial
Distribution/Notes: Known from older collections at Hanford townsite, Cold Creek, and Rattlesnake Hills; reported from Priest Rapids by Mastrogioseppe and Gill (1983).
Collections: (WS): Beattie 3950; Cotton 401, 680, 688; Griffiths & Cotton 6
- Bromus inermis* Leyss. smooth brome
USDA Code: Brin2 (Brin) **lifeform:** graminoid **origin:** Introduced **duration:** perennial
Distribution/Notes: Introduced in reseeding mixture; collected in 200 Areas on disturbed sites.
Collections: (PNNL): Baird 1171
- Bromus japonicus* Thunb. Ex Murr. Japanese brome
USDA Code: Brja **lifeform:** graminoid **origin:** Introduced **duration:** annual
Distribution/Notes: Introduced grass; collected at E-12 burial ground in 200 West Area.
Collections: (PNNL): RCR-01; WJW-03

- Bromus mollis*** auct. Non L. soft brome
Bromus hordeaceus L. ssp. *hordeaceus*
USDA Code: Brhoh (Brmo) **lifeform:** graminoid **origin:** Introduced **duration:** annual
Distribution/Notes: Introduced grass; reported by TNC from ALE, older collections at Cold Creek, and west slope Rattlesnake Mountain.
Collections: (WS): Cotton 495; Griffiths & Cotton 9
- Bromus tectorum*** L. cheatgrass
USDA Code: Brte **lifeform:** graminoid **origin:** Introduced **duration:** annual
Distribution/Notes: Species introduced to eastern Washington in late 1800s; now one of the dominant species throughout the Columbia Basin and much of the Intermountain West.
Collections: (PNNL): P&R-59; VAU-48, 49; (BRY): Baird 531, 591; (WS): O'Farrell 72-209; (PNNL-TC): Whittaker 4-23-52; Sauer 5-30-75 #25; McShane 5-14-79; Rickard 4-18-86, 5-20-86
- Cenchrus longispinus*** (Hack.) Fern. sandbur
USDA Code: Celo3 (Celo) **lifeform:** graminoid **origin:** Native **duration:** annual
Distribution/Notes: Occasional on disturbed sites with sandy soil.
Collections: (PNNL): Baird-1267; MRS-319
- Dactylis glomerata*** L. orchardgrass
USDA Code: Dagl **lifeform:** graminoid **origin:** Introduced **duration:** perennial
Distribution/Notes: Introduced grass; occasional on Hanford in disturbed areas or as a contaminant in seed mixtures.
Collections: (BRY): Baird 1172
- Deschampsia atropurpurea*** (Wahlenb.) Scheele mountain hairgrass
Vahlodea atropurpurea (Wahlenb.) Fries ex Hartman
USDA Code: Vaat2 (Deat) **lifeform:** graminoid **origin:** Native **duration:** perennial
Distribution/Notes: Rare in area; collected along the Columbia River at 100-D Area.
Collections: (PNNL-TC): Warren 8-12-80; Warren & Sauer 10-6-80
- Distichlis stricta*** (Torr.) Rydb. alkali saltgrass
Distichlis spicata (L.) Greene
USDA Code: Dist3 (Dist) **lifeform:** graminoid **origin:** Native **duration:** perennial
Distribution/Notes: Locally common in moist, alkaline areas, as at West Lake and around Rattlesnake Springs, but also scattered along the shore of the Columbia River.
Collections: (BRY): Baird 893, 1102, 1212; (PNNL-TC): Sauer 5-28-80, 6-6-80; Fitzner 7-15-74

- Echinochloa crus-galli* (L.) Beauv. large barnyardgrass
USDA Code: ECCR **lifeform:** graminoid **origin:** Introduced **duration:** annual
Distribution/Notes: Common and widespread weed; found on Hanford in moist disturbed areas.
Collections: (PNNL): MRS-275; P&R-09; (BRY): Baird 1362; (PNNL-TC): Warren & Sauer 10-6-80; Sauer & Newsome 9-27-79; Sauer & McShane 5-21-80
- Elymus cinereus* Scribn. & Merr. giant wildrye
Leymus cinereus (Scribn. & Merr.) A. Löve
USDA Code: Leci4 (Elci) **lifeform:** graminoid **origin:** Native **duration:** perennial
Distribution/Notes: Scattered in a variety of habitats throughout Hanford, e.g., Snively Canyon, 300 Area, East White Bluffs, and 100-D Area.
Collections: (PNNL): MRS-95; (BRY): Baird 817, 1103, 1104, 1164; (PNNL-TC): Hanson 6-16-59; Warren 8-16-78; Sauer 5-31-78; Beedlow & McShane 6-83
- Elymus flavescens* Scribn. & J.G. Sm. sand wildrye
Leymus flavescens (Scribn. & J.G. Sm.) Pilger
USDA Code: Lefl4 (Elfl) **lifeform:** graminoid **origin:** Native **duration:** perennial
Distribution/Notes: Locally common on sand dunes.
Collections: (BRY): Baird 1116; (PNNL-TC): Pendleton 6-18-59
- Elymus glaucus* Buckl. blue wildrye
USDA Code: Elgl **lifeform:** graminoid **origin:** Native **duration:** perennial
Distribution/Notes: Scattered; collected at White Bluffs ferry and reported from ALE.
Collections: (BRY): Baird 1105; (WS): O'Farrell 71-131
- Eragrostis hypnoides* (Lam.) B.S.P. creeping eragrostis
USDA Code: Erhy **lifeform:** graminoid **origin:** Native **duration:** annual
Distribution/Notes: Reported by TNC along river and Wahluke Slope.
Collections: (WTU): Caplow & Beck 95133
- Eragrostis lutescens* Scribn. yellow lovegrass
USDA Code: Erlu2 (Erlu) **lifeform:** graminoid **origin:** Native **duration:** annual
Distribution/Notes: Scattered along the Columbia River in moist to wet ground, as at 100-D and 100-K Areas.
Collections: (BRY): Baird 1384; (PNNL-TC): Warren & Sauer 10-6-80; Warren 8-12-80
- Eragrostis pectinacea* (Michx.) Nees ex Steud. purple lovegrass
USDA Code: Erpe **lifeform:** graminoid **origin:** Native **duration:** annual
Distribution/Notes: Scattered along the Columbia River in moist to wet ground, as at Hanford slough, 100-D Area, and Wahluke Slope.
Collections: (PNNL-TC): Warren & Sauer 10-6-80

- Festuca arundinacea*** Schreb. tall fescue
Lolium arundinaceum (Schreb.) S.J. Darbyshire
USDA Code: Loar10 (Fear) **lifeform:** graminoid **origin:** Introduced **duration:** perennial
Distribution/Notes: Introduced; historically reported from along irrigation ditches at Hanford townsite; now persisting in old cultivated areas near the Columbia River, e.g., 100-D Area.
Collections: (PNNL): MRS-143; (WS): Webber 7-2-25
- Festuca bromoides*** L. barren sixweeks
Vulpia bromoides (L.) S.F. Gray
USDA Code: Vubr (Febr) **lifeform:** graminoid **origin:** Introduced **duration:** annual
Distribution/Notes: Collected on ALE near gate 106; reported by TNC from all portions of the Hanford Site. Reported from a variety of habitats at Priest Rapids by Mastrogiuseppe and Gill (1983).
Collections: (WS): O'Farrell 71-50
- Festuca idahoensis*** Elmer Idaho fescue
USDA Code: Feid **lifeform:** graminoid **origin:** Native **duration:** perennial
Distribution/Notes: Collected in the Rattlesnake Hills; uncommon here; important species to the east of Hanford.
Collections: (WS): Griffiths & Cotton 21; (Barb Wilson): Caplow & Beck 96027
- Festuca microstachys*** Nutt. small sixweeks
Vulpia microstachys (Nutt.) Munro
USDA Code: Vumi (Femi) **lifeform:** graminoid **origin:** Native **duration:** annual
Distribution/Notes: Common, widespread grass of early spring.
Collections: (PNNL): MRS-234, 320; P&R-58; VAU-50; (BRY): Baird 546a, 597, 1030, 1049; (WS): O'Farrell 72-226; Cotton 472
- Festuca octoflora*** Walt. slender sixweeks
Vulpia octoflora (Walt.) Rydb.
USDA Code: Vuoc (Feoc) **lifeform:** graminoid **origin:** Native **duration:** annual
Distribution/Notes: Common, widespread grass of early spring.
Collections: (PNNL): MRS-59, 256, 320; CZM 389, 642; JGL-143; (BRY): Baird 546, 562, 831; (PNNL-TC): Beedlow & McShane 6-30-83; Rickard 4-14-86, 5-20-86
- Festuca ovina*** L. sheep fescue
USDA Code: Feov **lifeform:** graminoid **origin:** Introduced **duration:** perennial
Distribution/Notes: May have been introduced in reseeding mixtures; uncommon in 200 Areas on disturbed sites.
Collections: (PNNL): RCR-02, 03; (BRY): Baird 1174

- Festuca pratensis* Huds. meadow fescue
Lolium pratense (Huds.) S.J. Darbyshire
USDA Code: Lopr7 (Fepr) **lifeform:** graminoid **origin:** Introduced **duration:** perennial
Distribution/Notes: Reported by Mastroguseppe and Gill (1983) on flood bars near Priest Rapids.
Collections: Mastroguseppe 2373
- Festuca washingtonica* Alexeev Washington fescue
USDA Code: Fewa **lifeform:** graminoid **origin:** Native **duration:** perennial
Distribution/Notes: Found in the snowmelt zone on the northwest slopes of Rattlesnake Mountain. Species not listed in Hitchcock and Cronquist (1973); occurs at scattered locations along the east slope of the Cascades. See Aiken et al. (1998) for information.
Collections: (Barb Wilson): Caplow and Beck 96025, 96026
- Heleochloa alopecuroides* (Piller & Mitterp.) Host ex Roemer heleochloa
Crypsis alopecuroides (Piller & Mitterp.) Schrad.
USDA Code: Cral2 (Heal) **lifeform:** graminoid **origin:** Introduced **duration:** annual
Distribution/Notes: Introduced species reported by TNC along the Columbia River and the Wahluke Slope.
Collections: None Available
- Hierochloe odorata* (L.) Beauv. vanilla grass
Hierochloe hirta (Schrank) Borbás ssp. *arctica* (J. Presl) G. Weim.
USDA Code: Hihia (Hiod) **lifeform:** graminoid **origin:** Native **duration:** perennial
Distribution/Notes: Local in moist soil along the Columbia River at Priest Rapids (China Bar).
Collections: (PNNL): Baird-1258
- Hordeum brachyantherum* Nevski meadow barley
USDA Code: Hobr2 (Hobr) **lifeform:** graminoid **origin:** Native **duration:** perennial
Distribution/Notes: Uncommon along the shore of the Columbia River; older collection, probably from the 300 Area.
Collections: (PNNL-TC): Davis 5-7-53
- Hordeum glaucum* Steud. seagreen barley
Hordeum murinum L. ssp. *glaucum* (Steud.) Tzvelev
USDA Code: Homug (Hogl) **lifeform:** graminoid **origin:** Introduced **duration:** annual
Distribution/Notes: Introduced grass; uncommon along the shore of the Columbia River; collected at Richland and White Bluffs townsite.
Collections: (PNNL): MRS-104; (BRY): Baird 669

- Hordeum jubatum* L.** squirreltail barley
USDA Code: Hoju **lifeform:** graminoid **origin:** Native **duration:** perennial
Distribution/Notes: Uncommon in moist areas, as at West Lake and White Bluffs townsite; reported from ALE.
Collections: (PNNL): Baird-1135; (BRY): Baird 1082; (WS): O'Farrell 72-249
- Hordeum leporinum* Link** seaside barley
Hordeum murinum ssp. *leporinum* (Link) Arcang.
USDA Code: Homul (Hole) **lifeform:** graminoid **origin:** Introduced **duration:** annual
Distribution/Notes: Observed in lower portions of Snively Canyon and lower Snively field.
Collections: None Available
- Koeleria cristata* auct. p.p. non Pers.** prairie Junegrass
Koeleria macrantha (Ledeb.) J.A. Schultes
USDA Code: Koma (Kocr) **lifeform:** graminoid **origin:** Native **duration:** perennial
Distribution/Notes: Scattered in a variety of habitats, especially in sandy soils, throughout the 200 Areas, ALE, White Bluffs townsite, and 100-F Area.
Collections: (PNNL): P&R-90; VAU-55; MRS-253; Baird-936; (BRY): Baird 1122; (WS): Beattie 3957; (PNNL-TC): Rickard 5-23-86
- Leersia oryzoides* (L.) Sw.** cutgrass
USDA Code: Leor **lifeform:** graminoid **origin:** Native **duration:** perennial
Distribution/Notes: Local; found in moist soil, as at Hanford townsite.
Collections: (PNNL-TC): Newsome & Sauer 8-27-77, 9-27-79
- Leptochloa fascicularis* (Lam.) Gray** loose-flowered sprangletop
Leptochloa fusca (L.) Kunth ssp. *fascicularis* (Lam.) N. Snow
USDA Code: Lefuf (Lefa) **lifeform:** graminoid **origin:** Native **duration:** annual
Distribution/Notes: Reported by TNC along the Columbia River and Wahluke Slope.
Collections: (WTU): Caplow & Beck 95126
- Lolium multiflorum* Lam.** perennial rye
Lolium perenne L. ssp. *multiflorum* (Lam.) Husnot
USDA Code: Lopem2 (Lomu) **lifeform:** graminoid **origin:** Introduced **duration:** perennial
Distribution/Notes: Collected within hydroseeded, revegetated borrow pit in 200 West Area.
Collections: (PNNL): MRS-100
- Melica bulbosa* Geyer ex Porter & Coult.** oniongrass
USDA Code: Mebu **lifeform:** graminoid **origin:** Native **duration:** perennial
Distribution/Notes: Reported by TNC from ALE.
Collections: (WTU): Caplow & Beck 94034, 94036, 94040

Melica spectabilis Scribn. showy oniongrass

USDA Code: Mesp (Mesp) **lifeform:** graminoid **origin:** Native **duration:** perennial

Distribution/Notes: Uncommon; collected on northeast slope of Rattlesnake Mountain.

Collections: (WS): O'Farrell 71-120

Muhlenbergia asperifolia (Nees & Meyen ex Trin.) Parodi alkali muhly

USDA Code: Muas **lifeform:** graminoid **origin:** Native **duration:** perennial

Distribution/Notes: Uncommon in moist sites; collected in 200 Areas.

Collections: (PNNL): P&R-16; CZM-489

Muhlenbergia filiformis (Thurb. Ex S. Wats.) Rydb. slender muhly

USDA Code: Mufi2 (Mufi) **lifeform:** graminoid **origin:** Native **duration:** annual

Distribution/Notes: Reported by TNC along the Columbia River, Wahluke Slope.

Collections: (WTU): Caplow & Beck 95132

Oryzopsis hymenoides (Roemer & J.A. Schultes) Indian ricegrass

Achnatherum hymenoides (Roemer & J.A. Schultes) Barkworth

USDA Code: Achy (Orhy) **lifeform:** graminoid **origin:** Native **duration:** perennial

Distribution/Notes: Very common and widespread in sandy areas.

Collections: (PNNL): MRS-67; P&R-64; VAU-51, 52, 53; JGL-144; (BRY): Baird 815, 852, 891, 948, 1006, 1055; (WS): O'Farrell 71-65; Cotton 421; (PNNL-TC): Fitzner 5-11-780; Rickard & Fitzner 5-22-86

Panicum capillare L. common witchgrass

USDA Code: Paca6 (Paca) **lifeform:** graminoid **origin:** Native **duration:** annual

Distribution/Notes: Common weed of waste areas or disturbed sites where moist, as at Wahluke Slope, Hanford townsite, and the 200 Areas.

Collections: (PNNL): MRS-308; P&R-18; (BRY): Baird 1425; (PNNL-TC): Warren 10-6-80; Sauer & Newsome 9-27-77

Panicum dichotomiflorum Michx. fall panicum

USDA Code: Pandi **lifeform:** graminoid **origin:** Native **duration:** perennial

Distribution/Notes: Reported by TNC on islands in the Columbia River.

Collections: (PNNL): Caplow & Beck 95125

Panicum miliaceum L. broomcorn millet

USDA Code: Pami2 (Pami) **lifeform:** graminoid **origin:** Introduced **duration:** annual

Distribution/Notes: Introduced grass; uncommon; collected at Hanford townsite.

Collections: (PNNL-TC): Newsome & Sauer 9-27-79

Panicum occidentale Scribn. western witchgrass

Dichanthelium acuminatum (Sw.) Gould & C.A. Clark var. *fasciculatum* (Torr.) Freckmann

USDA Code: Diacf (Paoc) **lifeform:** graminoid **origin:** Native **duration:** perennial

Distribution/Notes: Scattered and locally common; found along the shore of the Columbia River, often in wet or drying gravels.

Collections: (PNNL): JGL-145; (BRY): Baird 194, 1081, 1144a, 1189, 1318; (PNNL-TC): Sauer 6-6-80; Warren 5-22-80

Paspalum distichum L. knotgrass

USDA Code: Padi6 (Pasdi) **lifeform:** graminoid **origin:** Native **duration:** perennial

Distribution/Notes: Occasional in wet areas; collected along the Yakima River at West Richland and along the Columbia River/Wahluke Slope.

Collections: (PNNL): Caplow & Beck 94068; (BRY): Baird 1391

Phalaris arundinacea L. reed canarygrass

USDA Code: Phar3 (Phar) **lifeform:** graminoid **origin:** Native **duration:** perennial

Distribution/Notes: Common in wet or moist areas along the Columbia River.

Collections: (BRY): Baird 916, 1195, 1311; (PNNL-TC): Sauer 6-3-80

Phleum pratense L. timothy

USDA Code: Phpr3 (Phlpr) **lifeform:** graminoid **origin:** Introduced **duration:** perennial

Distribution/Notes: Introduced pasture grass; persisting in old cultivated areas near 100-D Area.

Collections: (BRY): Baird 1169

Phragmites communis Trin. common reed

Phragmites australis (Cav.) Trin. Ex Steud.

USDA Code: Phau7 (Phco) **lifeform:** graminoid **origin:** Native **duration:** perennial

Distribution/Notes: Occasional in swampy areas; observed at Rattlesnake Springs and on Wahluke Slope, but no specimens were collected. Also reported from Priest Rapids (Mastroguseppe and Gill 1983).

Collections: None Available

Poa annua L. annual bluegrass

USDA Code: Poan (Poaan) **lifeform:** graminoid **origin:** Introduced **duration:** annual

Distribution/Notes: Widespread; occasionally common; found along the shores of the Columbia River; collected at Richland.

Collections: (BRY): Baird 668

- Poa bulbosa* L. bulbous bluegrass
USDA Code: Pobu *lifeform:* graminoid *origin:* Introduced *duration:* perennial
Distribution/Notes: Widespread introduced grass; occasionally becomes locally common such as in 100 Areas and Benson Ranch.
Collections: (PNNL): MRS-212; JGL-146, 147; (BRY): Baird 612; (WS): O'Farrell 71-36; (PNNL-TC): Rickard and Cline 5-1-70
- Poa compressa* L. Canada bluegrass
USDA Code: Poco (Pocom) *lifeform:* graminoid *origin:* Introduced *duration:* perennial
Distribution/Notes: Scattered in moist places along the shore of the river, e.g., Priest Rapids (China Bar), 100-D and 100-H Areas.
Collections: (PNNL): Baird-1194; (BRY): Baird 1145, 1150, 1264
- Poa cusickii* Vasey Cusick's bluegrass
USDA Code: Pocu3 (Pocu) *lifeform:* graminoid *origin:* Native *duration:* perennial
Distribution/Notes: Occasionally mixed with bluebunch wheatgrass; collected in the Rattlesnake Hills, but also reported from central Hanford and Wahluke Slope.
Collections: (WS): O'Farrell 71-12; Cotton 557; Griffiths & Cotton 4, 20; (PNNL-TC): Beedlow & McShane 7-83; (WTU): Caplow & Beck 94022
- Poa juncifolia* Scribn. alkali bluegrass
Poa secunda J. Presl
USDA Code: Pose (Poju) *lifeform:* graminoid *origin:* Native *duration:* perennial
Distribution/Notes: Part of the *Poa secunda* complex. Widespread, supposedly mostly from alkaline soils; collected on Rattlesnake Ridge, Cold Creek, and Hanford townsite. As treated in Hitchcock and Cronquist (1973), this taxon also includes *P. ampla*.
Collections: (PNNL): P&R-71; (WS): O'Farrell 72-195, 72-203; Cotton 402, 664; (PNNL-TC): Beedlow & McShane 6-83, 6-30-83; Sauer 6-20-80, 5-31-78
- Poa nevadensis* Vasey ex Scribn. Nevada bluegrass
Poa secunda J. Presl
USDA Code: Pose (Pone) *lifeform:* graminoid *origin:* Native *duration:* perennial
Distribution/Notes: Part of the *Poa secunda* complex. Widespread, supposedly mostly from moister soils; collected on top of Rattlesnake Ridge, Cold Creek, and along the Columbia River near 100-D Area.
Collections: (PNNL): MRS-23, 120; (BRY): Baird 790, 1250

Poa palustris L. fowl bluegrass

USDA Code: Popa2 (Poapa) **lifeform:** graminoid **origin:** Native **duration:** perennial

Distribution/Notes: Introduced grass; established and widespread in damp areas, mainly near the Columbia River.

Collections: (BRY): Baird 1983, 1151, 1152, 1188, 1190; (WS): O'Farrell 71-130, 73-269

Poa pratensis L. Kentucky bluegrass

USDA Code: Popr **lifeform:** graminoid **origin:** Native **duration:** perennial

Distribution/Notes: Common and widespread; often used as a lawn grass; mostly found in moist areas near the Columbia River.

Collections: (PNNL): MRS-86; (BRY): Baird 855, 1031; (PNNL-TC): Beedlow & McShane 7-12-83

Poa sandbergii Vasey Sandberg's bluegrass

Poa secunda J. Presl

USDA Code: Pose (Posa) **lifeform:** graminoid **origin:** Native **duration:** perennial

Distribution/Notes: Possibly the most common and widespread of the bluegrasses in our area; occurs in nearly all upland habitat types on the Hanford Site. More common in drier areas than other members of the *P. secunda* complex.

Collections: (PNNL): P&R-62; VAU-54; RCR-04, 05; (BRY): Baird 8, 532, 595, 871, 937, 1114, 1173; (WS): O'Farrell 71-13, 72-193, 204; (PNNL-TC): Rickard no date; Rickard 4-16-86, 4-18-86

Poa scabrella (Thurb.) Benth. Ex Vasey pine bluegrass

Poa secunda J. Presl

USDA Code: Pose (Posc) **lifeform:** graminoid **origin:** Native **duration:** perennial

Distribution/Notes: Scattered in sandy areas, throughout the 200 Areas and near the Columbia River by Energy Northwest. Part of the *Poa secunda* complex. As treated in Hitchcock and Cronquist (1973), this taxon also includes *P. canbyi*.

Collections: (PNNL): ARJ-06; (PNNL-TC): Sauer et al. 5-12-80

Polypogon monspeliensis (L.) Desf. rabbitfoot grass

USDA Code: Pomo5 (Pomo) **lifeform:** graminoid **origin:** Introduced **duration:** annual

Distribution/Notes: Introduced grass; scattered in moist areas, as at Cold Creek, Snively Canyon, and various places along the Columbia River.

Collections: (PNNL): MRS-274; (BRY): Baird 157, 962, 1236; (WS): O'Farrell 71-136; (PNNL-TC): Warren & Sauer 10-6-80; Warren 8-16-78

- Puccinellia lemmonii*** (Vasey) Scribn. Lemmon's alkaligrass
USDA Code: Pule **lifeform:** graminoid **origin:** Native **duration:** perennial
Distribution/Notes: Reported by Mastrogioseppe and Gill (1983) in various wet areas near Priest Rapids.
Collections: None Available
- Sclerochloa dura*** (L.) Beauv. hardgrass
USDA Code: Scdu2 (Scdu) **lifeform:** graminoid **origin:** Introduced **duration:** annual
Distribution/Notes: Introduced species that is uncommon in dry ground near the Columbia River; collected at Richland.
Collections: (BRY): Baird 666
- Secale cereale*** L. rye
USDA Code: Sece **lifeform:** graminoid **origin:** Introduced **duration:** annual
Distribution/Notes: Introduced cereal crop; occasionally persisting widespread; often used in reseeding mixtures. Dominant in upper Snively field.
Collections: (PNNL): CZM-449; MRS-103; (BRY): Baird 1141, 1170; (WS): O'Farrell 71-135; (PNNL-TC): Sauer 5-31-78
- Setaria lutescens*** (Weigel) F.T. Hubbard bristly foxtail
Pennisetum glaucum (L.) R. Br.
USDA Code: Pegl2 (Selu) **lifeform:** graminoid **origin:** Introduced **duration:** annual
Distribution/Notes: Introduced grass; occasional in disturbed and often moist areas.
Collections: (PNNL): P&R-05; (BRY): Baird 1407; (PNNL-TC): Sauer 6-27-74
- Sitanion hystrix*** (Nutt.) J.G. Sm. bottlebrush grass
Elymus elymoides (Raf.) Swezey ssp. *elymoides*
USDA Code: Elel5 (Sihy) **lifeform:** graminoid **origin:** Native **duration:** perennial
Distribution/Notes: Common and widespread throughout Hanford, especially in sandy areas.
Collections: (PNNL): MRS-58, 60, 139; P&R-43; VAU-56; JGL-148; (BRY): Baird 6, 845, 947, 1054; (WS): O'Farrell 71-51, 71-121; (PNNL-TC): Sauer 5-20-80, 6-5-80, 6-10-75 #25; Whittaker 5-9-52; Rickard 5-20-86; Rickard and Cline 6-1-70
- Spartina gracilis*** Trin. alkali cordgrass
USDA Code: Spgr (Spagr) **lifeform:** graminoid **origin:** Native **duration:** perennial
Distribution/Notes: Reported by Mastrogioseppe and Gill (1983) in alkaline and other wet areas near Priest Rapids.
Collections: None Available

Sphenopholis obtusata (Michx.) Scribn. wedgegrass

Sphenopholis obtusata (Michx.) Scribn. Or *S. intermedia* (Rydb.) Rydb.

USDA Code: Spob **lifeform:** graminoid **origin:** Native **duration:** perennial

Distribution/Notes: Reported by Mastrogioseppe and Gill (1983) in alkaline and other wet areas near Priest Rapids.

Collections: Mastrogioseppe 2451

Sporobolus cryptandrus (Torr.) Gray sand dropseed

USDA Code: Spcr **lifeform:** graminoid **origin:** Native **duration:** perennial

Distribution/Notes: Common in sandy areas throughout Hanford, especially the 100 Areas.

Collections: (PNNL): MRS-157, 285; JGL-149, 150; (BRY): Baird 1157; (PNNL-TC): Sauer 6-6-80; Newsome & Sauer 9-27-77

Stipa comata Trin. & Rupr. needle-and-thread grass

Hesperostipa comata (Trin. & Rupr.) Barkworth

USDA Code: Heco26 (Stco) **lifeform:** graminoid **origin:** Native **duration:** perennial

Distribution/Notes: Common; often dominant, on sandy soils or mostly open sand and dunes.

Collections: (PNNL): MRS-66; P&R-85; JGL-151; (BRY): Baird 848, 890, 949, 1056; (WS): O'Farrell 71-107

Stipa thurberiana Piper Thurber's needlegrass

Achnatherum thurberianum (Piper) Barkworth

USDA Code: Acth7 (Stth) **lifeform:** graminoid **origin:** Native **duration:** perennial

Distribution/Notes: Locally common on dry rocky-loamy soils of basalt outcrops, as on Gable Mountain and Gable Butte.

Collections: (PNNL): WJW-05; (BRY): Baird 1058, 72-217; (PNNL-TC): Rickard & Fitzner 5-22-86; Sauer 6-28-74

Triticum aestivum L. wheat

USDA Code: Trae **lifeform:** graminoid **origin:** Introduced **duration:** annual

Distribution/Notes: Introduced cereal crop; occasionally escaping but not persisting. Sometimes volunteering from straw; used for soil stabilization.

Collections: (BRY): Baird 7; (WS): O'Farrell 71-89; (PNNL-TC): Sauer 6-5-80, 6-5-80; Warren & Sauer 5-22-80

Polemoniaceae

Collomia grandiflora Dougl. Ex Lindl. largeflower collomia

USDA Code: Cogr4 (Comgr) **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Local in moist shady areas, such as Snively Canyon and Priest Rapids.

Collections: (PNNL): MRS-242; (WS): O'Farrell 71-124, 73-272; (PNNL-TC): Rickard & Cline 6-1-70; Davis 5-6-53; Rotenberry 9-29-75 #5

- Collomia linearis*** Nutt. narrowleaf collomia
USDA Code: Coli2 (Coli) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Scattered along the Columbia River in moist areas and on top of Rattlesnake Mountain.
Collections: (PNNL): MRS-124, 221; CZM-479; (BRY): Baird 189, 1026; (WS): O'Farrell 74-309; (PNNL-TC): Sauer 6-10-75
- Eriastrum sparsiflorum*** (Eastw.) Mason var. ***wilcoxii*** (A. Nels.) Cronq. few-flowered eriastrum
Eriastrum wilcoxii (A. Nels.) Mason
USDA Code: Erwi (Erspa) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Local in sandy flats and dunes north of Gable Mountain. Scattered elsewhere such as in Pit 30.
Collections: (PNNL): CZM-391; GIB-27; (BRY): Baird 1073; (PNNL-TC): Pendleton 6-18-59; (WTU): Caplow & Beck 97039
- Gilia inconspicua*** (Sm.) Sweet inconspicuous gilia
USDA Code: Giin2 (Giin) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Reported by TNC from ALE and Wahluke Slope, included within *G. sinuata* in Hitchcock and Cronquist (1973).
Collections: (WTU): Caplow & Beck 97028
- Gilia leptomeria*** Gray Great Basin gilia
USDA Code: Gile3 (Gile) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Most specimens that key to *G. leptomeria* in Hitchcock and Cronquist (1973) are now classified as *G. lottiae*. True *G. leptomeria* have been reported near Gable Mountain, and at various locations on the Wahluke Slope; currently on the Washington State Review 1 list.
Collections: (PNNL): Caplow & Beck 95048; (WTU): Caplow & Beck 95041, 95048, 95055, 95076
- Gilia lottiae*** Day gilia
USDA Code: Gilo3 (Gilo) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Scattered in sandy soils throughout the 200 Areas. See discussion under *G. leptomeria*.
Collections: (WTU): Caplow & Beck 95047, 95060, 95069, 95081
- Gilia minutiflora*** Benth. smallflower gilia
Ipomopsis minutiflora (Benth.) V. Grant
USDA Code: Ipmi2 (Gimi) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Scattered; sometimes found in sandy areas, e.g., near the Columbia River at 100-D Area, Cold Creek, and the White Bluffs.
Collections: (PNNL): MRS-166; (BRY): Baird 149, 1186, 1237; (WS): O'Farrell 71-168; (PNNL-TC): Newsome & Sauer 8-23-76; Sauer 6-11-75, 6-12-75#1; (WTU): Caplow & Beck 95068

- Gilia sinuata* Dougl. Ex Benth. shy gilia
USDA Code: Gisi **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Common and widespread in sandy areas throughout Hanford.
Collections: (PNNL): MRS-47; GLF-180; P&R-49; JGL-152, 153, 154, 155; PB-05; (BRY): Baird 521, 837, 1559, 71-21; (PNNL-TC): Sauer 3-30-76, 4-18-78; Hinds 5-20-80; Rickard & Fitzner 5-22-86; (WS): O'Farrell 71-21, 72-202; Beattie 3591; (WTU): Caplow & Beck 97009
- Leptodactylon pungens* (Torr.) Torr. Ex Nutt. prickly phlox
USDA Code: Lepu **lifeform:** sub-shrub **origin:** Native **duration:** perennial
Distribution/Notes: Scattered, but not especially common; found in dry situations, as near western Army Loop Road and near Horn Rapids Road.
Collections: (PNNL): MRS-232; JGL-156; VAU-57; (WS): O'Farrell 71-55; (PNNL-TC): Warren 5-15-80; Rickard 5-23-86
- Linanthus pharnaceoides* (Benth.) Greene threadleaf linanthus
Linanthus liniflorus (Benth.) Greene
USDA Code: Lili2 (Liph) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Common in rocky soils, as on slopes of Rattlesnake Ridge.
Collections: (WS): O'Farrell 72-225; Cotton 473; (PNNL-TC): Sauer 6-17-75 #13
- Microsteris gracilis* (Hook.) Greene var. *humilior* (Hook.) Cronq. pink microsteris
Phlox gracilis (Hook.) Greene ssp. *humilis* (Greene) Mason
USDA Code: Phgrh (Migr) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Common and widespread, especially with sagebrush, throughout Hanford.
Collections: (PNNL): P&R-48; VAU-58; /PB-06; /JGL-157, 158, 159, 160; (WS): O'Farrell 71-2, 71-7; Cotton 308; St. John 8128; (PNNL-TC): Davis 4-23-53; Pendleton 4-20-59, 3-15-59; Rickard 4-18-86
- Navarretia intertexta* (Benth.) Hook. pincushion plant
USDA Code: Nain2 (Nain) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Collected in dry, gravelly soil in canyons of the Rattlesnake Hills during very early 20th century; not reported since that time.
Collections: (WS): Cotton 663
- Phlox hoodii* Richards. Hood's phlox
USDA Code: Phho **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Locally common to dominant in rocky soil on top of Rattlesnake Ridge and the Saddle Mountains.
Collections: (BRY): Baird 111, 758; (WS): O'Farrell 71-14; Cotton 347, 566; Bennett 18; (PNNL-TC): Johnson & Rickard 4-22-66; Sauer 6-10-75 #24; Pendleton 4-17-59; no collector

Phlox longifolia Nutt. longleaf phlox

USDA Code: Phlo2 (Phlo) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Common and widespread; found mostly in sandy areas; very conspicuous blooming during springtime throughout Hanford.

Collections: (PNNL): CZM-323; MRS-37; P&R-57; JGL-161,162; /VAU-59; /RFG-15, 16; (BRY): Baird 23, 31, 533, 544, 621, 717, 840, 924; (WS): O'Farrell 71-9; Cotton 348; (PNNL-TC): Davis 4-10-53, 5-11-53; Rogers 3-13-75; Sauer 6-10-75 #22; McShane 4-17-79; Rickard 5-22-86, 4-16-86

Phlox speciosa Pursh showy phlox

USDA Code: Phsp **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Local in moist canyon of Umtanum Ridge near Priest Rapids and the Rattlesnake Hills.

Collections: (BRY): Baird 624; (WS): Cotton 573; (WTU): Caplow & Beck 94037

Polemonium micranthum Benth. annual Jacob's ladder

USDA Code: Pomi **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Scattered in various habitats, e.g., Umtanum Ridge, base of Rattlesnake Mountain, 200 Areas, and 100 Areas.

Collections: (PNNL): MRS-198; Baird-1560; JGL-163, 164, 165, 166; (WS): O'Farrell 71-5; (PNNL-TC): Sauer 4-11-79; Rickard 4-18-86

Polygonaceae

Chorizanthe watsonii Torr. & Gray Watson's spineflower

USDA Code: Chwa2 (Chwa) **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Reported by TNC near Gable Mountain and on the Wahluke Slope.

Collections: (WTU): Caplow & Beck 95050, 95051, 95058, 95077, 97024

Eriogonum baileyi S. Wats. Bailey's buckwheat

USDA Code: Erba7 (Erba) **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Many of the specimens formerly referred to as *E. vimineum* are probably better referred to this species. Common on sandy soils throughout Hanford, especially the 200 Areas and just north of Gable Mountain.

Collections: (PNNL): MRS-149; VAU-60; JGL-177, 178, 179, 180; (BRY): Baird 1275

Eriogonum codium Reveal, Caplow, & K. Beck Umtanum buckwheat

USDA Code: Erco43 (Ercod) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Washington State endangered species discovered in 1995; endemic to thin rocky soils along crest of Umtanum Ridge on the Hanford Site; only one population in existence.

Collections: (PNNL): CZM-417A; (WTU): Caplow & Beck 95011, 95084, 95103

Eriogonum compositum Dougl. Ex Benth. var. *leianthum* Hook. northern buckwheat

USDA Code: Ercol2 (Ercol) **lifeform:** sub-shrub **origin:** Native **duration:** perennial

Distribution/Notes: Common in cobbled areas along the shore of the Columbia River.

Collections: (PNNL): Baird-1093, 1252; MRS-126; (BRY): Baird 1252, 1883; (WS): Beattie 3958, 3968; (PNNL-TC): Sauer 5-30-75 #6, #7, #18; Pendleton 4-4-58; Fitzner 5-11-78; Davis 5-6-53; Hall 5-1-85; Sauer & Warren 5-13-80; no collector 4-79, 5-7-80; Warren 5-6-80

Eriogonum elatum Dougl. Ex Benth. tall buckwheat

USDA Code: Erel5 (Erel) **lifeform:** sub-shrub **origin:** Native **duration:** perennial

Distribution/Notes: Collected near the White Bluffs ferry during the late 19th century; not reported from Hanford vicinity since that time.

Collections: (WS): Lake & Hull 8-11-1892

Eriogonum heracleoides Nutt. parnsipflower buckwheat

USDA Code: Erhe2 (Erhe) **lifeform:** sub-shrub **origin:** Native **duration:** perennial

Distribution/Notes: Locally common on the slopes of Rattlesnake Ridge.

Collections: (BRY): Baird 1297; (WS): O'Farrell 71-238; Cotton 404; (PNNL-TC): Sauer 6-10-75 #7, #13

Eriogonum microthecum Nutt. slender buckwheat

USDA Code: Ermi4 (Ermi) **lifeform:** sub-shrub **origin:** Native **duration:** perennial

Distribution/Notes: Scattered in dry, rocky areas, i.e., the White Bluffs, Gable Mountain, and Gable Butte.

Collections: (PNNL): MRS-272, 327; JGL-167, 168; (BRY): Baird 152, 1280; (WS): O'Farrell 72-228; (PNNL-TC): Pendleton 10-20-58, 8-25-59

Eriogonum niveum Dougl. Ex Benth. snow buckwheat

USDA Code: Erni2 (Erni) **lifeform:** sub-shrub **origin:** Native **duration:** perennial

Distribution/Notes: Common in sandy areas throughout Hanford, especially north of the Wye barricade and along Horn Rapids Road.

Collections: (PNNL): GIB-28; (WS): O'Farrell 71-167; (PNNL-TC): Whittaker 10-1-52

Eriogonum ovalifolium Nutt. var. *celsum* A. Nels. cushion buckwheat

Eriogonum ovalifolium Nutt. var. *purpureum* (Nutt.) Dur.

USDA Code: Erovp2 (Erov) **lifeform:** sub-shrub **origin:** Native **duration:** perennial

Distribution/Notes: Reported by TNC on ALE.

Collections: None Available

Eriogonum sphaerocephalum Dougl. Ex Benth. rock buckwheat

USDA Code: Ersp7 (Ersp) **lifeform:** sub-shrub **origin:** Native **duration:** perennial

Distribution/Notes: Locally common in rocky areas throughout Hanford.

Collections: (PNNL): Baird-1039, 902; MRS-131; GIB-29; JGL-169, 170, 171, 172, 173; (BRY): Baird 161, 205, 1256, 1296; (WS): O'Farrell 71-61; Cotton 714, 1407; (PNNL-TC): Sauer 6-17-75 #4, 6-10-75 #1; Pendleton 6-1-59; Davis 5-27-52; Rickard and Cline 6-1-70; McShane 5-17-79

Eriogonum strictum Benth. strict buckwheat
 ssp. *proliferum* (Torr. & Gray) S. Stokes
 var. *anserinum* (Greene) R.J. Davis
 var. *glabrum* C. L. Hitchc
 var. *proliferum* (Torr. & Gray) C. L. Hitchc.

USDA Code: Erst4 (Erst) **lifeform:** sub-shrub **origin:** Native **duration:** perennial

Distribution/Notes: Common and widespread on Hanford, except on sand; three varieties of subspecies *proliferum* have occasionally been recognized from this area and are noted below; however, most, if not all, specimens are probably assignable to var. *glabrum*.

Collections: (WTU): Caplow & Beck 95034; (PNNL): MRS-57; JGL-174; (BRY): Baird 620, 722a, 1040; (PNNL-TC): Pendleton 6-19-59; Gano 5-3-79, 5-6-79 var. *anserinum*; (WS): O'Farrell 72-227; var. *glabrum*; (PNNL): MRS-132; (BRY): Baird 147; var. *proliferum*; (PNNL): JGL-175, 176; (WS): O'Farrell 71-63; Cotton 711; Beattie 3969

Eriogonum thymoides Benth. thymeleaf buckwheat

USDA Code: Erth **lifeform:** sub-shrub **origin:** Native **duration:** perennial

Distribution/Notes: Common in rocky soil on top of the main ridges and hills in area.

Collections: (PNNL): MRS-136, 137; (BRY): Baird 110, 797, 799; (WS): O'Farrell 71-52; Cotton 361, 362; (PNNL-TC): Warren 4-18-78; Davis 5-19-53; Sauer 6-10-75 #14, #26

Eriogonum vimineum Dougl. Ex Benth. broom buckwheat

USDA Code: Ervi5 (Ervi) **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Some of our annual *Eriogonum*'s may key here; may occur in our area. See discussion under *E. baileyi*.

Collections: (PNNL-TC): Rickard 7-31-86

Oxytheca dendroides Nutt. false buckwheat

Oxytheca dendroidea Nutt.

USDA Code: Oxde **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Local on open sand and dunes, especially just north of Gable Mountain.

Collections: (PNNL): CZM 654; (BRY): Baird 1142; (PNNL-TC): Pendleton 8-25-59; (WTU): Caplow & Beck 95080

Polygonum amphibium L. water smartweed

USDA Code: Poam8 (Poam) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Uncommon; collected along the Columbia River near Allard.

Collections: (PNNL): MRS-286

- Polygonum aviculare* L. doorweed
USDA Code: Poav **lifeform:** forb **origin:** Introduced **duration:** annual
Distribution/Notes: Widespread weed of dry, waste places; collected alongside of Highway 241, Dry Creek Valley. Reported along the Columbia River and on Wahluke Slope.
Collections: (BRY): Baird 1246
- Polygonum coccineum* Muhl. Ex Willd. water smartweed
Polygonum amphibium L. var. *emersum* Michx.
USDA Code: Poame (Pococ) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Widespread aquatic plant; collected along the Columbia River at Richland.
Collections: (PNNL-TC): Davis 1951
- Polygonum convolvulus* L. climbing bindweed
USDA Code: Poco10 (Pocon) **lifeform:** vine **origin:** Introduced **duration:** annual
Distribution/Notes: Introduced weed; local in old orchards along the Columbia River north of 100-D Area.
Collections: (PNNL): MRS-165
- Polygonum hydropiper* L. marshpepper smartweed
USDA Code: Pohy **lifeform:** forb **origin:** Introduced **duration:** annual
Distribution/Notes: Reported by TNC along the Columbia River and on the Wahluke Slope.
Collections: None Available
- Polygonum lapathifolium* L. willow weed
USDA Code: Pola4 (Pola) **lifeform:** forb **origin:** Introduced(?) **duration:** annual
Distribution/Notes: Introduced in moist ground; easily confused with *P. persicaria*; collected at Hanford townsite. Occasional elsewhere along the Columbia River.
Collections: (PNNL-TC): Newsome & Sauer 9-27-77
- Polygonum majus* (Meisn.) Piper wiry knotweed
Polygonum douglasii Greene ssp. *majus* (Meisn.) Hickman
USDA Code: Podom2 (Poma) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Occasional along the Columbia River, especially around Priest Rapids.
Collections: (PNNL): GLF-8-6-96; T. Feldman 10-02-95; (PNNL-TC): Davis 10-3-51
- Polygonum persicaria* L. heartweed
USDA Code: Pope3 (Polpe) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Common along the Columbia River in moist ground.
Collections: (PNNL): MRS-181; CZM-487; P&R-10; GIB-44; (BRY): Baird 1247, 1350, 1442; (PNNL-TC): Warren 8-12-80; Sauer & Warren 10-6-80

Polygonum ramosissimum Michx. busy knotweed

USDA Code: Pora3 (Pora) **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Uncommon; collected at Hanford slough.

Collections: (PNNL-TC): Warren & Sauer 10-6-80

Rumex crispus L. curly dock

USDA Code: Rucr **lifeform:** forb **origin:** Introduced **duration:** perennial

Distribution/Notes: Introduced weed of moist, often disturbed areas; collected at McGee well.

Collections: (PNNL): CZM-633; JGL-181

Rumex salicifolius Weinm. (possibly var. *mexicanus* (Meisn.) C.L. Hitchc.) willow dock

USDA Code: Rusa **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Common and widespread along the Columbia River in moist ground.

Collections: (PNNL): Baird 881; MRS-280; CZM-446; (BRY): Baird 821, 881, 915, 1028; (PNNL-TC): Pendleton 9-10-58; Sauer 5-30-75 #21; no collector 5-7-80; Sauer & Owzarski 5-15-80

Rumex venosus Pursh winged dock

USDA Code: Ruve2 (Ruve) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Common and widespread in sandy soil and dunes.

Collections: (PNNL): MRS-41; CZM-414; VAU-61, 62; JGL-182; (BRY): Baird 10; (WS): O'Farrell 71-87; (PNNL-TC): Fitzner 5-11-78; Davis 5-12-52; Sauer 5-30-75 #8

Polypodiaceae (Dennstaedtiaceae)

Pteridium aquilinum (L.) Kuhn var. *pubescens* Underwood bracken fern

USDA Code: Ptaq **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Unusual for Hanford; collected in moist ground in the 200 Areas.

Collections: (PNNL): P&R-27

Polypodiaceae (Dryopteridaceae)

Woodsia oregana D.C. Eat. woodsia

USDA Code: Woor **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Collected in rocky areas of Rattlesnake Hills and at Snively Springs. Reported from Wahluke Slope.

Collections: (WS): O'Farrell 72-194; Cotton 422; St. John 8101

Polypodiaceae (Pteridaceae)

Adiantum pedatum L. maiden-hair fern
USDA Code: *Adpe* **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Reported during the 1920s from Rattlesnake Hills, but the specimen could not be found at WSU.
Collections: (WS): Bennett

Pellaea glabella Mett. Ex Kuhn var. *simplex* Butters A. & D. Löve smooth cliffbrake
USDA Code: **Pegls2 (Pelgl)** **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: State Watch List species; local in moist, shady areas of canyons along base of Umtanum Ridge.
Collections: (BRY): Baird 186

Portulacaceae

Calyptidium roseum S. Wats. rosy calyptidium
Cistanthe rosea (S. Wats.) Hershkovitz
USDA Code: **Ci2ro (Caro)** **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: The very small populations on Hanford represent a significant range extension for this species from northern Nevada/southeast Oregon. Localized in sands north of Gable Mountain. Washington State sensitive species.
Collections: (WTU): Caplow & Beck 95078

Lewisia rediviva Pursh bitterroot
USDA Code: **Lere7 (Lere)** **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Local on rocky slopes of Umtanum Ridge and Rattlesnake Ridge.
Collections: (BRY): Baird 644; (WS): O'Farrell 72-224; St. John 8103

Montia cordifolia (S. Wats.) Pax & K. Hoffmann broadleaf springbeauty
Claytonia cordifolia S. Wats.
USDA Code: **Clco3 (Moco)** **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Uncommon; found in rocky areas on top of Rattlesnake Ridge.
Collections: (BRY): Baird 752

Montia linearis (Dougl. Ex Hook.) Greene Indian lettuce
USDA Code: **Moli4 (Moli)** **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Uncommon; found locally near the Columbia River at Priest Rapids (China Bar).
Collections: (BRY): Baird 613

Montia perfoliata (Donn ex Willd.) T.J. Howell miner's lettuce
Claytonia perfoliata Donn ex Willd.

USDA Code: Clpe (Mope) **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Common and widespread in moist or shady areas; occasional along the Columbia River, e.g., Priest Rapids, the White Bluffs, 1100 Area, and on Rattlesnake Ridge.

Collections: (PNNL): MRS-141; (BRY): Baird 868; (WS): O'Farrell 72-200; (PNNL-TC): Sauer 4-20-78, 4-26-76; Warren 5-3-79; Gano 5-2-79

Portulaca oleracea L. common purslane

USDA Code: Pool **lifeform:** forb **origin:** Introduced **duration:** annual

Distribution/Notes: Widespread; introduced weed of disturbed areas, mainly along the Columbia River.

Collections: (BRY): Baird 1376, 1412

Talinum spinescens Torr. spiny flameflower

USDA Code: Tasp **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Local in rocky areas on top of Rattlesnake Mountain and lithosols near Priest Rapids.

Collections: (WS): O'Farrell 71-127, 72-231; (PNNL-TC): Sauer 7-25-78; (WTU): Caplow & Beck 94045

Potamogetonaceae

Potamogeton berchtoldii Fieber Berchtold's pondweed

Potamogeton pusillus L. ssp. *tenuissimus* (Mert. & Koch) Haynes & C.B. Hellquist

USDA Code: Poput3 (Pobe) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Aquatic plant; collected at Gable Mountain Pond.

Collections: (PNNL-TC): Fitzner 7-15-74

Potamogeton crispus L. curled pondweed

USDA Code: Pocr3 (Pocr) **lifeform:** forb **origin:** Introduced **duration:** perennial

Distribution/Notes: Introduced and widespread aquatic plant.

Collections: (PNNL): Baird-1025; (PNNL-TC): Fitzner 7-15-74

Potamogeton filiformis Pers. slender pondweed

Stuckenia filiformis (Pers) Boerner ssp. *filiformis*

USDA Code: Stfif (Pofi) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Aquatic plant; collected at Bennett Spring.

Collections: (BRY): Baird 1343

Potamogeton foliosus Raf. leafy pondweed
USDA Code: Pof03 (Pof0) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Aquatic plant; collected in the Columbia River at 100-F Area.
Collections: (BRY): Baird 1127

Potamogeton gramineus L. grass-leaved pondweed
USDA Code: Pogr8 (Pogm) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Reported by TNC along the Columbia River.
Collections: None Available

Potamogeton pectinatus L. fennel-leaf pondweed
Stuckenia pectinatus (L.) Boerner
USDA Code: Stpe12 (Potpe) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Aquatic plant; collected at Gable Mountain Pond and in the Columbia River at 100-F Area.
Collections: (BRY): Baird 1127a, 1342; (PNNL-TC): Fitzner 77-15-74

Primulaceae

Centunculus minimus L. chaffweed
Anagallis minima (L.) Krause
USDA Code: Anmi4 (Cemi) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Reported by TNC in wetland areas along the Columbia River; currently on the Washington State Review 1 list.
Collections: (PNNL): Caplow & Beck 94059; (WTU): Caplow & Beck 95119

Dodecatheon cusickii Greene Cusick's shootingstar
Dodecatheon pulchellum (Raf.) Merr. ssp. *cusickii* (Greene) Calder & Taylor
USDA Code: Dopuc (Docu) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Locally common in loamy soil along the upper slopes of Rattlesnake Ridge.
Collections: (BRY): Baird 105, 760, 766, 767; (WS): O'Farrell 71-38, 72-192; Cotton 357; Bennett 14; (PNNL-TC): Pendleton 4-20-59

Lysimachia ciliata L. fringed loosestrife
USDA Code: Lyci **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Uncommon; found along the Columbia River; collected at 100-B Area.
Collections: (PNNL): Baird-1356; (WTU): Caplow & Beck 95116

Ranunculaceae

Aquilegia formosa Fisch. Ex DC. red columbine

USDA Code: Aqfo **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Local in moist soil of canyons on Umtanum Ridge and reported from the Rattlesnake Hills.

Collections: (BRY): Baird 180; (WS): Cotton 395

Clematis ligusticifolia Nutt. western virginsbower

USDA Code: Clli2 (Clli) **lifeform:** vine **origin:** Native **duration:** perennial

Distribution/Notes: Widespread along moist water courses in the area.

Collections: (PNNL): CZM-452; (BRY): Baird 1220, 1359; (WS): O'Farrell 71-90; St. John 8131; (PNNL-TC): Warren 8-16-78

Delphinium multiplex (Ewan) C.L. Hitchc. Kittitas larkspur

USDA Code: Demu **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: State Watch List species; local on steep slopes at base of Umtanum Ridge.

Collections: (PNNL): MRS-251; Baird-1549

Delphinium nuttallianum Pritz. Ex Walp. upland larkspur

USDA Code: Denu2 (Denu) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Common and widespread in sandy soil, and occasional on dunes.

Collections: (PNNL): MRS-36, 250; P&R-54; VAU-63; RFG-17, 18; (BRY): Baird 29, 522, 553, 579; (WS): O'Farrell 71-49, 71-115, 71-118, 72-281, 74-289; Bennett 46; (PNNL-TC): Sauer 4-26-76; Rotenberry 5-29-75 #3; Warren 4-14-78, 5-11-79; Gano 4-27-79; Anderson 4-20-85

Myosurus aristatus auct. Non Benth. sedge mousetail

Myosurus apetalus C. Gay var. *borealis* Whittemore

USDA Code: Myapb (Myar) **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Uncommon; collected in the 100 Areas, at Bennett Spring in moist shade; reported from near Hanford townsite and Priest Rapids.

Collections: (PNNL): GLF-178; (BRY): Baird 869; (WS): O'Farrell 74-285; St. John 8129

Myosurus X clavicaulis M.E. Peck p.p. little mouse-tail

Myosurus minimus L.

USDA Code: Mymi2 (MyXc) **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: A small population found in a vernal pool on Umtanum Ridge.

Collections: (U.S. National Arboretum): Caplow and Beck 97010; (WTU): Caplow & Beck 97014

Ranunculus cymbalaria Pursh shore buttercup

USDA Code: Racy **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Collected at Snipes Creek on west slope of Rattlesnake Mountain during early 20th century.

Collections: (WS): Cotton 414

Ranunculus flammula L. creeping buttercup

USDA Code: Raf12 (Raf1) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Scattered along the shore of the Columbia River in wet ground, e.g., 100-K and 100-H Areas and White Bluffs.

Collections: (PNNL): MRS-281; Baird 1370; (BRY): Baird 1075, 1323; (PNNL-TC): Davis 9-28-57

Ranunculus glaberrimus Hook. sagebrush buttercup

USDA Code: Rag1 **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Local in rocky slopes and canyons of Rattlesnake and Umtanum ridges.

Collections: (PNNL): Baird-1546; (BRY): Baird 1561; (WS): O'Farrell 71-175, 71-176; Cotton 307

Ranunculus sceleratus L. celeryleaf buttercup

USDA Code: Rasc3 (Rasc) **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Scattered in moist areas around springs and along the Columbia River.

Collections: (BRY): Baird 791, 957; (WS): O'Farrell 72-218; Beattie 3935

Ranunculus subrigidus W. Drew stiffleaf buttercup

Ranunculus longirostris Godr.

USDA Code: Ralo2 (Rasu) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Aquatic plant; collected in Gable Mountain Pond.

Collections: (PNNL-TC): Fitzner 7-15-74

Ranunculus testiculatus Crantz bur buttercup

Ceratocephala testiculata (Crantz) Bess.

USDA Code: Cete5 (Rate) **lifeform:** forb **origin:** Introduced **duration:** annual

Distribution/Notes: Introduced weed; widespread in disturbed areas.

Collections: (BRY): Baird 530, 596, 793; (WS): O'Farrell 74-284; (PNNL-TC): Rickard 4-18-86

Thalictrum occidentale Gray western meadowrue

USDA Code: Thloc **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Reported by Mastrogiuseppe and Gill (1983) from washes in the vicinity of Priest Rapids.

Collections: Mastrogiuseppe 2299

Rosaceae

- Amelanchier alnifolia*** (Nutt.) Nutt. ex M. Roemer western serviceberry
USDA Code: Amal2 (Amaln) **lifeform:** shrub **origin:** Native **duration:** perennial
Distribution/Notes: Locally common in canyons and near springs of Rattlesnake and Umtanum ridges.
Collections: (PNNL): CZM-438; Baird-1547; (BRY): Baird 626a; (WS): O'Farrell 71-39, 72-210; Bennett 15, 39; Cotton 365, 571, 576; L Smith 124; (PNNL-TC): Rickard & Cline 5-1-70; Warren 4-19-79
- Crataegus douglasii*** Lindl. black hawthorn
USDA Code: Crdo2 (Crdo) **lifeform:** tree **origin:** Native **duration:** perennial
Distribution/Notes: Scattered in moist areas along the Columbia River, e.g.. Hanford townsite and Locke Island.
Collections: (WS): Beattie 3956; St. John 8098; (PNNL-TC): Hanson 4-18-61; Pendleton 4-13-59
- Geum macrophyllum*** Willd. Oregon avens
USDA Code: Gema4 (Gema) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Collected in upper Snively basin.
Collections: (WS): O'Farrell 72-219
- Geum triflorum*** Pursh old man's whiskers
USDA Code: Getr **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Local on upper slopes of Rattlesnake Ridge.
Collections: (BRY): Baird 778; (WS): Cotton 544; (PNNL-TC): Watson 6-10-59
- Malus pumila*** P. Mill. apple
USDA Code: Mapu **lifeform:** tree **origin:** Introduced **duration:** perennial
Distribution/Notes: Introduced fruit tree; persisting and occasionally escaping along the Columbia River.
Collections: (PNNL): CZM-399; (BRY): Baird 1265
- Physocarpus malvaceus*** (Greene) Kuntze ninebark
USDA Code: Phma5 (Phma) **lifeform:** shrub **origin:** Native **duration:** perennial
Distribution/Notes: Uncommon; reported by TNC on ALE; collected in Snively Canyon.
Collections: (PNNL-TC): no collector named 4-79
- Potentilla anserina*** L. common silverweed
Argentina anserina (L.) Rydb.
USDA Code: Aran7 (otan) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Uncommon; collected along the Columbia River near 100-B Area.
Collections: (PNNL): MRS-230

- Potentilla arguta* Pursh tall cinquefoil
USDA Code: Poar7 (Poar) *lifeform:* forb *origin:* Native *duration:* perennial
Distribution/Notes: Known from very old collection in Rattlesnake Hills and reported by Mastrogioseppe and Gill in the vicinity of Priest Rapids.
Collections: (WS): Cotton 470
- Potentilla biennis* Greene biennial cinquefoil
USDA Code: Pobi7 (Pobi) *lifeform:* forb *origin:* Native *duration:* perennial
Distribution/Notes: Scattered near moist areas, e.g., 100-B Area and at Bennett Spring.
Collections: (BRY): Baird 866, 1419; (WS): O'Farrell 73-270; St. John 8094; (PNNL-TC): no collector 5-7-80
- Potentilla glandulosa* Lindl. sticky cinquefoil
USDA Code: Pogl9 (Pogl) *lifeform:* forb *origin:* Native *duration:* perennial
Distribution/Notes: Collected by TNC from northeast slope of Rattlesnake Ridge.
Collections: (PNNL): Caplow & Beck 94041
- Potentilla gracilis* Dougl. Ex Hook. slender cinquefoil
USDA Code: Pogr9 (Pogr) *lifeform:* forb *origin:* Native *duration:* perennial
Distribution/Notes: Collected at Snipes Creek on west slope of Rattlesnake Mountain during the very early 20th century.
Collections: (WS): Cotton 662
- Potentilla norvegica* L. ssp. *monspeliensis* (L.) Aschers. & Graebn. Norwegian cinquefoil
USDA Code: Ponom (Pono) *lifeform:* forb *origin:* Native *duration:* annual
Distribution/Notes: Scattered along the Columbia River, e.g., Hanford slough.
Collections: (PNNL-TC): Davis 6-18-52 (in part); Warren 8-12-80
- Potentilla paradoxa* Nutt. bushy cinquefoil
USDA Code: Popa15 (Potpa) *lifeform:* forb *origin:* Native *duration:* annual
Distribution/Notes: Scattered along the shore of the Columbia River, e.g., Hanford townsite and 100-D Area; reported from Wahluke Slope.
Collections: (PNNL): CZM-385; Baird-1278; (BRY): Baird 912; (PNNL-TC): Warren 8-12-80
- Potentilla rivalis* Nutt. brook cinquefoil
USDA Code: Pori3 (Pori) *lifeform:* forb *origin:* Native *duration:* annual
Distribution/Notes: Scattered along the shore of the Columbia River.
Collections: (PNNL): MRS-88, 239; (PNNL-TC): Newsome & Sauer 9-27-77; Davis 4-8-53, 6-1-52 (in part)

- Prunus armeniaca* L. apricot
USDA Code: Prar3 (Prar) **lifeform:** tree **origin:** Introduced **duration:** perennial
Distribution/Notes: Introduced fruit tree; persisting in old cultivated areas, e.g., north of 100-D Area.
Collections: (PNNL): CZM-350; (BRY): Baird 1167
- Prunus avium* (L.) L. sweet cherry
USDA Code: Prav **lifeform:** tree **origin:** Introduced **duration:** perennial
Distribution/Notes: Introduced fruit tree; persisting in old cultivated areas, e.g., north of 100-D Area near the Columbia River.
Collections: (BRY): Baird 1166
- Prunus emarginata* (Dougl. Ex Hook.) D. Dietr. bitter cherry
USDA Code: Prem **lifeform:** tree **origin:** Native **duration:** perennial
Distribution/Notes: Collected along the White Bluffs in the late 19th century.
Collections: (WS): Lake & Hull 8-9-1892
- Prunus persica* (L.) Batsch peach
USDA Code: Prpe3 (Prpe) **lifeform:** tree **origin:** Introduced **duration:** perennial
Distribution/Notes: Introduced fruit tree; persisting in old cultivated areas.
Collections: (BRY): Baird 1418
- Prunus virginiana* L. var. *melanocarpa* (A. Nels.) Sarg. chokecherry
USDA Code: Prvim (Prvi) **lifeform:** tree **origin:** Native **duration:** perennial
Distribution/Notes: Widespread in moist areas, e.g., Priest Rapids, Snively Canyon, and Hanford townsite.
Collections: (PNNL): CZM-345; (BRY): Baird 182, 618, 820, 1288; (WS): O'Farrell 71-67, 72-222, 72-223; St. John 8097; (PNNL-TC): Davis 5-6-53; Warren 8-16-78, 8-16-78, 5-2-79, 5-11-79; Gano 5-2-79; Sauer & Owzarski 5-20-80
- Purshia tridentata* (Pursh) DC. bitterbrush
USDA Code: Putr2 (Putr) **lifeform:** shrub **origin:** Native **duration:** perennial
Distribution/Notes: Common; often co-dominant with sagebrush in sandy areas primarily in the southern portions of the Hanford Site and on Wahluke Slope.
Collections: (PNNL): /RMM-01, 02, 03, 04, 05, 06, 07, 08; (BRY): Baird 520, 650, 827; (WS): O'Farrell 71-48; (PNNL-TC): Warren 4-14-78; Sauer 5-30-75#14; Gano 3-27-79

Pyrus communis L. pear

USDA Code: Pyco **lifeform:** tree **origin:** Introduced **duration:** perennial

Distribution/Notes: Introduced fruit tree; persisting in old orchards, e.g., north of 100-D Area near the Columbia River.

Collections: (BRY): Baird 1165

Rosa woodsii Lindl. var. *ultramontana* (S. Wats.) Jepson Wood's rose

USDA Code: Rowou (Rowo) **lifeform:** shrub **origin:** Native **duration:** perennial

Distribution/Notes: Widespread; mostly near springs or moist areas, e.g., Snively Canyon and along the Columbia River near Energy Northwest pumping station.

Collections: (PNNL): CZM-341; (BRY): Baird 823, 1255; (WS): O'Farrell 71-94; Cotton 469; (PNNL-TC): Sauer 5-30-75#11; Rickard & Cline 6-1-70; Warren 8-16-78; Sauer & Owzarski 5-15-80

Rubus discolor Weihe & Nees Himalayan blackberry

USDA Code: Rudi2 (Rudi) **lifeform:** shrub **origin:** Introduced **duration:** perennial

Distribution/Notes: Introduced; often weedy and troublesome; collected near White Bluffs.

Collections: (BRY): Baird 1097

Rubiaceae

Galium aparine L. cleavers

USDA Code: Gaap2 (Gaap) **lifeform:** vine **origin:** Native **duration:** annual

Distribution/Notes: Local on moist slopes and near springs on Rattlesnake and Umtanum ridges.

Collections: (PNNL): MRS-249; CZM-657; (BRY): Baird 640, 1344; (WS): O'Farrell 72-201; (PNNL-TC): Sauer 4-20-78

Galium multiflorum Kellogg shrubby bedstraw

USDA Code: Gamu2 (Gamu) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Collected in Rattlesnake Hills and reported from Wahluke Slope.

Collections: (WS): O'Farrell 71-68; Cotton 696

Ruppiaceae

Ruppia maritima L. ditch grass

USDA Code: Ruma5 (Ruma) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Aquatic plant; collected at West Lake.

Collections: (PNNL-TC): Fitzner 7-16-74

Salicaceae

- Populus alba* L. silver poplar
USDA Code: Poal7 (Poal) **lifeform:** tree **origin:** Introduced **duration:** perennial
Distribution/Notes: Introduced tree; widely escaping and becoming established in moist areas.
Collections: (PNNL): CZM-425; Baird-1095; (WS): O'Farrell 72-184; (PNNL-TC): Rickard & Cline 5-1-70; Warren 8-16-78
- Populus deltoides* Bartr. Ex Marsh. plains cottonwood
USDA Code: Poda3 (Poda) **lifeform:** tree **origin:** Introduced **duration:** perennial
Distribution/Notes: Reported by Price and Rickard (1973) to occur in the 200 Areas and by TNC along the Columbia River.
Collections: None Available
- Populus nigra* L. Lombardy poplar
USDA Code: Poni **lifeform:** tree **origin:** Introduced **duration:** perennial
Distribution/Notes: Introduced tree; widely and commonly planted as a wind break; often persisting as at White Bluffs.
Collections: (PNNL): CZM-349, 409; Baird-984
- Populus tremuloides* Michx. quaking aspen
USDA Code: Potr5 (Potre) **lifeform:** tree **origin:** Native **duration:** perennial
Distribution/Notes: Local in Snively Canyon and in washes near Priest Rapids.
Collections: (PNNL): RR-2; (WS): O'Farrell 72-183; (PNNL-TC): Rickard & Cline 5-1-70
- Populus trichocarpa* Torr. & Gray ex Hook. black cottonwood
Populus balsamifera L. ssp. *trichocarpa* (Torr. & Gray ex Hook.) Brayshaw
USDA Code: Pobat (Potri) **lifeform:** tree **origin:** Native **duration:** perennial
Distribution/Notes: Widespread; native tree of moist areas, especially near the Columbia River.
Collections: (PNNL): CZM-407; Baird-885; (WS): O'Farrell 71-133, 72-186; (PNNL-TC): Sauer 5-30-75 #5; Warren 8-16-78
- Salix amygdaloides* Anderss. peachleaf willow
USDA Code: Saam2 (Saam) **lifeform:** tree **origin:** Native **duration:** perennial
Distribution/Notes: Widespread tree; common along water courses and around springs.
Collections: (PNNL): CZM-635; P&R-02, 52; VAU-64; (BRY): Baird 4, 5, 1227; (PNNL-TC): Rickard & Cline 5-1-70

- Salix babylonica* L. weeping willow
USDA Code: Saba2 (Saba) **lifeform:** tree **origin:** Introduced **duration:** perennial
Distribution/Notes: Commonly cultivated tree; occasionally persisting or escaping, as along the Columbia River at Richland.
Collections: (BRY): Baird 665
- Salix bebbiana* Sarg. Bebb's willow
USDA Code: Sabe2 (Sabe) **lifeform:** tree **origin:** Introduced **duration:** perennial
Distribution/Notes: Collected in gulches of the Rattlesnake Hills during the very early 20th century.
Collections: (WS): Cotton 325
- Salix discolor* Muhl. pussy willow
USDA Code: Sadi **lifeform:** tree **origin:** Introduced **duration:** perennial
Distribution/Notes: Reported from flood bars near Priest Rapids by Mastrogiuseppe and Gill (1983).
Collections: None Available
- Salix exigua* Nutt. coyote willow
Salix exigua Nutt. With some *Salix melanopsis* Nutt.
USDA Code: Saex **lifeform:** tree **origin:** Native **duration:** perennial
Distribution/Notes: Common and widespread in moist habitats throughout the area; most specimens are assignable to subspecies *exigua*, but one collection (Baird 1379) from along the Columbia River at Coyote Rapids may be assignable to subspecies *melanopsis* (Nutt.) Cronq.
Collections: (PNNL): CZM-383; P&R-25; (BRY): Baird 819, 963, 1379; (PNNL-TC): Sauer 5-30-75 #9; Warren 8-16-78
- Salix fragilis* L. crack willow
USDA Code: Safr **lifeform:** tree **origin:** Introduced **duration:** perennial
Distribution/Notes: Introduced, weedy tree; widely planted and escaping in moist bottom land, as along the Yakima River delta.
Collections: None Available
- Salix lasiandra* Benth. whiplash willow
Salix lucida Muhl. Probably ssp. *caudata* (Nutt.) E. Murr.
USDA Code: Salu (Salad) **lifeform:** tree **origin:** Native **duration:** perennial
Distribution/Notes: Scattered in moist areas, as at Priest Rapids, Cold Creek, and Wahluke Slope.
Collections: (BRY): Baird 1228; (WS): O'Farrell 72-182; (PNNL-TC): Davis 5-6-53

Salix lasiolepis Benth. arroyo willow
USDA Code: Sala6 (Salal) **lifeform:** tree **origin:** Native **duration:** perennial
Distribution/Notes: Local in moist areas of Rattlesnake and Umtanum ridges.
Collections: (PNNL): Baird-1551; (WS): Cotton 326

Salix scouleriana Barratt ex Hook. Scouler's willow
USDA Code: Sasc **lifeform:** tree **origin:** Native **duration:** perennial
Distribution/Notes: Local; collected in Snivley Canyon.
Collections: (WS): O'Farrell 72-185; St. John 8086, 8087; (PNNL-TC): Rickard & Cline 5-1-70; Warren 8-16-78

Santalaceae

Comandra umbellata (L.) Nutt. var. *pallida* (A. DC.) bastard toadflax
Comandra umbellata (L.) Nutt. ssp. *pallida* (A. DC.) Piehl
USDA Code: Coump2 (Coum) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Common and widespread in a variety of habitats, often in sand but almost always with sagebrush.
Collections: (PNNL): CZM-328; MRS-35; P&R-33; VAU-65, 66; JGL-183, 184; (BRY): Baird 24, 566, 943; (WS): O'Farrell 72-216; St. John 8114

Saxifragaceae

Heuchera cylindrica Dougl. Ex Hook. lava alumroot
USDA Code: Hecy2 (Hecy) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Local on basalt talus slopes and cliffs, Rattlesnake and Umtanum ridges.
Collections: (PNNL): MRS-252; (BRY): Baird 184, 621; (WS): O'Farrell 71-69; (PNNL-TC): Davis 5-6-53; Pendleton 7-19-59

Lithophragma bulbifera Rydb. bulbiferous fringecup
Lithophragma glabrum Nutt.
USDA Code: Lig12 (Libu) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Occasional in variety of habitats, e.g., bunchgrass areas on Rattlesnake Ridge, Wahluke Slope, and central Hanford. Now grouped with the following species under the name *L. glabrum*.
Collections: (PNNL): MRS-199, 200; (BRY): Baird 585, 756; (WS): O'Farrell 72-190; M Warner 4-18-79; (PNNL-TC): Schlessmann 3-24-76 #2

Lithophragma glabra Nutt. smooth fringecup
Lithophragma glabrum Nutt.
USDA Code: Lig12 (Ligl) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Uncommon; collected on Gable Mountain and Rattlesnake Ridge.
Collections: (WS): O'Farrell 71-3; Bennett 5; St. John 808; (PNNL-TC): Pendleton 3-15-59

Lithophragma parviflora (Hook.) Nutt. ex Torr. & Gray smallflower fringecup
Lithophragma parviflorum (Hook.) Nutt. ex Torr. & Gray

USDA Code: Lipa5 (Lipa) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Uncommon; collected in Bobcat Canyon; reported from central Hanford.
Collections: (WS): O'Farrell 72-207

Saxifraga integrifolia Hook. var. *claytoniaefolia* (Canby ex Small) Rosendahl swamp saxifrage
Saxifraga nidifica Greene var. *claytoniifolia* (Canby ex Small) Elvander

USDA Code: Sanic2 (Sain) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Local around seeps and springs on Rattlesnake and Umtanum ridges.
Collections: (BRY): Baird 627, 864; (WS): O'Farrell 72-199

Saxifraga oregana T.J. Howell bog saxifrage

USDA Code: Saor2 (Saor) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Uncommon; collected on ALE.
Collections: (WS): O'Farrell 72-221

Scrophulariaceae

Castilleja exilis A. Nels. alkali paintbrush
Castilleja minor (Gray) Gray ssp. *minor*

USDA Code: Cami13 (Caex) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Local in alkaline marshes; collected at West Lake and on Wahluke Slope; currently on the Washington State Review 1 list.
Collections: (PNNL): MRS-273; (BRY): Baird 1435

Castilleja thompsonii Pennell Thompson's paintbrush

USDA Code: Cath4 (Cath) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Common and widespread in sagebrush areas, especially on Rattlesnake and Umtanum ridges.
Collections: (PNNL): MRS-133; WJW-04; (BRY): Baird 586, 782, 1300; (WS): O'Farrell 71-77; Cotton 671; (PNNL-TC): Sauer 4-18-78; Watson 6-10-59; Warren 4-18-78

Collinsia grandiflora Lindl. showy blue-eyed Mary

USDA Code: Congr4 (Congr) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Reported by TNC from ALE.
Collections: None Available

Collinsia parviflora Lindl. small blue-eyed Mary

USDA Code: Copa3 (Copa) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Common in moist areas, especially along the Columbia River; also on Wahluke Slope and ALE, e.g., Bennett Spring.
Collections: (PNNL): MRS-85, 222; (BRY): Baird 749; (WS): O'Farrell 71-46; Cotton 327; St. John 8119

- Gratiola neglecta*** Torr. American hedge-hyssop
USDA Code: Grne **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Common in nearly all the wetland areas along the Columbia River and the Wahluke Slope.
Collections: (PNNL): MRS-165, 177, 187, 307; GIB-30; (BRY): Baird 1325, 1345, 1413; (PNNL-TC): Warren 8-5-80; Sauer & Warren 10-6-80
- Limosella acaulis*** Sessé & Moc mudwort
USDA Code: Liac2 (Liac) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: State Watch List species. Hitchcock and Cronquist (1973) does not differentiate between *L. acaulis* and *L. aquatica* – listing only *L. aquatica*. TNC researchers suggest that *L. acaulis* is more common than *L. aquatica* (K. Beck personal communication); both occur on muddy flats adjacent to the Columbia River.
Collections: (PNNL): MRS-297; (Univ. Cal.): Beck & Caplow 94053
- Limosella aquatica*** L. southern mudwort
USDA Code: Liaq **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: See discussion under *L. acaulis*.
Collections: (PNNL): MRS-189; GIB 54; (BRY): Baird 1322, 1348; (UC): Caplow & Beck 94066
- Linaria dalmatica*** (L.) P. Mill. dalmatian toadflax
USDA Code: Lida **lifeform:** forb **origin:** Introduced **duration:** perennial
Distribution/Notes: Introduced weed of dry waste places; uncommon; collected near 100-B Area and along Horn Rapids Road; observed around Energy Northwest.
Collections: (PNNL): GIB-54; (PNNL-TC): Sauer & Hinds 5-26-77
- Linaria vulgaris*** P. Mill. butter-and-eggs
USDA Code: Livu2 (Livu) **lifeform:** forb **origin:** Introduced **duration:** perennial
Distribution/Notes: Reported to be persisting near abandoned homesteads south of the Hanford townsite.
Collections: None Available
- Lindernia anagallidea*** (Michx.) Pennell false pimpernel
Lindernia dubia (L.) Pennell var. *anagallidea* (Michx.) Cooperrider
USDA Code: Lidua (Lian) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: State Review Group 2 species because of taxonomic difficulties. Many of our specimens will key to *L. anagallidea* in Hitchcock and Cronquist (1973) and in Hickman (1993) but may technically belong to variety *dubia*. Found in moist to wet areas along shores of the Columbia River.
Collections: (PNNL): MRS-184; (BRY): Baird 1346, 1408

- Lindernia dubia*** (L.) Pennell false pimpernel
Lindernia dubia (L.) Pennell var. *dubia*
USDA Code: Lidud (Lidu) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: All of our *Lindernia* may be of variety *dubia* (K. Beck personal communication). Moist to wet areas along the Columbia River.
Collections: (WTU): Caplow & Beck 94056, 94057; (UC): Caplow & Beck 94064
- Mazus japonicus*** (Thunb.) Kuntze Japanese mazus
Mazus pumilus (Burm. F.) Steenis
USDA Code: Mapu7 (Maja) **lifeform:** forb **origin:** Introduced **duration:** annual
Distribution/Notes: Observed near 100-H Area and reported along the Columbia River by TNC.
Collections: None Available
- Mimetanthe pilosa*** (Benth.) Greene downy monkeyflower
USDA Code: Mipi5 (Mipi) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Collected in the canyons and Corral Creek in the Rattlesnake Hills during the very early 20th century; not observed since.
Collections: (WS): Cotton 880, 911
- Mimulus floribundus*** Lindl. purplestem monkeyflower
USDA Code: Mifl2 (Mifl) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Collected on ALE and at Snipes Creek; reported from Umtanum Ridge.
Collections: (WS): O'Farrell 71-103, 71-147, 72-244; Cotton 418
- Mimulus guttatus*** DC. yellow monkeyflower
USDA Code: Migu **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Common and widespread in moist and wet habitats.
Collections: (PNNL): CZM-474; (BRY): Baird 140, 636, 958; (WS): O'Farrell 71-991
- Mimulus ringens*** L. Allegheny monkeyflower
USDA Code: Miri **lifeform:** forb **origin:** Introduced **duration:** perennial
Distribution/Notes: Reported from along the Columbia River; collected in Savage Island slough.
Collections: (PNNL): Caplow & Beck 95114; (WTU): Caplow & Beck 95114
- Mimulus suksdorfii*** Gray Suksdorf's monkeyflower
USDA Code: Misu2 (Misu) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Washington State sensitive species; scattered in small populations among sagebrush, near Gable Mountain, Gable Butte, and Vernita grade.
Collections: (WTU): Caplow & Beck 95024, 95040, 95046, 95056, 97011

- Orthocarpus barbatus* Cotton Grand Coulee owl-clove
USDA Code: Orba2 (Orba) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Observed by TNC on Umtanum Ridge.
Collections: (WTU): Caplow & Beck 95072
- Penstemon acuminatus* Dougl. Ex Lindl. sand beardtongue
USDA Code: Peac **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Common and widespread throughout Hanford, primarily on sand.
Collections: (PNNL): MRS-49, 218; CZM-319; P&R-85; VAU-67; JGL-185; (BRY): Baird 37, 570, 829, 925; (WS): O'Farrell 71-54; (PNNL-TC): Sauer 5-22-75 #2, 5-9-78; Davis 5-11-53; Sauer et al. 5-12-80; Warren & Hines 5-20-80; Sauer 5-9-78; Davis 5-10-52; (WTU): Caplow & Beck 97031, 97033
- Penstemon eriantherus* Pursh var. *whitedii* (Piper) A. Nels. fuzzy beardtongue
USDA Code: Peerw (Peer) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Local on the White Bluffs; currently on the Washington State Review list.
Collections: (BRY): Baird 155, 698; (WTU): Caplow & Beck 97017, 97025
- Penstemon gairdneri* Hook. Gairdner's beardtongue
USDA Code: Pega (Penga) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Local on top of Rattlesnake Ridge and lithosols near Priest Rapids.
Collections: (WS): O'Farrell 71-78; (PNNL-TC): Sauer 6-10-75 #16
- Penstemon glandulosus* Dougl. var. *chilanensis* (Keck) Cronq. stickystem beardtongue
USDA Code: Pegl4 (Pegl) **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Local on Rattlesnake Ridge, e.g., near Bennett Spring.
Collections: (BRY): Baird 858; (WS): O'Farrell 71-70; (PNNL-TC): Sauer 6-10-75 #17; (WTU): Caplow & Beck 94032
- Penstemon richardsonii* Dougl. Ex Lindl. basalt beardtongue
USDA Code: Peri **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Widespread on rocky slopes, cliffs, and gullies on Rattlesnake and Umtanum ridges. Scattered in the Cold Creek streambed.
Collections: (PNNL): CZM-457; MRS-159; (BRY): Baird 173, 1219, 1242; (WS): O'Farrell 71-169; (PNNL-TC): Newsome & Sauer 8-23-76; Davis 6-26-52; Warren 8-16-78; Pendleton 4-9-59
- Penstemon speciosus* Dougl. Ex Lindl. showy beardtongue
USDA Code: Pesp **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Local on top of Rattlesnake Ridge.
Collections: (PNNL): CZM-458; (WS): O'Farrell 71-108; Bennett; (PNNL-TC): Sauer 6-10-75 #8

Scrophularia lanceolata Pursh lanceleaf figwort

USDA Code: Scla **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Local in the Rattlesnake Hills. Known from older collection, but also reported by TNC.

Collections: (WS): St. John 8084

Verbascum thapsus L. common mullein

USDA Code: Veth **lifeform:** forb **origin:** Introduced **duration:** perennial

Distribution/Notes: Introduced weed of waste places and disturbed areas throughout Hanford; most common along water courses.

Collections: (PNNL): P&R-12; (WS): O'Farrell 71-155; (PNNL-TC): Warren 8-16-78

Veronica americana Schwein. Ex Benth. brooklime

USDA Code: Veam2 (Veam) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Widespread in moist to wet habitats; probably less common than other species of *Veronica* on the Hanford Site.

Collections: (BRY): Baird 867; (WS): O'Farrell 71-92; (PNNL-TC): Warren & Sauer 10-6-80; Rotenberry 5-29-75

Veronica anagallis-aquatica L. water speedwell

USDA Code: Veana2 (Veana) **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Common and widespread in moist to wet areas along the Columbia River and around springs.

Collections: (PNNL): MRS-164, 171, 176, 317; P&R-26; JGL-186; (BRY): Baird 956, 1410; (PNNL-TC): Warren & Sauer 10-6-80; Newsome & Sauer 9-27-77

Veronica peregrina L. var. *xalapensis* (Kunth) Pennell purslane speedwell

Veronica peregrina L. ssp. *xalapensis* (Kunth) Pennell

USDA Code: Vepex (Vepe) **lifeform:** forb **origin:** Native **duration:** annual

Distribution/Notes: Common along the shore of the Columbia River and in wetland areas on the Wahluke Slope.

Collections: (PNNL): Baird-1313; MRS-186, 225; GIB-39, 51; (BRY): Baird 1021, 1407; (PNNL-TC): Warren 8-12-80; Davis 5-7-53

Simarubaceae

Ailanthus altissima (P. Mill.) Swingle tree-of-heaven

USDA Code: Aial **lifeform:** tree **origin:** Introduced **duration:** perennial

Distribution/Notes: Introduced tree; widespread; collected at White Bluffs townsite.

Collections: (PNNL): CZM-429; (BRY): Baird 1101

Solanaceae

- Datura stramonium* L.** Jimson-weed
USDA Code: Dast **lifeform:** forb **origin:** Introduced **duration:** annual
Distribution/Notes: Observed within former village of Vernita at the Midway substation.
Collections: None Available
- Lycium halimifolium* P. Mill.** matrimony vine
Lycium barbarum L.
USDA Code: Lyba4 (Lyha) **lifeform:** shrub **origin:** Introduced **duration:** perennial
Distribution/Notes: Introduced ornamental; persisting around abandoned homesteads, and occasionally spreading in disturbed habitats.
Collections: (PNNL): MRS-175; CZM-671
- Nicotiana acuminata* (Graham) Hook.** wild tobacco
USDA Code: Niac **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Reported by TNC from ALE.
Collections: None Available
- Nicotiana attenuata* Torr. Ex S. Wats.** coyote tobacco
USDA Code: Niat **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Until the collection by Lewinsohn in the Cold Creek Valley, this Washington State sensitive species had not been recorded from the Hanford vicinity for nearly 100 years. Germination appears to be stimulated by smoke residues (Baldwin et al. [1994]).
Collections: (PNNL): J.S. Lewinsohn; (WS): Cotton 477
- Physalis pubescens* L.** ground cherry
USDA Code: Phpu7 (Phys.) **lifeform:** forb **origin:** Introduced **duration:** annual
Distribution/Notes: Collected along the Columbia River between 100-D and 100-H Areas.
Collections: (PNNL): MRS-331
- Solanum dulcamara* L.** bittersweet
USDA Code: Sodu **lifeform:** vine **origin:** Introduced **duration:** perennial
Distribution/Notes: Introduced and widely established along water courses and around buildings.
Collections: (PNNL): CZM-380, 470; (BRY): Baird 824
- Solanum nigrum* L.** black nightshade
Solanum americanum P. Mill.
USDA Code: Soam (Soni) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Widespread weed of mostly moist disturbed habitats, e.g., 100-D Area.
Collections: (PNNL): GIB-55

Solanum sarachoides auct. Non Sendtner hairy nightshade
Solanum physalifolium Rusby

USDA Code: Soph (Sosa) **lifeform:** forb **origin:** Introduced(?) **duration:** annual
Distribution/Notes: Occasional; collected in Cold Creek Valley and along the Columbia River near Vernita Bridge.
Collections: (PNNL): Caplow & Beck 95066; GLF-8-6-96; (PNNL-TC): Warren & Sauer 10-6-80

Solanum triflorum Nutt. cutleaf nightshade

USDA Code: Sotr **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Uncommon; collected on ALE and in Richland.
Collections: (PNNL): MRS-269; GLF-5-31-96; (WS): O'Farrell 72-253; (PNNL-TC): Sauer & Hines 6-13-74

Tamaricaceae

Tamarix parviflora DC. tamarisk

USDA Code: Tapa4 (Tapa) **lifeform:** tree **origin:** Introduced **duration:** perennial
Distribution/Notes: Introduced weedy tree of moist areas; widespread.
Collections: (PNNL): CZM-371, 386; Baird 918; JGL-187; (PNNL-TC): Sauer & Owzarski 5-16-80

Taxaceae

Taxus cuspidata Sieb. & Zucc. Japanese yew

USDA Code: Tacu **lifeform:** tree **origin:** Introduced **duration:** perennial
Distribution/Notes: Introduced ornamental; occasionally persisting.
Collections: (BRY): Baird 918, 990

Typhaceae

Typha angustifolia L. lesser cattail

USDA Code: Tyan **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Uncommon in wet areas; collected in B-ditch.
Collections: (PNNL): Baird 1201

Typha latifolia L. common cattail

USDA Code: Tyla **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Common and widespread in wet areas throughout Hanford.
Collections: (PNNL): P&R-23; (BRY): Baird 1445; (WS): O'Farrell 72-242

Ulmaceae

Ulmus americana L. American elm
USDA Code: Ulam **lifeform:** tree **origin:** Introduced **duration:** perennial
Distribution/Notes: Introduced shade tree; persisting around old buildings and townsites.
Collections: (PNNL): CZM-347, 393; (BRY): Baird 1283

Ulmus pumila L. Siberian elm
USDA Code: Ulpu **lifeform:** tree **origin:** Introduced **duration:** perennial
Distribution/Notes: Introduced weedy tree; persisting and spreading around old townsites.
Collections: (PNNL): CZM-372; (BRY): Baird 1099; (WS): O'Farrell 74-297

Urticaceae

Urtica dioica L. stinging nettle
 ssp. *gracilis* (Ait.) Seland (includes var. *angustifolia* and var. *lyallii*)
 ssp. *holosericea* (Nutt.) Thorne
USDA Code: Urdi **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Common weed of disturbed, moist ground; three varieties have been reported on Hanford.
Collections: var. *angustifolia* Schlecht. Common and widespread in moist to wet habitats throughout Hanford. (BRY): Baird 1222; (WS): O'Farrell 71-134; (WS): St. John 8081; (PNNL-TC): Warren 8-16-78
 var. *lyallii* (Wats.) Hitchc. (Lyall's nettle). Local in Snively Canyon; more commonly found in western Washington. (PNNL-TC): Warren 8-16-78
 ssp (var.) *holosericea* reported by TNC on ALE.

Valerianaceae

Plectritis macrocera Torr. & Gray white cupseed
USDA Code: Plma4 (Plmac) **lifeform:** forb **origin:** Native **duration:** annual
Distribution/Notes: Common and widespread in sandy areas throughout Hanford.
Collections: (PNNL): MRS-76; P&R-84; VAU-68; JGL-188, 189, 190; (BRY): Baird 30, 554, 593, 843; (WS): O'Farrell 71-22; (PNNL-TC): Sauer 4-12-78; Rickard & Cline 5-1-70; Warren et al. 5-1-80

Verbenaceae

Verbena bracteata Lag. & Rodr. bracted verbena
USDA Code: **Vebr** **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Widespread throughout Hanford, primarily in disturbed habitats both moist and drier sites.
Collections: (PNNL): MRS-113, 170; GIB-31; (BRY): Baird 877, 914, 1271; (WS): O'Farrell 71-153; (PNNL-TC): Newsome & Sauer 9-27-77; Sauer & Durham 8-7-75; Davis 6-18-52; Sauer 5-28-80; Warren 8-16-78

Verbena hastata L. var. *scabra* Moldeke blue verbena
USDA Code: **Vehas (Veha)** **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Occasional in wet areas along the Columbia River and on Wahluke Slope.
Collections: (PNNL): CZM-481; GIB-52; (BRY): Baird 1329

Violaceae

Viola adunca Sm. early blue violet
USDA Code: **Viad** **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Collected near the White Bluffs ferry landing during the late 19th century.
Collections: (WS): Lake & Hull 8-10-1892

Viola palustris L. marsh violet
USDA Code: **Vipa4 (Vipa)** **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Reported by Mastrogiuseppe and Gill (1983) in wet areas in the vicinity of Priest Rapids.
Collections: *None Available*

Viola sp. violet
USDA Code: **Visp.** **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Reported by TNC along the Columbia River, central Hanford.
Collections: *None Available*

Viola trinervata (T.J. Howell) T.J. Howell ex Gray sagebrush violet
USDA Code: **Vitr3 (Vitr)** **lifeform:** forb **origin:** Native **duration:** perennial
Distribution/Notes: Old report from the Hanford townsite, but specimen could not be located; also reported at Priest Rapids by Mastrogiuseppe and Gill (1983).
Collections: (WS): Gessell

Vitaceae

Parthenocissus quinquefolia (L.) Planch. Virginia creeper

USDA Code: Paqu2 (Paqu) **lifeform:** vine **origin:** Introduced **duration:** perennial

Distribution/Notes: Introduced ornamental vine; persisting in disturbed habitats near the Columbia River, e.g., Hanford townsite.

Collections: (PNNL): MRS-325; (BRY): Baird 1289

Vitis vinifera L. grape

USDA Code: Vivi5 (Vivin) **lifeform:** vine **origin:** Introduced **duration:** perennial

Distribution/Notes: Introduced and occasionally persisting in abandoned vineyards such as the 1100 Area and near Vernita Bridge.

Collections: (PNNL): CZM-420

Zannichelliaceae

Zannichellia palustris L. horned pondweed

USDA Code: Zapa **lifeform:** forb **origin:** Native **duration:** perennial

Distribution/Notes: Aquatic plant; known from older collection along the Columbia River near Kennewick and collected by TNC across from the Hanford townsite.

Collections: (WS): Jones 368; (WTU): Caplow & Beck 95140

Zygophyllaceae

Tribulus terrestris L. puncture vine

USDA Code: Trte **lifeform:** forb **origin:** Introduced **duration:** annual

Distribution/Notes: Introduced; widespread and troublesome weed of waste places and disturbed habitats throughout Hanford.

Collections: (PNNL): CZM-420; (BRY): Baird 1417; (PNNL-TC): Sauer & Durham 8-7-75#1

4.0 Hanford Site Plant Species of Special Concern

The chapter briefly discusses species that are of special concern on the Hanford Site. Plant species may be of special concern either because they are 1) rare and listed by the state or federal government as endangered, threatened, or otherwise of concern; or 2) considered highly disruptive to the native flora.

4.1 Rare Plants of the Hanford Site

At least 47 plant species on or near the Hanford Site (Table 4.1) are listed by the Washington Natural Heritage Program as endangered, threatened, sensitive, review, or watch list (Washington Natural Heritage Program 1997). Three of these species are also listed by the federal government as candidates for protection under the Endangered Species Act of 1973 (65 FR 57534-47), and at least four additional species are considered federal species of concern (former candidate species). The list of species in Table 4.1 is current as of the preparation of this document; however, the status of a particular species is always subject to change at the discretion of the responsible state and federal agencies.

Several additional species have not been included in Table 4.1, although they have been previously reported from the Hanford Site (Table 4.2). *Astragalus arrectus*, or Palouse milkvetch, was reported by St. John and Jones (1928) to occur in the Rattlesnake Hills; however, the specimen they refer to (collected by Miss Ruth Bennett) has not been found, and the specimen in question may be referable to *A. leibergii*, *A. reventiformis*, or even *A. conjunctus* var. *rickardii*. *A. arrectus* is otherwise not known from Benton County; it primarily occurs in Lincoln and Whitman counties to the north and east of the Hanford Site, and in Klickitat County southwest of Hanford. *Collinsia sparsiflora* was reported in ERDA (1975), apparently based on a collection by the O'Farrells (O'Farrell 74-304) that could not be located. The only confirmed occurrences of this species in Washington State have been in Klickitat County. Most likely, the O'Farrell specimen is the very similar *C. parviflora*. *Carex densa* has been previously reported from the Hanford Site, but all collections formerly referred to this species are now identified as *C. vulpinoidea*. In Washington State, *Carex densa* is otherwise only known in Wahkiakum County near the mouth of the Columbia River. *Arenaria franklinii* var. *thompsonii* probably does not occur within Washington State, although some of our specimens may have characteristics suggesting this taxon.

Nicotiana attenuata was reported by St. John and Jones (1928) to occur in the Rattlesnake Hills, but it had not been relocated within the Hanford Site, or even Benton County since the specimen they referenced (Cotton 477) was collected in 1901. This species was believed to be extirpated from Benton County until it was rediscovered in August 1999 by Lewinsohn and Durham in the Cold Creek Valley within a portion of the ALE Reserve that had burned in 1998. There are indications that seed germination in some strains of *N. attenuata* may be stimulated by smoke or fire (Baldwin et al. 1994). No individuals were found in the same area the following year.

A special note should also be made of *Hackelia diffusa*, the variety *diffusa* of this species is recognized by the Washington Natural Heritage Program as a sensitive species. Hitchcock and Cronquist

Table 4.1. Plant Species of Concern on and Around the Hanford Site

Species	Common Name	Family	Federal Status ^(a)	State Status ^(b)	Notes
<i>Artemisia campestris</i> ssp. <i>borealis</i> var. <i>wormskioldii</i>	Northern wormwood	Asteraceae	C	E	Known near Beverly, probably not on Hanford
<i>Lesquerella tuplashensis</i>	White bluffs bladderpod	Brassicaceae	C	E	White Bluffs
<i>Eriogonum codium</i>	Umtanum buckwheat	Polygonaceae	C	E	Umtanum Ridge
<i>Astragalus columbianus</i>	Columbia milkvetch	Fabaceae	SC	T	Umtanum, Yakima Ridges
<i>Camissonia (Oenothera) pygmaea</i>	Dwarf eveningprimrose	Onagraceae	-	T	Pit 11, Ringold, Wahluke Slope
<i>Eatonella nivea</i>	White eatonella	Asteraceae	-	T	Wahluke Slope
<i>Loeflingia squarrosa</i> var. <i>squarrosa</i>	Loeflingia	Caryophyllaceae	-	T	North of Gable Mountain
<i>Lomatium tuberosum</i>	Hoover's deserparsley	Apiaceae	SC	T	Talus slopes, Umtanum Ridge
<i>Rorippa columbiae</i>	Columbia yellowcress	Brassicaceae	SC	T	Gravel shorelines, Hanford Reach
<i>Astragalus geyeri</i>	Geyer's milkvetch	Fabaceae	-	S	White Bluffs
<i>Calyptidium roseum</i>	Rosy calyptidium	Portulacaceae	-	S	North of Gable Mountain
<i>Cryptantha leucophaea</i>	Gray cryptantha	Boraginaceae	SC	S	Dune sands
<i>Cryptantha spiculifera</i> (<i>C. interrupta</i>)	Bristly cryptantha	Boraginaceae	-	S	Wahluke Slope
<i>Cuscuta denticulata</i>	Desert dodder	Cuscutaceae	-	S	Found again on Wahluke Slope
<i>Cyperus bipartitus (rivularis)</i>	Shining flatsedge	Cyperaceae	-	S	Common along Columbia River
<i>Erigeron piperianus</i>	Piper's daisy	Asteraceae	-	S	Common on ALE
<i>Hypericum majus</i>	Canadian St. John's-Wort	Hypericaceae	-	S	Riparian/wetlands
<i>Mimulus suksdorfii</i>	Suksdorf's monkeyflower	Scrophulariaceae	-	S	North of Gable Mountain
<i>Nicotiana attenuata</i>	Coyote tobacco	Solanaceae	-	S	Found on ALE 1999
<i>Oenothera cespitosa</i> ssp. <i>cespitosa</i>	Desert (Cespitose) eveningprimrose	Onagraceae	-	S	We may have two varieties - both are listed as sensitive

Table 4.1. (contd)

Species	Common Name	Family	Federal Status ^(a)	State Status ^(b)	Notes
<i>Ammania robusta</i>	Ammania	Lythraceae	-	R1	Wetlands
<i>Astragalus conjunctus</i> var. <i>rickardii</i>	Dr. Bill's locoweed	Fabaceae	-	R1	ALE, Horse Heaven Hills
<i>Camissonia (Oenothera) minor</i>	Small-flowered eveningprimrose	Onagraceae	-	R1	Wahluke Slope, 200 Plateau
<i>Castilleja exilis</i>	Annual paintbrush	Scrophulariaceae	-	R1	Wetlands on the Wahluke Slope, and at West Lake
<i>Centunculus minimus</i>	Chaffweed	Primulaceae	-	R1	Riparian, Wetlands
<i>Cryptantha scoparia</i>	Desert cryptantha	Boraginaceae	-	R1	ALE, Yakima Ridge
<i>Gilia leptomeria</i>	Great Basin gilia	Polemoniaceae	-	R1	What we formerly called <i>G. leptomeria</i> is now <i>G. latea</i> .
<i>Lipocarpha (=Hemicarpha) aristulata</i>	Small-flowered hemicarpha	Cyperaceae	-	R1	Wetlands
<i>Nama densum</i> var. <i>parviflorum</i>	Purple mat	Hydrophyllaceae	-	R1	Occasional throughout central Hanford
<i>Opuntia fragilis</i>	Brittle prickly-pear	Cactaceae	-	R1	Probably not on Hanford
<i>Pectocarya linearis</i>	Winged combseed	Boraginaceae	-	R1	Ridges, Cold Creek Valley
<i>Pediocactus simpsonii</i> var. <i>robustior</i> (= <i>P. nigrispinus</i>)	Hedge hog cactus	Cactaceae	-	R1	Reportedly on ALE and in other basalt areas
<i>Penstemon eriantherus whitedii</i>	Fuzzy beardtongue	Scrophulariaceae	-	R1	White Bluffs
<i>Rotala ramosior</i>	Toothcup	Lythraceae	-	R1	Wetlands
<i>Lindernia dubia anagallidea</i>	False pimpernel	Scrophulariaceae	-	R2	Taxonomically problematic
<i>Allium robinsonii</i>	Robinson's onion	Liliaceae	-	W	Near river
<i>Allium scilloides</i>	Scilla onion	Liliaceae	-	W	Slopes of ridges
<i>Artemesia lindleyana</i>	Columbia River mugwort	Asteraceae	-	W	Common in riparian areas, along Columbia River
<i>Astragalus sclerocarpus</i>	Stalked-pod milkvetch	Fabaceae	-	W	Common central Hanford

Table 4.1. (contd)

Species	Common Name	Family	Federal Status ^(a)	State Status ^(b)	Notes
<i>Astragalus speirocarpus</i>	Medic milkvetch	Fabaceae	-	W	Known to be just west of the Hanford Site
<i>Astragalus succumbens</i>	Crouching milkvetch	Fabaceae	-	W	Common central Hanford
<i>Balsamorhiza rosea</i>	Rosy balsamroot	Asteraceae	-	W	Lithosolic areas, tops of ridges
<i>Cirsium brevifolium</i>	Palouse thistle	Asteraceae	-	W	Not seen for a long time on Hanford – may not be present
<i>Delphinium multiplex</i>	Kittitas larkspur	Ranunculaceae	-	W	North facing slopes of Umtanum Ridge
<i>Limosella acaulis</i>	Southern mudwort	Scrophulariaceae	-	W	Mudflats along Columbia River
<i>Pectocarya setosa</i>	Bristly combseed	Boraginaceae	-	W	Wahluke Slope
<i>Pellaea glabella simplex</i>	Smooth cliffbrake	Polypodiaceae	-	W	Base of Umtanum Ridge
Federal and state listings as of 8/31/2001.					
(a) <u>Federal Definitions</u>					
C - Candidate. Taxa for which enough substantive information is available to support listing as threatened or endangered by the federal government, but preparation of a listing proposal is precluded because of higher priority species or actions.					
SC - Unofficial listing category, primarily consists of species listed as candidate level 2 under an abandoned listing classification system.					
(b) <u>State Definitions</u>					
E - Endangered. Taxa that are in danger of becoming extinct within the near future if factors contributing to their decline continue.					
T - Threatened. Taxa that is likely to become endangered within the near future if factors contributing to its population decline or habitat degradation continue.					
S - Sensitive. Taxa that is vulnerable or declining, and could become endangered or threatened without active management or removal of threats.					
R1 - Review Group 1. Taxa that may be quite rare and/or threatened, but there is insufficient data to determine if listing as threatened, endangered, or sensitive appropriate, or at what level.					
R2 - Review Group 2. Taxa with unresolved taxonomic questions – i.e., taxa that may not meet the definition of “species.”					
W - Watch List. Taxa that are of concern, but have been determined to be more abundant and/or less threatened than previously assumed.					

Table 4.2. Species of Concern Previously Reported but not Presently Considered to Occur on or Near Hanford

Species	Common Name	Family	Federal Status ^(a)	State Status ^(a)
<i>Astragalus arrectus</i>	Palouse milkvetch	Fabaceae	-	S
<i>Carex densa</i>	Dense sedge	Cyperaceae	-	S
<i>Collinsia sparsiflora</i> var. <i>bruciae</i>	Few-flowered collinsia	Scrophulariaceae	-	S
<i>Arenaria franklinii thompsonii</i>	Thompson's sandwort	Caryophyllaceae	-	R2
(a) See Table 4.1 for definitions of status values.				

(1973) recognize *H. diffusa* and *H. arida* as separate species; however, in a subsequent taxonomic treatment Gentry and Carr (1976) grouped both of these species under *H. diffusa* and recognized each as separate varieties. Plants found on or near the Hanford Site tend to key out to either *H. diffusa* or *H. arida*, depending on the population, when the flora by Hitchcock and Cronquist is used. Gentry and Carr recognized an additional variety, *cottonii*, which gradates into var. *arida* in the Hanford vicinity. The type specimen for variety *cottonii* (Cotton 360) was collected in the Rattlesnake Hills on or very near what is now the Hanford Site by J. S. Cotton in 1901. All the specimens from the Hanford vicinity can probably be defined as intermediate between vars. *cottonii* and *arida*. The Hanford Site plant list provided in ERDA (1975) correctly included *H. diffusa* var. *cottonii*, even though this taxa is not included in the standard flora for the region (Hitchcock and Cronquist 1973).

4.2 Noxious Weeds on the Hanford Site

At least one-fourth of the plant species observed on the Hanford Site are not native to the area and are thus considered to be alien and/or weedy species. Some of these, such as cheatgrass, Russian thistle, and tumble mustard have become so ubiquitous that they can be considered essentially “naturalized.” These species have caused significant changes to the regional flora and ecology over the last 100 years. It is interesting to note that in the first comprehensive flora of Washington State (Piper 1906), cheatgrass is not even mentioned (although it was first recorded in the state in the early 1890s (Klemmedsen and Smith 1964). The first plant list for Benton County (St. John and Jones 1928) indicated that cheatgrass “has been collected at Paterson and reported near Kennewick.”

The ecology of the Columbia Basin has been significantly changed because of the introduction of alien species. However, not all alien species are considered to be threats to the local flora and ecology, and in fact some, such as many of the riparian trees, have probably had a positive effect on local wildlife diversity and abundance. However, Washington State recognizes certain species as noxious weeds if they have a high potential for serious devastation of natural areas, agricultural lands, and rangelands. Noxious weeds are species that have the potential to drastically alter the regional ecology if they are not controlled before they can spread and in many cases are capable of invading relatively pristine areas as well as more disturbed lands. For certain classes of noxious weeds, landowners are legally mandated to control these weeds. Listing and regulations pertaining to noxious weeds are contained in Chapter 16-750 of the Washington Administrative Code “State Noxious Weed List and Schedule of Monetary Penalties” and Chapter 17.10 of the Revised Code of Washington “Noxious Weeds - Control Boards.” We have at least 28 species on the Hanford Site that are currently listed as noxious weeds by the Washington State Department of Agriculture (Table 4.3).

The state of Washington defines the various classes of noxious weeds as:

- Class A noxious weeds are those noxious weeds not native to the state that are of limited distribution or are unrecorded in the state and that pose a serious threat to the state.
- Class B noxious weeds are those noxious weeds not native to the state that are of limited distribution or are unrecorded in a region of the state and that pose a serious threat to that region.

- Class B designate means those Class B noxious weeds whose populations in a region or area are such that all seed production can be prevented within a calendar year.
- Class C includes any other noxious weeds.

State law requires eradication of Class A noxious weeds wherever they occur, and control of all Class B designate weeds in those regions where they are so designated. Control of Washington State Class B (non-designate) and Class C weeds are dictated by the local noxious weed control boards, and weeds of these classes that are of priority to the local board are included on the local boards weed list.

In addition to the species listed in Table 4.3 there are several species that are listed by the Benton County Noxious Weed Control Board that have, as yet, not been documented from the Hanford Site. These species are listed in Table 4.4.

Table 4.3. Washington State Listed Noxious Weeds Known to Occur on the Hanford Site

Species	Common Name	Weed Class	Comments
Alhagi pseudalhagi (<i>A. maurorum</i>)	camelthorn	Class B designate	Presumed extirpated from Wahluke Slope
<i>Cardaria draba</i>	whitetop, hoarycress,	Class C	Locally common, Rattlesnake Springs and other locations
<i>Cardaria pubescens</i>	globepodded hoarycress	Class C	Occasional and scattered
<i>Cenchrus longispinus</i>	longspine sandbur	Class B	Occasional, observed near Hanford Met. Station
<i>Centaurea diffusa</i>	diffuse knapweed	Class B designate in Franklin and Grant county portions of the Hanford Site	Widespread in riparian areas, and throughout the 100 Areas
<i>Centaurea maculosa</i> (<i>C. biebersteinii</i>)	spotted knapweed	Class B designate	Occasional – observed near Columbia Generating Station
<i>Centaurea repens</i> (<i>Acroptilon repens</i>)	Russian knapweed	Class B	Widespread – throughout 100 Areas, McGee Ranch
<i>Centaurea solstitialis</i>	yellow starthistle	Class B designate	Widespread – especially around Hanford townsite
<i>Chondrilla juncea</i>	rush skeletonweed	Class B designate	Widespread – especially in southern portions of the Hanford Site
<i>Cirsium arvense</i>	Canada thistle	Class C	Occasional in disturbed areas, especially near Columbia River
<i>Cirsium vulgare</i>	bull thistle	Class C	Occasional in disturbed areas
<i>Convolvulus arvensis</i>	field bindweed	Class C	Primarily in riparian areas on the Hanford Site
<i>Cyperus esculentus</i>	yellow nutsedge	Class B designate	Disturbed areas, especially landscaped areas, also on Wahluke Slope

Table 4.3. (contd)

Species	Common Name	Weed Class	Comments
<i>Daucus carota</i>	wild carrot	Class B designate	Noted in Priest Rapids area
<i>Euphorbia esula</i>	leafy spurge	Class B designate	Reported on Wahluke Slope
<i>Gypsophila paniculata</i>	babysbreath	Class C	Occasional in 100 Areas
<i>Hypericum perforatum</i>	common St. John's-Wort	Class C	Common in riparian areas
<i>Kochia scoparia</i>	kochia	Class B	Primarily along periphery of the Hanford Site and in and around Richland
<i>Lepidium latifolium</i>	perennial pepperweed	Class B	Disturbed areas, typically not in sand
<i>Linaria dalmatica ssp. dalmatica</i>	dalmatian toadflax	Class B designate	Locally common near Energy Northwest, scattered elsewhere
<i>Linaria vulgaris</i>	butter-and-eggs, yellow toadflax	Class C	Rare on the Hanford Site
<i>Lythrum salicaria</i>	purple loosestrife	Class B	Wet riparian areas
<i>Myriophyllum spicatum</i>	Eurasian watermilfoil	Class B designate	Slack water areas of Columbia River
<i>Onopordum acanthium</i>	Scotch thistle	Class B designate	Observed near south end of the 300 Area
<i>Phalaris arundinacea</i>	reed canarygrass	Class C	Common along Columbia River shoreline
<i>Secale cereale</i>	cereal rye	Class C	Snively Field
<i>Sphaerophysa salsula</i>	Swainsonpea	Class B	Local at Rattlesnake Springs, White Bluffs ferry site
<i>Tribulus terrestris</i>	puncturevine	Class B	Mainly around buildings and roadways

Table 4.4. Washington State Noxious Weeds Listed for Benton County and Potentially Occurring, but not Confirmed, on the Hanford Site

Scientific Name	Common Name	Weed Class	Comments
<i>Alopecurus myosuroides</i>	blackgrass	Class B designate	Not confirmed on the Hanford Site
<i>Amorpha fruticosa</i>	indigobush	Class B designate except within 200 feet of the Columbia River	Potentially invading riparian areas but not currently known from the Hanford Site
<i>Carduus acanthoides</i>	plumeless thistle	Class B designate	Not confirmed on the Hanford Site
<i>Sonchus arvensis ssp. arvensis</i>	perennial sowthistle	Class B designate	Not confirmed on the Hanford Site
<i>Sorghum halepense</i>	johnsongrass	Class A	Not confirmed on the Hanford Site
<i>Tamarix ramosissima</i>	saltcedar	Class A	Potentially occurring in wet areas on Hanford

5.0 Ethnobotany of the Hanford Site

Ethnobotany is the study of how plants are used by people in various cultures. Many plant species that occur on the Hanford Site can be used as sources of food, medicine, fibers, and dyes. This information is not only interesting in its own right, but also can be useful to those responsible for developing future land-use policies and contaminant cleanup levels by allowing for an understanding of the variety of plants that may be harvested on the Hanford Site and how these plants may be used. Plants that are used as food sources would have the greatest likelihood of significant contaminant transfer to humans (Soldat et al. 1990), followed closely by those used for medicinal purposes. Plants used as fiber or dye sources would be responsible for considerably less direct transfer to humans.

5.1 Edible Plants of the Hanford Site

In the strictest sense, if a plant is not poisonous, it could be considered to be edible. However, many plants are not considered to be edible for numerous reasons such as unacceptable taste, texture, difficulty in digestion, or general lack of nutrients. Thus one could stave off hunger for some period of time by consuming various leaves and grasses, but because of the difficulty in digesting this material it would probably not be suitable for long-term survival. Table 5.1 lists a number of Hanford Site species that have been used as food sources either by local native peoples or in other cultures. At least 20% of all the plant species reported to exist on the Hanford Site are considered edible. Some of these species (such as apples and asparagus) are well known and are universally considered good food sources. Others, such as toadflax fruits or tumbleweed seedlings, would be appetizing to only the most devout wild-food enthusiasts. Many species on this list, such as miner's lettuce, dock, and lamb's quarters are long-time standards in the edible plant literature (i.e., Gibbons 1966; Hall 1976; Medsger 1939; and Stern 1988). Undoubtedly, a number of additional plant species could be added to the list in Table 5.1.

Several Hanford Site plant species were important staples of the local native peoples (Hunn 1990). Plants that were most sought after include Wapato, Yampah, balsamroot, bitterroot, *Brodiaea*, *Calochortus*, and several *Lomatium* species, especially *L. canbyi*, *L. grayi*, and *L. gormanii*. These plants made up a significant portion of the diet of the local native population.

Inclusion on this list should not be regarded as a recommendation for consuming these plants. Care should always be taken to ensure the proper identity of harvested wild plants and to follow proper preparation procedures. Too many people have collected and eaten "wild carrots" only to belatedly discover that they had consumed the highly toxic water hemlock.

Table 5.1. Hanford Site Edible Plants

Species	Common Name	Plant Parts Used
<i>Acer saccharinum</i>	silver maple	Sap
<i>Allium sp.</i>	onion	Bulbs
<i>Amaranthus albus</i>	amaranth, pigweed	Leaves, seeds
<i>Amelanchier sp.</i>	serviceberry	Fruits
<i>Aquilegia formosa</i>	columbine	Flowers
<i>Arctium minus</i>	burdock	Leaves
<i>Asclepias speciosa</i>	showy milkweed	Flowers, shoots
<i>Asparagus officinalis</i>	asparagus	Young shoots
<i>Atriplex sp.</i>	saltbush	Seeds
<i>Avena sativa</i>	oat	Seeds
<i>Balsamorhiza sp.</i>	balsamroot	Whole plant
<i>Brodiaea sp.</i>	brodiaea	Bulbs
<i>Calochortus macrocarpus</i>	mariposa lily	Bulbs
<i>Capsella bursa-pastoris</i>	shepherd's purse	Leaves, seeds
<i>Cardamine pennsylvanica</i>	bittercress	Leaves
<i>Castilleja sp.</i>	Indian paintbrush	Flowers
<i>Chenopodium album</i>	lamb's quarters	Leaves, young stems
<i>Cichorium intybus</i>	chicory	Leaves, roots
<i>Cirsium sp.</i>	thistle	Peeled stems, roots
<i>Comandra umbellata</i>	bastard toadflax	Fruit
<i>Crataegus douglasii</i>	hawthorn	Fruit
<i>Cyperus esculentus</i>	nut-grass	Tubers
<i>Epilobium angustifolium</i>	fireweed	Young shoots and leaves
<i>Fritillaria pudica</i>	yellowbell	Bulbs
<i>Gallium aparine</i>	bedstraw	Shoots, seeds
<i>Glycyrrhiza lepidota</i>	licorice	Roots
<i>Helianthus annuus</i>	sunflower	Seeds
<i>Juglans nigra</i>	black walnut	Nuts
<i>Juniperus sp.</i>	juniper	"Berries"
<i>Lactuca serriola</i>	prickly lettuce	Young leaves
<i>Lepidium sp.</i>	peppergrass	Fruits, seeds
<i>Lewisia rediviva</i>	bitterroot	Bulb
<i>Lomatium sp.</i>	biscuitroot	Roots, seeds
<i>Malus pumila</i>	apple	Fruit
<i>Medicago lupulina</i>	medic	Seeds
<i>Mentha sp.</i>	mint	Leaves
<i>Microseris troximoides</i>	false agoseris	Roots
<i>Montia perfoliata</i>	miner's lettuce	Leaves
<i>Morus alba</i>	mulberry	Fruit

Table 5.1. (contd)

Species	Common Name	Plant Parts Used
<i>Oenothera</i> sp.	evening primrose	Young roots
<i>Opuntia</i> sp.	prickly pear	Fruits, stems
<i>Orobanche</i> sp.	broomrape	Whole plant
<i>Oryzopsis hymenoides</i>	Indian rice-grass	Seeds
<i>Panicum miliaceum</i>	broomcorn millet	Seeds
<i>Perideridia gairdneri</i>	yampah	Roots
<i>Plantago</i> sp.	plantain	Leaves
<i>Polygonum persicaria</i>	heartweed	Leaves
<i>Portulaca oleracea</i>	purslane	Leaves, stems
<i>Prunus</i> sp.	cherries, peaches, etc.	Fruit
<i>Pteridium aquilinum</i>	bracken fern	Young leaves
<i>Pyrus communis</i>	pear	Fruit
<i>Rhus glabra</i>	smooth sumac	Fruit
<i>Ribes</i> sp.	gooseberry, currant	Fruit
<i>Rorippa nasturtium-aquatica</i>	watercress	Leaves
<i>Rosa woodsii</i>	rose	Rosehips, flowers
<i>Rubus discolor</i>	blackberry	Fruits
<i>Rumex</i> sp.	dock, sorrel	Leaves
<i>Sagittaria cuneata</i>	wapato	Roots
<i>Salix</i> sp.	willow	Bark, leaves
<i>Salsola kali</i>	Russian thistle	Seedlings (boil, mix in butter and cream sauce and serve on toast)
<i>Sambucus cerulea</i>	elderberry	Fruits
<i>Secale cereale</i>	rye	Seeds
<i>Scirpus</i> sp.	bulrush	Roots, shoots, pollen, seeds
<i>Solidago</i> sp.	goldenrod	Leaves
<i>Sporobolus cryptandrus</i>	sand dropseed	Seeds
<i>Taraxacum officinale</i>	dandelion	Leaves, roots, flowers
<i>Tragopogon dubius</i>	salsify, goatsbeard	Roots
<i>Triticum aestivum</i>	wheat	Seeds
<i>Typha</i> sp.	cattail	Pollen, roots
<i>Urtica dioica</i>	nettle	Young leaves
<i>Veronica americana</i>	speedwell	Leaves, stems
<i>Vicia</i> sp.	vetch	Fruits
<i>Viola</i> sp.	violet	Flowers leaves

5.2 Poisonous Plants of the Hanford Site

Plants can be considered poisonous if they either induce 1) violent physiological responses upon ingestion, or 2) allergic reactions of the skin (i.e., contact dermatitis). Sources of information about these plants and their symptoms include Stern (1988) and Lampe and McCann (1985). Plants that can cause dermal allergic reactions are listed in Table 5.2. Most people will have some type of reaction to species such as poison ivy and stinging nettle. Many other species on this list will induce allergic reactions in sensitive persons, but not in less sensitive individuals.

A number of local plant species are known to be poisonous if taken internally (Table 5.3). Symptoms may range from intestinal discomfort to death. Plant species on this list that are known to have caused human fatalities include black locust, deathcamas, nightshade, and yew.

5.3 Medicinal Plants of the Hanford Site

Many cultures, both past and present, have relied heavily on native plant species for basic medicinal applications. A number of the purported uses are best described as bizarre, and a number of the herbal medications work, if at all, through psychosomatic mechanisms, and would only be beneficial if one actually believed in their utility and the rituals associated with the applications. However, many plant species are known to have medicinal value and modern herbals espousing their use are available (i.e., Mitton and Mitton 1984; Coon 1979; Krochmal and Krochmal 1973; Millspaugh 1974). The increased interest over the last decade in herbal supplements derived from plants such as echinacea, ginko, and St. John's-Wort indicates that there is a continuing belief in the utility of medicinal plants, even in the most advanced industrial cultures.

A list of Hanford Site plants and associated medicinal uses derived from a variety of publications is provided in Table 5.4. Hunn (1990) provides a comprehensive list of local plants used by the native people of the Hanford region. Unfortunately, different authors may describe quite different, and at times contradictory, uses for the same species. Therefore, limited faith should be placed in the effects of any of the plants listed in Table 5.4. As with the list of edible plants, the inclusion of species on this list should not be taken as a recommendation for treatment of the various ailments described. This list is provided solely to describe the variety of uses that people have ascribed to the plants around them, without comment on the efficacy of the treatments.

Plants that do have medicinal value may simply have high vitamin content, antibiotic properties, or direct physiological actions. For instance, dogbane roots contain a compound that has a similar effect on the heart as digitalis, and the inner bark of willows contains salicin, from which acetylsalicylic acid, or aspirin, was originally derived. Many beneficial effects of aspirin can be derived directly from willow bark. Finally, years of trial and error would result in the knowledge of which plants seem to be most useful for the basic day-to-day medical problems that can result from conditions of less than optimal nutrition and sanitation, such as diarrhea, constipation, worms, itching, and simple cuts and bruises.

Table 5.2. Hanford Site Poisonous Plants Causing Contact Dermatitis

Species	Common Name
<i>Achillea millefolium</i>	yarrow
<i>Ambrosia acanthicarpa</i>	bursage/ragweed
<i>Artemisia</i> sp.	sagebrush
<i>Aster</i> sp.	daisy
<i>Erigeron</i> sp.	fleabane
<i>Gaillardia</i> sp.	blanketflower
<i>Helenium autumnale</i>	sneezeweed
<i>Iva xanthifolia</i>	marsh elder
<i>Opuntia</i> sp.	pricklypear
<i>Rhus radicans</i>	poison ivy
<i>Sarcobatus vermiculatus</i>	greasewood
<i>Secale cereale</i>	rye
<i>Urtica dioica</i>	stinging nettle
<i>Xanthium strumarium</i>	cocklebur

Table 5.3. Hanford Site Plants Poisonous by Ingestion

Species	Common Name	Poisonous Parts
<i>Astragalus</i> sp.	milkvetch	Whole plant
<i>Cannabis sativa</i>	hemp	Leaves, flowers
<i>Clematis ligusticifolia</i>	western virgin's-bower	Whole plant
<i>Delphinium</i> sp.	larkspur	Young plants, seed
<i>Helenium autumnale</i>	sneezeweed	Whole plant
<i>Heliotropium curassavicum</i>	salt heliotrope	Whole plant
<i>Lupinus</i> sp.	lupine	Mainly pods & seeds
<i>Lycium halimifolium</i>	matrimony vine	Leaves
<i>Nicotiana attenuata</i>	coyote tobacco	Whole plant, ingested
<i>Prunus</i> sp.	apricots, cherries	Pits (in quantity)
<i>Pteridium aquilinum</i>	bracken fern	Leaves
<i>Ranunculus</i> sp.	buttercup	All parts, esp. sap
<i>Robinia pseudo-acacia</i>	black locust	Seeds, leaves, innerbark
<i>Sambucus cerulea</i>	elderberry	Whole plant, fruit ok if cooked or eaten in small quantities
<i>Solanum</i> sp.	nightshade	Mainly immature fruit
<i>Symphoricarpos albus</i>	snowberry	Berries (in quantity)
<i>Taxus cuspidata</i>	yew	All parts
<i>Zigadenus</i> sp.	deathcamas	Whole plant

Table 5.4. Hanford Site Medicinal Plants

Species	Common Name	Medicinal Parts/Uses
<i>Achillea millefolium</i>	common yarrow	Roots, leaves - treats influenza, diarrhea, swelling, fever, barrenness, wounds, and burns
<i>Adiantum pedatum</i>	maiden-hair fern	Tea of leaves used for coughs, colds, hoarseness; roots used for respiratory diseases
<i>Agastache occidentalis</i>	western giant-hyssop	Used as love potion
<i>Agropyron repens</i>	quackgrass	Treatment of cystitis and bladder troubles
<i>Ailanthus altissima</i>	tree-of-heaven	Powdered bark used to treat intestinal tapeworms and dysentery; root bark used for heart trouble, asthma, and epilepsy
<i>Allium cernuum</i>	nodding onion	Bulbs prevent scurvy, used as stimulant; expels tapeworms, increases perspiration and urine flow; externally used for boils
<i>Ambrosia acanthicarpa</i>	bur ragweed	Poultice used to treat poison sumac symptoms, also used to treat gonorrhea and diarrhea
<i>Apocynum cannabinum</i>	common dogbane	Powdered root served as laxative and induces vomiting. Infusion of whole plant used for various internal diseases. Fairly potent heart stimulant
<i>Aquilegia formosa</i>	red columbine	Nectar used as perfume
<i>Arctium minus</i>	burdock	Tea from leaves used for coughs, asthma, and to stimulate menstruation; root used for rheumatism and stomach ache
<i>Artemisia tridentata</i>	big sagebrush	Tea from the leaves used for everything from treating bullet wounds to bathing newborn babies; treats colds, fever, headache; prevents gray hair
<i>Asclepias speciosa</i>	showy milkweed	Latex used as antiseptic for treating ringworm, cuts and sores; victim of rattlesnake bite can bath in water used to boil seeds; roots used to treat measles, tuberculosis, and rheumatism
<i>Cannabis sativa</i>	hemp	Usually smoked to induce euphoria. Used to treat glaucoma, tetanus, gonorrhea, and nervous disorders
<i>Capsella bursa-pastoris</i>	shepherd's purse	Juice of plant on a ball of cotton used to stop nosebleed; corrects vitamin C deficiencies; used to treat hemorrhoids
<i>Catalpa bignonioides</i>	catalpa	Bark and seeds used to expel intestinal worms
<i>Chaenactis douglasii</i>	hoary false-yarrow	Leaves used to treat burns, sores, rash, pimples and spider bites
<i>Chenopodium album</i>	lamb's quarter	High in vitamin C; mild laxative
<i>Clematis ligusticifolia</i>	western virgin's-bower	Leaves and stems used to make hair grow and prevent dandruff and hair loss
<i>Cleome lutea</i>	yellow bee-plant	Infusion of flowers used to treat colds
<i>Cornus stolonifera</i>	red-osier dogwood	Used in sweat baths for eye problems and colds

Table 5.4. (contd)

Species	Common Name	Medicinal Parts/Uses
<i>Cymopteris terebinthinus</i>	turpentine cymopteris	Roots used for sores and colds
<i>Cyperus esculentus</i>	yellow nut-grass	Tubers mashed with tobacco leaves used to treat athletes foot
<i>Elymus cinereus</i>	giant wild-rye	Boiled plant used as hair tonic
<i>Epilobium paniculatum</i>	tall willow-herb	Spring shoots used to prevent dandruff and hair loss
<i>Equisetum</i> sp.	horsetail	Boiled plants used for hairwash, gargled for mouth ulcers, drank to treat venereal disease
<i>Erigeron linearis</i>	desert yellow-daisy	Leaves used to treat sores
<i>Erodium cicutarium</i>	crane's bill	Entire plant in warm water bath for treatment of rheumatism
<i>Gaillardia aristata</i>	blanket flower	Used to treat wounds and fever
<i>Galium aparine</i>	cleavers	High in vitamin C; used to reduce fever, stimulate appetite, disperse bladder stones. Also used as a wash to remove freckles.
<i>Geum triflorum</i>	old man's whiskers	Used to treat tuberculosis
<i>Glycyrrhiza lepidota</i>	licorice	Root extract used in cough mixtures; induces menstrual flow
<i>Haplopappus resinosus</i>	Columbia goldenweed	Used to treat hemorrhages
<i>Helenium autumnale</i>	sneezeweed	Flowers sniffed to cause sneezing to clear nasal passages; also used to poison fish and insects
<i>Helianthus annuus</i>	common sunflower	Infusion of flowers used to kill flies; also used to treat joint aches and bronchitis
<i>Helianthus cusickii</i>	cusick's sunflower	Roots used to treat male impotence and tuberculosis
<i>Hypericum perforatum</i>	St. John's-Wort	Used as an expectorant
<i>Iris missouriensis</i>	western blue flag	Used as an eyewash and for toothache
<i>Juglans nigra</i>	black walnut	Inner bark used as mild laxative; peel of fruit used for intestinal worms, ulcers, and syphilis; leaf infusion used to prevent bed bugs
<i>Juniperus scopulorum</i>	Rocky Mountain juniper	Used to treat colds, flu, kidney problems and venereal disease
<i>Linum perenne</i>	wild blue-flax	Used by children as a hair tonic
<i>Lithospermum ruderale</i>	Columbia puccoon	Root infusion, consumed daily for six months to produce permanent sterility
<i>Lomatium dissectum</i>	fern-leaf lomatium	Roots used for dandruff, lice, sores, colds, fever and saddle sores; steam from boiled roots would revive winded horses
<i>Lomatium grayi</i>	Gray's lomatium	Roots used to treat colds

Table 5.4. (contd)

Species	Common Name	Medicinal Parts/Uses
<i>Lomatium macrocarpum</i>	large-fruited lomatium	Stems and leaves eaten to treat tuberculosis
<i>Lomatium triternatum</i>	nine-leaf lomatium	Root used as an emetic, and to treat venereal disease
<i>Lotus purshiana</i>	Spanish clover	Used to treat the eyes
<i>Lupinus leucophyllus</i>	velvet lupine	Leaf infusion used for skin rash
<i>Marrubium vulgare</i>	horehound	Primarily used to treat coughs
<i>Matricaria chamomilla</i>	wild chamomile	Used as a nerve sedative
<i>Mentha arvensis</i>	field mint	Leaf infusion used for colds, coughs, and to treat eye problems
<i>Mentha spicata</i>	spearmint	Tea used to treat indigestion and diarrhea; given to expectant mothers to hasten childbirth
<i>Mentzelia laevicaulis</i>	blazing-star mentzelia	Used by children to treat burns
<i>Mimulus guttatus</i>	yellow monkey-flower	Infusion of whole plant used to treat wounds
<i>Monardella odoratissima</i>	mountain monardella	Infusion used to treat cough, colds, and fever
<i>Morus alba</i>	white mulberry	Fruit used to treat fever and as a mild laxative
<i>Nepeta cataria</i>	catnip	Tea used to treat colds, stomach ailments, hives, and infantile colic; leaves and stems smoked to relieve respiratory ailments
<i>Nicotiana attenuata</i>	coyote tobacco	Used as a poultice for raw sores; boiled tops drunk as a purgative at the death of a close relation
<i>Phlox hoodii</i>	Hood's phlox	Washing with an infusion in a sweat bath used to relieve itching
<i>Plantago</i> sp.	plantain	Seeds used as a laxative; leaves used to stop bleeding
<i>Polygonum aviculare</i>	doorweed	Infusions used as a hair tonic and to treat backache and venereal disease
<i>Prunella vulgaris</i>	self-heal	Poultice applied to boils, also used to relieve gas and colic and as a gargle for sore throats
<i>Prunus emarginata</i>	bitter cherry	Used to treat rheumatism; when boiled with barberry used to prevent too large of a fetus
<i>Prunus virginiana</i>	chokecherry	Tea made from various parts used for lung ailments, colds, diarrhea, and to ease pains of childbirth
<i>Pteridium aquilinum</i>	bracken fern	Infusion used to expel intestinal worms and to relieve stomach cramps
<i>Purshia tridentata</i>	bitterbrush	Used as a laxative and to relieve itching
<i>Rhus glabra</i>	smooth sumac	Used to treat frostbite, poison ivy rash, burns; roots used for skin ulcers, eye problems, venereal disease, kidneys, and lymph glands

Table 5.4. (contd)

Species	Common Name	Medicinal Parts/Uses
<i>Rorippa nasturtium-aquatica</i>	watercress	Good source of vitamins A & C; used to treat constipation, but may cause miscarriages; in Africa believed to cause sterility, but has also been used as an aphrodisiac
<i>Rosa woodsii</i>	Wood's rose	Used to treat burns and sore navels
<i>Rubus discolor</i>	Himalayan blackberry	Tea from roots used to treat dysentery and runny noses
<i>Rumex crispus</i>	curly dock	Roasted roots used to treat toothache; plant also used to treat ringworm and allergic hives
<i>Salix</i> sp.	willow	Inner bark is the original source of aspirin. Plant used to reduce fevers and bleeding, relieve insect bites and indigestion.
<i>Salsola kali</i>	Russian thistle	Used to promote menstrual flow and reduce water retention
<i>Salvia dorrii</i>	gray-ball sage	Chest pack used to treat colds, especially in babies
<i>Sambucus cerulea</i>	blue elderberry	Fruit used to increase appetite
<i>Solanum dulcamara</i>	bittersweet nightshade	Infusion of root and twig bark used for rheumatism and arthritis; plant has narcotic properties and is somewhat poisonous
<i>Taraxacum officinale</i>	dandelion	Roots used to treat liver ailments; flowers used to make wine
<i>Typha latifolia</i>	common cattail	Root and "down" used to treat burns; root also used for gonorrhea and worms
<i>Ulmus americana</i>	American elm	Ground bark used for skin inflammations and abrasions, dysentery, and kidney ailments
<i>Urtica dioica</i>	stinging nettle	Used to treat arthritis, rheumatism, backache, and paralysis
<i>Verbascum thapsus</i>	common mullein	Leaves smoked for asthma relief; flowers used in cough medicines and to treat ear ache. Leaves used to treat malaria, hemorrhoids, and sunburn. Plant is an piscicide.
<i>Verbena hastata</i>	blue verbena	Used to treat stomach ache and to clear up cloudy urine. Used during American Revolution as an emetic.
<i>Xanthium strumarium</i>	cocklebur	Leaves used to treat shingles, skin, and bladder infections, and to stop bleeding
<i>Zigadenus venenosus</i>	deathcamas	Very poisonous; used as an emetic. Applied with tobacco to skin to relieve rashes and sores.

5.4 Fiber and Dye Plants of the Hanford Site

A number of plants are important sources of fibers and dyes. Hunn (1990) describes many ways that Indian hemp and tule were used by the local native population. Both of these plants were very important for the day to day existence of these people. Several additional species were important for more specialized applications (Table 5.5). A few examples of local plants that can be used as dyes are provided in Table 5.6. This list is certainly much abbreviated, as many plants can produce quite unexpected colors

when properly prepared. This usually involves boiling the material in water until most of the color is in the liquid, then adding a mordant such as alum or white vinegar. Clean, boiled cloth is placed in the hot dye liquid for several hours, then rinsed.

Table 5.5. Important Fiber Plants of the Hanford Site

Species	Common Name	Uses
<i>Apocynum cannabinum</i>	Indian hemp	Fibers from shredded outer layer of stems used for twine
<i>Elymus cinereus</i>	wild rye	Culms used for absorbent mats for drying and floor coverings
<i>Phragmites communis</i>	common reed	Culms used for open-work mats for drying salmon
<i>Salix</i> sp.	willow	Stems used for baskets
<i>Scirpus acutus/S. validus</i>	tule or bulrush	Stems used for insulative mats for floors and walls
<i>Typha latifolia</i>	cattail	Leaves woven for baskets

Table 5.6. Examples of Hanford Site Natural Dye Plants

Species	Common Name	Plant Part/Color
<i>Acer saccharinum</i>	silver maple	Pink dye from bark
<i>Asclepias speciosa</i>	milkweed	Yellow dye from leaves
<i>Crataegus douglasii</i>	hawthorn	Pink dye from fruits
<i>Delphinium nuttallianum</i>	larkspur	Blue dye from petals
<i>Equisetum</i> sp.	horsetail	Tan dyes from all green parts
<i>Eriogonum</i> sp.	wild buckwheat	Gold, yellow, beige dyes from stems and flowers
<i>Galium</i> sp.	bedstraw	Reddish/brown dye from roots
<i>Hypericum perforatum</i>	St. John's-Wort	Brown dye from leaves
<i>Juglans nigra</i>	black walnut	Brown dye from bark and hulls
<i>Lactuca serriola</i>	prickly lettuce	Green dye from leaves
<i>Lupinus</i> sp.	lupine	Green dye from flowers
<i>Prunus persica</i>	peach	Green dye from leaves
<i>Rhus glabra</i>	smooth sumac	Grayish/brown dye from bark
<i>Rumex</i> sp.	dock	Brown dyes from stems, leaves
<i>Verbascum thapsus</i>	mullein	Gold dyes from leaves
<i>Xanthium strumarium</i>	cocklebur	Green dye from stems, leaves

6.0 References

65 FR 57534-47 “Endangered and Threatened Wildlife and Plants: Review of Plant and Animal Taxa that are Candidates or Proposed for Listing as Endangered or Threatened. Annual Notice of Findings on Recycled Petitions, and Annual Description of Progress on Listing Actions.” *Federal Register*

Aiken, S. G., M. J. Dallwitz, C. L. McJannet, and L. L. Consaul. 1998. *Festuca of North America: Descriptions, Illustrations, Identification, and Information Retrieval*. Version: 2nd. URL <http://biodiversity.uno.edu/delta/>

Bailey, L. H. 1949. *Manual of Cultivated Plants*. MacMillan Publishing Company, New York.

Baldwin, I. T., L. Staszak-Kozinski, and R. Davidson. 1994. “Up in Smoke. I. Smoke-Derived Germination Cues for Postfire Annual, *Nicotiana attenuata* Torr. Ex. Watson.” *J Chem Ecol* 20:2345-2371.

Benson, L. 1982. *The Cactaceae of the United States and Canada*. Stanford University Press, Stanford, California.

Brandt, C. A., W. H. Rickard, and M. G. Hefty. 1990. *Interim Reclamation Report Basalt Waste Isolation Project Boreholes 1989*. PNL-7280, Pacific Northwest Laboratory, Richland, Washington.

Caplow, F. E., and K. A. Beck. 1994. *A Rare Plant Survey of the Hanford Nuclear Reservation*. Report to The Nature Conservancy of Washington, Calypso Consulting, Bellingham, Washington.

Caplow, F. E., and K. A. Beck. 1996. *A Rare Plant Survey of the Hanford Nuclear Reservation*. Report to The Nature Conservancy of Washington, Calypso Consulting, Bellingham, Washington.

Caplow, F. E., and K. A. Beck. 1997. *A Rare Plant Survey of the Hanford Nuclear Reservation: The Hanford Biodiversity Project*. Report to The Nature Conservancy of Washington, Calypso Consulting, Bellingham, Washington.

Coon, N. 1979. *Using Plants for Healing*. Rodale Press, Emmaus, Pennsylvania.

Cronquist, A., A. H. Homgren, N. H. Holmgren, J. L. Reveal, and P. K. Holmgren. 1977-1994. *Intermountain Flora: Vascular Plants of the Intermountain West, U.S.A.* Columbia University Press, New York.

Cushing, C. E. 1988. *Hanford Site Environmental Policy Act (NEPA) Characterization*. PNL-6415 Rev. 1. Pacific Northwest Laboratory, Richland, Washington.

Daubenmire, R. F. 1970. *Steppe Vegetation of Washington*. Washington Agricultural Experiment Station Technical Bulletin 62. Pullman, Washington.

(ERDA) Energy Research and Development Administration (1975) *Final Environmental Statement, Waste Management Operations, Hanford Reservation, Richland, Washington*. ERDA-1538. ERDA, Washington, D.C.

Franklin, J. F., and C. T. Dyrness. 1973. *Natural Vegetation of Oregon and Washington*. USDA Forest Service General Technical Report PNW-8. Pacific Northwest Forest and Range Experiment Station, U.S. Department of Agriculture. Forest Service, Portland, Oregon.

Gentry, J. L., and R. L. Carr. 1976. "A Revision of the Genus *Hackelia* (Boraginaceae) in North America, North of Mexico." *Memoirs of the New York Botanical Garden* 26:121-227.

Gibbons, E. 1966. *Stalking the Healthful Herbs*. David McKay Company, Inc., New York.

Hajek, B. F. 1966. *Soil Survey, Hanford Project in Benton County*. BNWL-243, Pacific Northwest Laboratory, Richland, Washington.

Hall, A. 1976. *The Wildfood Trailguide*. Holt, Rinehart and Winston, New York.

Hickman, J. C., ed. 1993. *The Jepson Manual: Higher Plants of California*. University of California Press. Berkeley, California.

Hitchcock, C. L., and A. Cronquist. 1973. *Flora of the Pacific Northwest*. University of Washington Press, Seattle, Washington.

Hitchcock, C. L., A. Cronquist, M. Owenby, and J. W. Thompson. 1955-1969. *Vascular Plants of the Pacific Northwest*. University of Washington Press, Seattle, Washington.

Hunn, E. S. 1990. *Nch'i-Wana, "The Big River," Mid-Columbia Indians and Their Land*. University of Washington Press, Seattle, Washington.

Kartesz, J. T., and C. A. Meacham. 1999. *Synthesis of the North American Flora*. Ver. 1.0. North Carolina Botanical Garden, Chapel Hill, North Carolina.

Klemmedsen, J. O., and J. G. Smith. 1964. "Cheatgrass (*Bromus tectorum* L.)." *Botanical Review* 30:226-262.

Krochmal, A., and C. Krochmal. 1973. *A Guide to the Medicinal Plants of the United States*. Quadrangle/New York Times Book Co., New York.

Lampe, K. F., and M. A. McCann. 1985. *AMA Handbook of Poisonous and Injurious plants*. American Medical Association, Chicago, Illinois.

Mastrogiuseppe, J. D., and S. J. Gill. 1983. *Steppe by Step: Understanding Priest Rapids Plants. Douglasia Occasional Papers*, Vol. 1. Washington Native Plant Society, Seattle, Washington.

- Medsger, O. P. 1939. *Edible Wild Plants*. The MacMillan Company, New York.
- Millsbaugh, C.F. 1974. *American Medicinal Plants*. Dover Publications, Inc., New York.
- Mitton, F., and V. Mitton. 1984. *Mitton's Practical Modern Herbal*. Arco Publishing, Inc., New York.
- O'Farrell, J. T. 1972. "Flora of the ALE Reserve." In *Pacific Northwest Laboratory Annual Report for 1971 to the USAEC Division of Biology and Medicine*. Vol. 1, part 2. ed. B. E. Vaughn. pp 3.3-3.4. BNWL-1650, Battelle Pacific Northwest Laboratories, Richland, Washington.
- Piper, C. V. 1906. "Contributions from the U.S. National Herbarium." In: *Flora of the State of Washington*. Vol. XI. Government Printing Office, Washington, D.C.
- Price, K. R., and W. H. Rickard. 1973. *Vascular Plants of Waste Storage Sites in the 200 Areas of the Hanford Reservation*. BNWL-1796, Battelle Pacific Northwest Laboratories, Richland, Washington.
- Rickard, W. H., L. E. Rogers, B. E. Vaughn, and S. F. Liebetrau. 1988. *Shrub-Steppe: Balance and Change in a Semi-Arid Terrestrial Ecosystem*. Elsevier, New York.
- Sackschewsky, M. R., D. S. Landeen, G. I. Baird, W. H. Rickard, and J. L. Downs. 1992. *Vascular Plants of the Hanford Site*. WHC-EP-0554, Westinghouse Hanford Company, Richland, Washington.
- Soldat, J. K., K. R. Price, and W. H. Rickard. 1990. *Methodology Used to Compute Maximum Potential Doses from Ingestion of Edible Plants and Wildlife Found on the Hanford Site*. PNL-7539, Pacific Northwest Laboratory, Richland, Washington.
- St. John, H., and G. N. Jones. 1928. *An Annotated Catalogue of the Vascular Plants of Benton County, Washington*. Contribution from the Department of Botany, State College of Washington, No. 9. *Northwest Science* 2:73-93.
- Stern, K. R. 1988. *Introductory Plant Biology*, 4th edition. Wm. C. Brown Publishers, Dubuque, Iowa.
- Stone, W. A., J. M. Thorp, O. P. Gifford, and D. J. Hoitink. 1983. *Climatological Summary for the Hanford Area*. PNL-4622, Pacific Northwest Laboratory, Richland, Washington.
- (USDA) United States Department of Agriculture. 2001. *PLANTS Database*. <http://plants.usda.gov/>
- Washington Natural Heritage Program. 1997. *Endangered, Threatened, and Sensitive Vascular Plants of Washington – with Working Lists of Rare Non-vascular Plants*. Washington Department of Natural Resources, Olympia, Washington.

Watson, E. C., C. D. Becker, R. E. Fitzner, K. A. Gano, K. L. Imhoff, R. F. McCallum, D. A. Myers, T. L. Page, K. R. Price, J. V. Ramsdell, D. G. Rice, D. L. Schreiber, L. A. Skumatz, D. J. Sommer, J. J. Tawil, R. W. Wallace, and D. G. Watson. 1984. *Environmental Characterization of Two Potential Locations at Hanford for a New Production Reactor*. PNL-5275, Pacific Northwest Laboratory, Richland, Washington.

Appendix A

Alphabetical Listing By Genus

Appendix A

Alphabetical Listing By Genus

Genus Species	Common Name	Code	Family
<i>Abronia millefera</i>	white sand verbena	Abme	Nyctaginaceae
<i>Achillea millefolium</i>	yarrow	Acmi	Asteraceae
<i>Acer saccharinum</i>	silver maple	Acsa	Aceraceae
<i>Adiantum pedatum</i>	maiden-hair fern	Adpe	Polypodiaceae (Pteridaceae)
<i>Agrostis alba</i>	redtop bentgrass	Agal	Poaceae
<i>Agropyron caninum</i>	slender wheatgrass	Agca	Poaceae
<i>Agropyron cristatum</i>	crested wheatgrass	Agcr	Poaceae
<i>Agropyron dasytachyum</i>	thickspike wheatgrass	Agda	Poaceae
<i>Agrostis exarata</i>	spike bentgrass	Agex	Poaceae
<i>Agoseris glauca</i>	pale mountain dandelion	Aggl	Asteraceae
<i>Agoseris grandiflora</i>	showy mountain dandelion	Aggr	Asteraceae
<i>Agoseris heterophylla</i>	annual mountain dandelion	Aghe	Asteraceae
<i>Agropyron intermedium</i>	intermediate wheatgrass	Agpin	Poaceae
<i>Agrostis interrupta</i>	interrupted bentgrass	Agsin	Poaceae
<i>Agastache occidentalis</i>	western horsemint	Agoc	Lamiaceae
<i>Agropyron repens</i>	quackgrass	Agre	Poaceae
<i>Agrostis scabra</i>	ticklegrass	Agsc	Poaceae
<i>Agropyron sibericum</i>	Siberian wheatgrass	Agsi	Poaceae
<i>Agropyron spicatum</i>	bluebunch wheatgrass	Agsp	Poaceae
<i>Agrostis tenuis</i>	colonial bentgrass	Agte	Poaceae
<i>Agropyron triticeum</i>	annual wheatgrass	Agtr	Poaceae
<i>Ailanthus altissima</i>	tree-of-heaven	Aial	Simarubaceae
<i>Allium acuminatum</i>	Hooker's onion	Alac	Liliaceae
<i>Alopecurus aequalis</i>	meadow foxtail	Alae	Poaceae
<i>Allium cernuum</i>	nodding onion	Alce	Liliaceae
<i>Allium douglasii</i>	Douglas' onion	Aldo	Liliaceae
<i>Alisma graminium</i>	narrow-leaf waterplantain	Algr	Alismataceae
<i>Allium macrum</i>	rock onion	Alma	Liliaceae
<i>Alhagi maurorum</i>	camelthorn	Alps	Fabaceae
<i>Allium robinsonii</i>	Robinson's onion	Alro	Liliaceae

Genus Species	Common Name	Code	Family
<i>Allium schoenoprasum</i>	chives	Alsh	Liliaceae
<i>Allium scilloides</i>	squill onion	Alsl	Liliaceae
<i>Ambrosia acanthicarpa</i>	bur ragweed	Amac	Asteraceae
<i>Amaranthus albus</i>	white pigweed	Amalb	Amaranthaceae
<i>Amelanchier alnifolia</i>	western serviceberry	Amaln	Rosaceae
<i>Amaranthus blitoides</i>	prostrate pigweed	Ambl	Amaranthaceae
<i>Amsinckia intermedia</i>	rancher's fiddleneck	Amin	Boraginaceae
<i>Amsinckia lycopsoides</i>	fiddleneck	Amly	Boraginaceae
<i>Amsinckia retrorsa</i>	rigid fiddleneck	Amre	Boraginaceae
<i>Ammannia robusta</i>	scarlet ammannia	Amro	Lythraceae
<i>Amsinckia tessellata</i>	devil's lettuce	Amte	Boraginaceae
<i>Antennaria dimorpha</i>	low pussytoes	Andi	Asteraceae
<i>Anaphalis margaritacea</i>	pearly everlasting	Anma	Asteraceae
<i>Antennaria microphylla</i>	rosy pussytoes	Anmi	Asteraceae
<i>Anthriscus scandicina</i>	bur chervil	Ansc	Apiaceae
<i>Antennaria umbrinella</i>	umber pussytoes	Anum	Asteraceae
<i>Apocynum cannabinum</i>	common dogbane	Apca	Apocynaceae
<i>Apocynum sibiricum</i>	Indian hemp	Apsi	Apocynaceae
<i>Aquilegia formosa</i>	red columbine	Aqfo	Ranunculaceae
<i>Artemisia campestris</i>	Pacific sagebrush	Arca	Asteraceae
<i>Artemisia dracunculus</i>	tarragon	Arcr	Asteraceae
<i>Arabis cusickii</i>	Cusick's rockcress	Arcu	Brassicaceae
<i>Artemisia douglasiana</i>	Douglas' sagebrush	Ardo	Asteraceae
<i>Arenaria franklinii</i>	Franklin's sandwort	Arfr	Caryophyllaceae
<i>Artemisia lindleyana</i>	Columbia River mugwort	Arli	Asteraceae
<i>Aristida longiseta</i>	red three-awn	Arlo	Poaceae
<i>Artemisia ludoviciana</i>	prairie sagebrush	Arlu	Asteraceae
<i>Arctium minus</i>	burdock	Armi	Asteraceae
<i>Arenaria pussila</i>	dwarf sandwort	Arpu	Caryophyllaceae
<i>Artemisia rigida</i>	stiff sagebrush	Arri	Asteraceae
<i>Arnica sororia</i>	twin arnica	Arso	Asteraceae
<i>Arabis sparsiflora</i>	elegant rockcress	Arsp	Brassicaceae
<i>Arabidopsis thaliana</i>	common wallcress	Arth	Brassicaceae
<i>Artemisia tridentata</i>	big sagebrush	Artr	Asteraceae
<i>Artemisia tripartita</i>	threetip sagebrush	Artrp	Asteraceae
<i>Aster campestris</i>	western meadow aster	Ascam	Asteraceae

Genus Species	Common Name	Code	Family
<i>Astragalus caricinus</i>	buckwheat milkvetch	Ascar	Fabaceae
<i>Astragalus columbianus</i>	Columbia milkvetch	Ascol	Fabaceae
<i>Astragalus conjunctus</i> var. <i>rickardii</i>	Dr. Bill's locoweed	Ascon	Fabaceae
<i>Asclepias fascicularis</i>	narrow-leaved milkweed	Asfa	Asclepiadaceae
<i>Aster frondosus</i>	alkali aster	Asfr	Asteraceae
<i>Astragalus geyeri</i>	Geyer's milkvetch	Asge	Fabaceae
<i>Aster hesperius</i>	western marsh aster	Ashe	Asteraceae
<i>Astragalus lentiginosus</i>	freckled milkvetch	Aslen	Fabaceae
<i>Aster occidentalis</i>	western mountain aster	Asoc	Asteraceae
<i>Asparagus officinalis</i>	asparagus	Asof	Liliaceae
<i>Aster pansus</i>	heath-leaved aster	Aspa	Asteraceae
<i>Asperugo procumbens</i>	catchweed	Aspr	Boraginaceae
<i>Astragalus purshii</i>	woolly-pod milkvetch	Aspu	Fabaceae
<i>Astragalus reventiformis</i>	Yakima milkvetch	Asre	Fabaceae
<i>Astragalus sclerocarpus</i>	stalked-pod milkvetch	Assc	Fabaceae
<i>Asclepias speciosa</i>	showy milkweed	Assp	Asclepiadaceae
<i>Astragalus spaldingii</i>	Spalding's milkvetch	Asspa	Fabaceae
<i>Astragalus speirocarpus</i>	medick milkvetch	Asspe	Fabaceae
<i>Aster subspicatus</i>	Douglas' aster	Assub	Asteraceae
<i>Astragalus succumbens</i>	crouching milkvetch	Assuc	Fabaceae
<i>Atriplex nuttallii</i> var. <i>fulcata</i>	saltsage	Atnu	Chenopodiaceae
<i>Atriplex patula</i>	fat-hen saltbush	Atpa	Chenopodiaceae
<i>Atriplex rosea</i>	tumble saltbush	Atro	Chenopodiaceae
<i>Atriplex truncata</i>	wedgescale orache	Attr	Chenopodiaceae
<i>Avena sativa</i>	oat	Avsa	Poaceae
<i>Balsamorhiza careyana</i>	Carey's balsamroot	Baca	Asteraceae
<i>Balsamorhiza hookeri</i>	Hooker's balsamroot	Baho	Asteraceae
<i>Bassia hyssopifolia</i>	smotherweed	Bahy	Chenopodiaceae
<i>Balsamorhiza rosea</i>	rosy balsamroot	Baro	Asteraceae
<i>Berula erecta</i>	cut-leaf water parsnip	Beer	Apiaceae
<i>Betula occidentalis</i>	red birch	Beoc	Betulaceae
<i>Bidens cernua</i>	nodding beggarticks	Bice	Asteraceae
<i>Bidens frondosa</i>	leafy beggarticks	Bifr	Asteraceae
<i>Boisduvalia glabella</i>	smooth spikeprimrose	Bogl	Onagraceae
<i>Boisduvalia stricta</i>	stiff spikeprimrose	Bost	Onagraceae
<i>Bromus carinatus</i>	mountain brome	Brca	Poaceae

Genus Species	Common Name	Code	Family
<i>Brodiaea douglasii</i>	Douglas' clusterlily	Brdo	Liliaceae
<i>Brodiaea howellii</i>	Howell's clusterlily	Brho	Liliaceae
<i>Bromus inermis</i>	smooth brome	Brin	Poaceae
<i>Bromus japonicus</i>	Japanese brome	Brja	Poaceae
<i>Bromus mollis</i>	soft brome	Brmo	Poaceae
<i>Brickellia oblongifolia</i>	thoroughwort	BroB	Asteraceae
<i>Bromus tectorum</i>	cheatgrass	Brte	Poaceae
<i>Carex amplifolia</i>	big-leaf sedge	Caam	Cyperaceae
<i>Camissonia andina</i>	obscure desertprimrose	Caan	Onagraceae
<i>Carex aperta</i>	Columbia sedge	Caap	Cyperaceae
<i>Carex aquatilis</i>	water sedge	Caaq	Cyperaceae
<i>Caragana arborescens</i>	Siberian peatree	Caar	Fabaceae
<i>Carex athrostachya</i>	slenderbeak sedge	Caat	Cyperaceae
<i>Carex aurea</i>	golden sledge	Caau	Cyperaceae
<i>Catalpa bignonioides</i>	catalpa	Cabi	Bignoniaceae
<i>Carex brevior</i>	short-beaked sedge	Cabr	Cyperaceae
<i>Capsella bursa-pastoris</i>	shepherd's purse	Cabu	Brassicaceae
<i>Cardaria chalapensis</i>	hoarycress	Cach	Brassicaceae
<i>Camissonia contorta</i>	bentpod desertprimrose	Caco	Onagraceae
<i>Carex diandra</i>	lesser panicled sedge	Cadi	Cyperaceae
<i>Carex douglasii</i>	Douglas' sedge	Cado	Cyperaceae
<i>Cardaria draba</i>	whitetop	Cadr	Brassicaceae
<i>Castilleja exilis</i>	alkali paintbrush	Caex	Scrophulariaceae
<i>Carex filifolia</i>	threadleaf sedge	Cafi	Cyperaceae
<i>Camissonia hilgardii</i>	Hilgard's desertprimrose	Cahi	Onagraceae
<i>Carex hystricina</i>	porcupine sedge	Cahy	Cyperaceae
<i>Carex lanuginosa</i>	woolly sedge	Cala	Cyperaceae
<i>Carex lenticularis</i>	Kellogg's sedge	Cale	Cyperaceae
<i>Calochortus macrocarpus</i>	sagebrush mariposa lily	Cama	Liliaceae
<i>Carex microptera</i>	smallwinged sedge	Cami	Cyperaceae
<i>Camelina microcarpa</i>	littlepod falseflax	Camic	Brassicaceae
<i>Camissonia minor</i>	small-flowered desertprimrose	Camin	Onagraceae
<i>Camissonia parvula</i>	small desertprimrose	Campa	Onagraceae
<i>Cardamine oligosperma</i>	little western bittercress	Caol	Brassicaceae
<i>Callitriche palustris</i>	water starwort	Capa	Callitrichaceae
<i>Cardamine pensylvanica</i>	Pennsylvania bittercress	Cape	Brassicaceae

Genus Species	Common Name	Code	Family
<i>Carex praegracilis</i>	clustered field sedge	Capr	Cyperaceae
<i>Cardaria pubescens</i>	globepodded hoarycress	Capu	Brassicaceae
<i>Camissonia pygmaea</i>	dwarf desertprimrose	Capy	Onagraceae
<i>Calyptidium roseum</i>	rosy calyptidium	Caro	Portulacaceae
<i>Cannibis sativa</i>	hemp	Casa	Cannabinaceae
<i>Carex siccata</i>	silvertop sedge	Casi	Cyperaceae
<i>Castilleja thompsonii</i>	Thompson's paintbrush	Cath	Scrophulariaceae
<i>Carex vulpenoidea</i>	fox sedge	Cavu	Cyperaceae
<i>Ceratophyllum demersum</i>	coontail	Cede	Ceratophyllaceae
<i>Centaurea diffusa</i>	tumble knapweed	Cedi	Asteraceae
<i>Centaureum exaltatum</i>	western centaury	Ceex	Gentianaceae
<i>Ceratoides lanata</i>	winterfat	Cela	Chenopodiaceae
<i>Cenchrus longispinus</i>	sandbur	Celo	Poaceae
<i>Centaurea maculosa</i>	spotted knapweed	Cema	Asteraceae
<i>Centunculus minimus</i>	chaffweed	Cemi	Primulaceae
<i>Cerastium nutans</i>	nodding chickweed	Cenu	Caryophyllaceae
<i>Centaurea repens</i>	Russian knapweed	Cere	Asteraceae
<i>Centaurea solstitialis</i>	yellow starthistle	Ceso	Asteraceae
<i>Cerastium viscosum</i>	sticky chickweed	Cevi	Caryophyllaceae
<i>Cerastium vulgatum</i>	common chickweed	Cevu	Caryophyllaceae
<i>Chenopodium album</i>	lamb's quarters	Chal	Chenopodiaceae
<i>Chenopodium botrys</i>	Jerusalem oak	Chbo	Chenopodiaceae
<i>Chaenactis douglasii</i>	hoary falseyarrow	Chdo	Asteraceae
<i>Chondrilla juncea</i>	rush skeletonweed	Chju	Asteraceae
<i>Chenopodium leptophyllum</i>	slimleaf goosefoot	Chle	Chenopodiaceae
<i>Chrysothamnus nauseosus</i>	gray rabbitbrush	Chna	Asteraceae
<i>Chenopodium rubrum</i>	red goosefoot	Chru	Chenopodiaceae
<i>Chorispora tenella</i>	blue mustard	Chte	Brassicaceae
<i>Chrysothamnus viscidiflorus</i>	green rabbitbrush	Chvi	Asteraceae
<i>Chorizanthe watsonii</i>	Watson's spineflower	Chwa	Polygonaceae
<i>Cirsium arvense</i>	Canada thistle	Ciar	Asteraceae
<i>Cicuta douglasii</i>	western water hemlock	Cido	Apiaceae
<i>Cichorium intybus</i>	chicory	Ciin	Asteraceae
<i>Cirsium undulatum</i>	wavyleaved thistle	ciun	Asteraceae
<i>Cirsium vulgare</i>	bull thistle	Civu	Asteraceae
<i>Clematis ligustifolia</i>	western virginsbower	Clli	Ranunculaceae

Genus Species	Common Name	Code	Family
<i>Cleome lutea</i>	yellow bee-plant	Cllu	Capparidaceae
<i>Convolvulus arvensis</i>	field bindweed	Coar	Convolvulaceae
<i>Coreopsis atkinsoniana</i>	Columbia tickseed	Coat	Asteraceae
<i>Conyza canadensis</i>	horseweed	Coca	Asteraceae
<i>Corispermum hyssopifolium</i>	common bugseed	Cohy	Chenopodiaceae
<i>Collomia linearis</i>	narrowleaf collomia	Coli	Polemoniaceae
<i>Collomia grandiflora</i>	largeflower collomia	Comgr	Polemoniaceae
<i>Collinsia grandiflora</i>	showy blue-eyed Mary	Congr	Scrophulariaceae
<i>Collinsia parviflora</i>	small blue-eyed Mary	Copa	Scrophulariaceae
<i>Cornus stolonifera</i>	red-osier dogwood	Cost	Cornaceae
<i>Comandra umbellata</i>	bastard toadflax	Coum	Santalaceae
<i>Cryptantha ambigua</i>	obscure cryptantha	Cram	Boraginaceae
<i>Crassula aquatica</i>	pigmy-weed	Craq	Crassulaceae
<i>Crepis atribarba</i>	slender hawksbeard	Crat	Asteraceae
<i>Crepis barbiger</i>	Leiberg's hawksbeard	Crba	Asteraceae
<i>Cryptantha circumscissa</i>	matted cryptantha	Crci	Boraginaceae
<i>Crataegus douglasii</i>	black hawthorn	Crdo	Rosaceae
<i>Cryptantha fendleri</i>	Fendler's cryptantha	Crfe	Boraginaceae
<i>Cryptantha flaccida</i>	weak-stemmed cryptantha	Crfl	Boraginaceae
<i>Cryptantha leucophaea</i>	gray cryptantha	Crle	Boraginaceae
<i>Crepis modocensis</i>	low hawksbeard	Crmo	Asteraceae
<i>Crocidium multicaule</i>	spring gold	Crmu	Asteraceae
<i>Crepis occidentalis</i>	western hawksbeard	Croc	Asteraceae
<i>Crepis intermedia</i>	Gray's hawksbeard	Crpin	Asteraceae
<i>Cryptantha pterocarya</i>	winged cryptantha	Crpt	Boraginaceae
<i>Crepis runcinata</i>	dandelion hawksbeard	Crru	Asteraceae
<i>Cryptantha scoparia</i>	desert cryptantha	Crsc	Boraginaceae
<i>Cryptantha spiculifera</i>	Snake River cryptantha	Crsp	Boraginaceae
<i>Cryptantha torreyana</i>	Torrey's cryptantha	Crto	Boraginaceae
<i>Cryptantha interrupta</i>	bristly cryptantha	Cryin	Boraginaceae
<i>Cuscuta denticulata</i>	desert dodder	Cude	Cuscutaceae
<i>Cuscuta epithimum</i>	common dodder	Cuep	Cuscutaceae
<i>Cuscuta indecora</i>	plain dodder	Cuin	Cuscutaceae
<i>Cuscuta pentagona var. calycina</i>	field dodder	Cupe	Cuscutaceae
<i>Cyperus aristatus</i>	awned flatsedge	Cyar	Cyperaceae
<i>Cyperus erythrorhizos</i>	redroot flatsedge	Cyer	Cyperaceae

Genus Species	Common Name	Code	Family
<i>Cyperus esculentus</i>	yellow flatsedge	Cyes	Cyperaceae
<i>Cyperus rivularis</i>	shining flatsedge	Cyri	Cyperaceae
<i>Cyperus strigosus</i>	straw-colored flatsedge	Cyst	Cyperaceae
<i>Cymopterus terebithinus</i>	turpentine springparsley	Cyte	Apiaceae
<i>Daucus carota</i>	Queen Anne's lace	Daca	Apiaceae
<i>Dactylis glomerata</i>	orchardgrass	Dagl	Poaceae
<i>Datura stramonium</i>	Jimson weed	Dast	Solanaceae
<i>Deschampsia atropurpurea</i>	mountain hairgrass	Deat	Poaceae
<i>Delphinium multiplex</i>	Kittitas larkspur	Demu	Ranunculaceae
<i>Delphinium nuttallianum</i>	upland larkspur	Denu	Ranunculaceae
<i>Descurainia pinnata</i>	western tansymustard	Depi	Brassicaceae
<i>Descurainia richardsonii</i>	Richardson's tansymustard	Deri	Brassicaceae
<i>Descurainia sophia</i>	flixweed	Deso	Brassicaceae
<i>Dianthus armeria</i>	grass pink	Diar	Caryophyllaceae
<i>Distichlis stricta</i>	alkali saltgrass	Dist	Poaceae
<i>Dipsicus sylvestris</i>	teasel	Disy	Dipsicaceae
<i>Dodecatheon cusickii</i>	Cusick's shootingstar	Docu	Primulaceae
<i>Draba nemorosa</i>	Wood's whitlowgrass	Drne	Brassicaceae
<i>Draba verna</i>	spring whitlowgrass	Drve	Brassicaceae
<i>Eatonella nivea</i>	white eatonella	Eani	Asteraceae
<i>Echinochloa crus-galli</i>	large barnyardgrass	Eccr	Poaceae
<i>Echinocystis lobata</i>	wild cucumber	Eclo	Cucurbitaceae
<i>Eleocharis acicularis</i>	needle spikerush	Elac	Cyperaceae
<i>Elaeagnus angustifolia</i>	Russian olive	Elan	Elaeagnaceae
<i>Elodea canadensis</i>	Canadian waterweed	Elca	Hydrocharitaceae
<i>Elymus cinereus</i>	giant wildrye	Elci	Poaceae
<i>Elymus flavescens</i>	sand wildrye	Elfl	Poaceae
<i>Elymus glaucus</i>	blue wildrye	Elgl	Poaceae
<i>Elodea nuttallii</i>	Nuttall's waterweed	Elnu	Hydrocharitaceae
<i>Eleocharis ovata</i>	ovoid spikerush	Elov	Cyperaceae
<i>Eleocharis palustis</i>	common spikerush	Elpa	Cyperaceae
<i>Eleocharis rostellata</i>	beaked spikerush	Elro	Cyperaceae
<i>Epilobium angustifolium</i>	fireweed	Epan	Onagraceae
<i>Epipactis gigantea</i>	giant helleborine	Epgi	Orchidaceae
<i>Epilobium glaberrimum</i>	smooth willowherb	Epglb	Onagraceae
<i>Epilobium glandulosum</i>	common willowherb	Epgln	Onagraceae

Genus Species	Common Name	Code	Family
<i>Epilobium minutum</i>	small willowherb	Epmi	Onagraceae
<i>Epilobium paniculatum</i>	tall willowherb	Eppa	Onagraceae
<i>Epilobium palustre</i>	swamp willowherb	Eppl	Onagraceae
<i>Epilobium watsonii</i>	Watson's willowherb	Epwa	Onagraceae
<i>Equisetum arvense</i>	common horsetail	Eqar	Equisetaceae
<i>Equisetum hyemale</i>	Dutch scouringrush	Eqhy	Equisetaceae
<i>Equisetum laevigatum</i>	smooth scouringrush	Eqla	Equisetaceae
<i>Equisetum palustre</i>	marsh horsetail	Eqpa	Equisetaceae
<i>Equisetum variegatum</i>	northern scouringrush	Eqva	Equisetaceae
<i>Erigeron annuus</i>	daisy fleabane	Eran	Asteraceae
<i>Erysimum asperum</i>	rough wallflower	Eras	Brassicaceae
<i>Eriogonum baileyi</i>	Bailey's buckwheat	Erba	Polygonaceae
<i>Erodium cicutarium</i>	storksbill	Erci	Geraniaceae
<i>Eriogonum codium</i>	Umtanum buckwheat	Ercod	Polygonaceae
<i>Eriogonum compositum</i>	northern buckwheat	Ercom	Polygonaceae
<i>Erigeron corymbosus</i>	longleaf fleabane	Ercor	Asteraceae
<i>Erigeron divergens</i>	diffuse fleabane	Erdi	Asteraceae
<i>Eriogonum elatum</i>	tall buckwheat	Erel	Polygonaceae
<i>Erigeron filifolius</i>	threadleaf fleabane	Erfi	Asteraceae
<i>Erucastrum gallicum</i>	dog mustard	Erga	Brassicaceae
<i>Eriophorum gracile</i>	slender cottongrass	Ergr	Cyperaceae
<i>Eriogonum heracleoides</i>	parnsipflower buckwheat	Erhe	Polygonaceae
<i>Eragrostis hypnoides</i>	creeping eragrostis	Erhy	Poaceae
<i>Eriophyllum lanatum</i>	woolly sunflower	Erla	Asteraceae
<i>Erigeron linearis</i>	desert yellowdaisy	Erli	Asteraceae
<i>Eragrostis lutescens</i>	yellow lovegrass	Erlu	Poaceae
<i>Eriogonum microthecum</i>	slender buckwheat	Ermi	Polygonaceae
<i>Eriogonum niveum</i>	snow buckwheat	Erni	Polygonaceae
<i>Erysimum occidentale</i>	pale wallflower	Eroc	Brassicaceae
<i>Eriogonum ovalifolium var. celsum</i>	cushion buckwheat	Erov	Polygonaceae
<i>Eragrostis pectinacea</i>	purple lovegrass	Erpe	Poaceae
<i>Erigeron piperianus</i>	Piper's daisy	Erpi	Asteraceae
<i>Erigeron poliospermus</i>	cushion fleabane	Erpo	Asteraceae
<i>Erigeron pumilis</i>	shaggy fleabane	Erpu	Asteraceae
<i>Eremocarpus setigerus</i>	doveweed	Erse	Euphorbiaceae
<i>Eriogonum sphaerocephalum</i>	rock buckwheat	Ersp	Polygonaceae

Genus Species	Common Name	Code	Family
<i>Eriastrum sparsiflorum</i>	few-flowered eriastrum	Erspa	Polemoniaceae
<i>Eriogonum strictum</i>	strict buckwheat	Erst	Polygonaceae
<i>Eriogonum thymoides</i>	thymeleaf buckwheat	Erth	Polygonaceae
<i>Eriogonum vimineum</i>	broom buckwheat	Ervi	Polygonaceae
<i>Euphorbia esula</i>	leafy spurge	Eues	Euphorbiaceae
<i>Euphorbia glyptosperma</i>	corrugate-seed spurge	Eugl	Euphorbiaceae
<i>Euphorbia serpyllifolia</i>	thymeleaf spurge	Euse	Euphorbiaceae
<i>Euphorbia supina</i>	milk spurge	Eusu	Euphorbiaceae
<i>Festuca arundinacea</i>	tall fescue	Fear	Poaceae
<i>Festuca bromoides</i>	barren sixweeks	Febr	Poaceae
<i>Festuca idahoensis</i>	Idaho fescue	Feid	Poaceae
<i>Festuca microstachys</i>	small sixweeks	Fema	Poaceae
<i>Festuca octoflora</i>	slender sixweeks	Feoc	Poaceae
<i>Festuca ovina</i>	sheep fescue	Feov	Poaceae
<i>Festuca pratensis</i>	meadow fescue	Fepr	Poaceae
<i>Festuca washingtonica</i>	Washington fescue	Fewa	Poaceae
<i>Filago arvensis</i>	field fluffweed	Fiar	Asteraceae
<i>Fraxinus pennsylvanica</i>	green ash	Frpe	Oleaceae
<i>Fritillaria pudica</i>	yellow bell	Frpu	Liliaceae
<i>Galium aparine</i>	cleavers	Gaap	Rubiaceae
<i>Gaillardia aristata</i>	blanket flower	Gaar	Asteraceae
<i>Gayophytum diffusum</i>	spreading gayophytum	Gadi	Onagraceae
<i>Gaillardia X grandiflora</i>	Indian blanket flower	Gagr	Asteraceae
<i>Galium multiflorum</i>	shrubby bedstraw	Gami	Rubiaceae
<i>Gayophytum ramosissimum</i>	hairstem gayophytum	Gara	Onagraceae
<i>Gilia inconspicua</i>	inconspicuous gilia	Gein	Polemoniaceae
<i>Geum macrophyllum</i>	Oregon avens	Gema	Rosaceae
<i>Geum triflorum</i>	old man's whiskers	Getr	Rosaceae
<i>Geranium viscosissimum</i>	sticky geranium	Gevi	Geraniaceae
<i>Gilia leptomeria</i>	Great Basin gilia	Gile	Polemoniaceae
<i>Gilia lottiae</i>	gilia	Gilo	Polemoniaceae
<i>Gilia minutiflora</i>	smallflower gilia	Gimi	Polemoniaceae
<i>Gilia sinuata</i>	shy gilia	Gisi	Polemoniaceae
<i>Glechoma heteracea</i>	field balm	Glhe	Lamiaceae
<i>Glycyrrhiza lepidota</i>	licorice	Glle	Fabaceae
<i>Gleditsia triacanthos</i>	honey locust	Gltr	Fabaceae

Genus Species	Common Name	Code	Family
<i>Gnaphalium chilense</i>	cottonbatting cudweed	Gnch	Asteraceae
<i>Gnaphalium microcephalum</i>	slender cudweed	Gnmi	Asteraceae
<i>Gnaphalium palustre</i>	lowland cudweed	Gnpa	Asteraceae
<i>Grindelia columbiana</i>	Columbia River gumweed	Grco	Asteraceae
<i>Gratiola neglecta</i>	American hedge-hyssop	Grne	Scrophulariaceae
<i>Grayia spinosa</i>	spiny hopsage	Grsp	Chenopodiaceae
<i>Gypsophila paniculata</i>	baby's breath	Gypa	Caryophyllaceae
<i>Hackelia arida</i>	sagebrush stickseed	Haar	Boraginaceae
<i>Hackelia diffusa</i>	diffuse stickseed	Hadi	Boraginaceae
<i>Haplopappus resinusus</i>	Columbia goldenweed	Hare	Asteraceae
<i>Haplopappus stenophylla</i>	narrowleaf goldenweed	Hast	Asteraceae
<i>Heleochloa alopecuroides</i>	heleochloa	Heal	Poaceae
<i>Helianthus annuus</i>	common sunflower	Hean	Asteraceae
<i>Helenium autumnale</i>	sneezeweed	Heau	Asteraceae
<i>Heliotropium curassavicum</i>	salt heliotrope	Hecur	Boraginaceae
<i>Helianthus cusickii</i>	Cusick's sunflower	Hecus	Asteraceae
<i>Heuchera cylindrica</i>	lava alumroot	Hecy	Saxifragaceae
<i>Heterotheca villosa</i>	hairy golden-aster	Hevi	Asteraceae
<i>Hieracium cynoglossoides</i>	houndstongue hawkweed	Hicy	Asteraceae
<i>Hierochloe odorata</i>	vanilla grass	Hiod	Poaceae
<i>Hordeum brachyantherum</i>	meadow barley	Hobr	Poaceae
<i>Hordeum glaucum</i>	seagreen barley	Hogl	Poaceae
<i>Hordeum jubatum</i>	squirreltail barley	Hoju	Poaceae
<i>Hordeum leporinum</i>	seaside barley	Hole	Poaceae
<i>Holosteum umbellatum</i>	jagged chickweed	Houm	Caryophyllaceae
<i>Hutchinsia procumbens</i>	hutchinsia	Hupr	Brassicaceae
<i>Hydrophyllum capitatum</i>	ballhead waterleaf	Hyca	Hydrophyllaceae
<i>Hymenopappus filioliis</i>	Columbia cutleaf	Hyfi	Asteraceae
<i>Hypericum formosum</i>	western St. John's-Wort	Hyfo	Hypericaceae (Clusiaceae)
<i>Hypericum majus</i>	Canadian St. John's-Wort	Hyma	Hypericaceae (Clusiaceae)
<i>Hypericum perforatum</i>	Klamath weed	Hype	Hypericaceae (Clusiaceae)
<i>Idahoia scapigera</i>	scalepod	Idsc	Brassicaceae
<i>Iris missouriensis</i>	western blue flag	Irmi	Iridaceae
<i>Iris psuedacorus</i>	yellow flag	Irps	Iridaceae
<i>Iva axillaris</i>	povertyweed	Ivax	Asteraceae
<i>Iva xanthifolia</i>	sumpweed	Ivxa	Asteraceae

Genus Species	Common Name	Code	Family
<i>Juncus articulatus</i>	jointed rush	Juar	Juncaceae
<i>Juncus balticus</i>	Baltic rush	Juba	Juncaceae
<i>Juncus bufonius</i>	toad rush	Jubu	Juncaceae
<i>Juncus ensifolius</i>	dagger-leaf rush	Juen	Juncaceae
<i>Juncus mertensianus</i>	Merten's rush	Jume	Juncaceae
<i>Juncus nevadensis</i>	Sierra rush	June	Juncaceae
<i>Juglans nigra</i>	black walnut	Juni	Fagaceae
<i>Juncus nodosus</i>	tuberous rush	Juno	Juncaceae
<i>Juniperus occidentalis</i>	western juniper	Juoc	Cupressaceae
<i>Juncus regelii</i>	Regel's rush	Jure	Juncaceae
<i>Juniperus scopulorum</i>	Rocky Mountain juniper	Jusc	Cupressaceae
<i>Juncus tenuis</i>	slender rush	Jute	Juncaceae
<i>Juncus torreyi</i>	Torrey's rush	Juto	Juncaceae
<i>Koeleria cristata</i>	prairie Junegrass	Kocr	Poaceae
<i>Kochia scoparia</i>	summer cypress	Kosc	Chenopodiaceae
<i>Layia glandulosa</i>	white-daisy tidytops	Lagl	Asteraceae
<i>Lagophylla ramosissima</i>	rabbitleaf	Lara	Asteraceae
<i>Lappula redowskii</i>	western stickseed	Lare	Boraginaceae
<i>Lactuca serriola</i>	prickly lettuce	Lase	Asteraceae
<i>Lepidium densiflorum</i>	prairie pepperweed	Lede	Brassicaceae
<i>Lepidium dictyotum</i>	veiny peppergrass	Ledi	Brassicaceae
<i>Lesquerella douglasii</i>	Columbia bladderpod	Ledo	Brassicaceae
<i>Leptochloa fascicularis</i>	loose-flowered sprangletop	Lefa	Poaceae
<i>Lepidium latifolium</i>	broadleaf pepperweed	Lela	Brassicaceae
<i>Lemna minor</i>	duckweed	Lemi	Lemnaceae
<i>Leersia oryzoides</i>	cutgrass	Leor	Poaceae
<i>Lepidium perfoliatum</i>	clasping pepperweed	Lepe	Brassicaceae
<i>Leptodactylon pungens</i>	prickly phlox	Lepu	Polemoniaceae
<i>Lewisia rediviva</i>	bitterroot	Lere	Portulacaceae
<i>Lesquerella tuplashensis</i>	White Bluffs bladderpod	Letu	Brassicaceae
<i>Lepidium virginicum</i>	tall pepperweed	Levi	Brassicaceae
<i>Limosella acaulis</i>	mudwort	Liac	Scrophulariaceae
<i>Lindernia anagallidea</i>	false pimpernel	Lian	Scrophulariaceae
<i>Limosella aquatica</i>	mudwort	Liaq	Scrophulariaceae
<i>Lithophragma bulbifera</i>	bulbiferous fringecup	Libu	Saxifragaceae
<i>Linaria dalmatica</i>	dalmatian toadflax	Lida	Scrophulariaceae

Genus Species	Common Name	Code	Family
<i>Lindernia dubia</i>	false pimpernel	Lidu	Scrophulariaceae
<i>Lithophragma glabra</i>	smooth fringecup	Ligl	Saxifragaceae
<i>Lilaeopsis occidentalis</i>	lilaeopsis	Lioc	Apiaceae
<i>Lithophragma parviflora</i>	smallflower fringecup	Lipa	Saxifragaceae
<i>Lipocarpa aristulata</i>	aristulate lipocarpa	Lipar	Cyperaceae
<i>Linum perenne</i>	wild blueflax	Lipe	Linaceae
<i>Linanthus pharnaceoides</i>	threadleaf linanthus	Liph	Polemoniaceae
<i>Lithospermum ruderale</i>	western gromwell	Liru	Boraginaceae
<i>Lithospermum arvense</i>	corn gromwell	Litar	Boraginaceae
<i>Linaria vulgaris</i>	butter-and-eggs	Livu	Scrophulariaceae
<i>Lomatium canbyi</i>	Canby's desertparsley	Loca	Apiaceae
<i>Lomatium dissectum</i>	fernleaf desertparsley	Lodi	Apiaceae
<i>Lomatium farinosum</i>	Coeur d'Alene desertparsley	Lofa	Apiaceae
<i>Lomatium geyeri</i>	Geyer's desertparsley	Loge	Apiaceae
<i>Lomatium gormanii</i>	Gorman's desertparsley	Logo	Apiaceae
<i>Lomatium grayi</i>	Gray's desertparsley	Logr	Apiaceae
<i>Lomatium macrocarpum</i>	bigseed desertparsley	Loma	Apiaceae
<i>Lolium multiflorum</i>	perennial rye	Lomu	Poaceae
<i>Lotus purshiana</i>	Spanish clover	Lopu	Fabaceae
<i>Loeflingia squarrosa</i> var. <i>squarrosa</i>	loeflingia	Losq	Caryophyllaceae
<i>Lomatium triternatum</i>	nineleaf desertparsley	Lotr	Apiaceae
<i>Lomatium tuberosum</i>	Hoover's desertparsley	Lotu	Apiaceae
<i>Lupinus laxiflorus</i>	spurred lupine	Lula	Fabaceae
<i>Lupinus lepidus</i>	prairie lupine	Lulep	Fabaceae
<i>Lupinus leucophyllus</i>	velvet lupine	Luleu	Fabaceae
<i>Ludwigia palustris</i> var. <i>pacifica</i>	false loosestrife	Lupa	Onagraceae
<i>Lupinus pusillus</i>	low lupine	Lupu	Fabaceae
<i>Lupinus saxosus</i>	rock lupine	Lusa	Fabaceae
<i>Lupinus sericeus</i>	silky lupine	Luse	Fabaceae
<i>Lupinus sulphureus</i>	sulfur lupine	Lusu	Fabaceae
<i>Lupinus wyethii</i>	Wyeth's lupine	Luwy	Fabaceae
<i>Lycopus americanus</i>	cut-leaf bugleweed	Lyam	Lamiaceae
<i>Lycopus asper</i>	rough bugleweed	Lyas	Lamiaceae
<i>Lysimachia ciliata</i>	fringed loosestrife	Lyci	Primulaceae
<i>Lycium halimifolium</i>	matrimony vine	Lyha	Solanaceae
<i>Lythrum hyssopifolium</i>	hyssop loosestrife	Lyhy	Lythraceae

Genus Species	Common Name	Code	Family
<i>Lythrum salicaria</i>	purple loosestrife	Lysa	Lythraceae
<i>Malcolmia africana</i>	malcolmia	Maaf	Brassicaceae
<i>Machaeranthera canescens</i>	hoary aster	Maca	Asteraceae
<i>Matricaria chamomilla</i>	wild chamomile	Mach	Asteraceae
<i>Madia exigua</i>	little tarweed	Maex	Asteraceae
<i>Mazus japonicus</i>	Japanese mazus	Maja	Scrophulariaceae
<i>Matricaria matricarioides</i>	pineapple weed	Mama	Asteraceae
<i>Malus pumila</i>	apple	Mapu	Rosaceae
<i>Marsilea vestita</i>	clover fern	Mave	Marsileaceae
<i>Marrubium vulgare</i>	horehound	Mavu	Lamiaceae
<i>Melilotus alba</i>	white sweetclover	Meal	Fabaceae
<i>Mentha arvensis</i>	field mint	Mear	Lamiaceae
<i>Melica bulbosa var. intonsa</i>	oniongrass	Mebu	Poaceae
<i>Mentzelia laevicaulis</i>	blazingstar	Mela	Loasaceae
<i>Mertensia longiflora</i>	small bluebells	Melo	Boraginaceae
<i>Melica spectabilis</i>	showy oniongrass	Melsp	Poaceae
<i>Medicago lupulina</i>	black medick	Melu	Fabaceae
<i>Mentzelia albicaulis</i>	whitestem stickleaf	Menal	Loasaceae
<i>Mentha spicata</i>	spearmint	Mensp	Lamiaceae
<i>Mertensia oblongifolia</i>	leafy bluebells	Meob	Boraginaceae
<i>Melilotus officinalis</i>	yellow sweetclover	Meof	Fabaceae
<i>Mentha piperita</i>	peppermint	Mepi	Lamiaceae
<i>Medicago sativa</i>	alfalfa	Mesa	Fabaceae
<i>Mimulus floribundus</i>	purplestem monkeyflower	Mifl	Scrophulariaceae
<i>Microsteris gracilis</i>	pink microsteris	Migr	Polemoniaceae
<i>Mimulus guttatus</i>	yellow monkeyflower	Migu	Scrophulariaceae
<i>Mimetanthe pilosa</i>	downy monkeyflower	Mipi	Scrophulariaceae
<i>Mimulus ringens</i>	Allegheny monkeyflower	Miri	Scrophulariaceae
<i>Mimulus suksdorfii</i>	Suksdorf's monkeyflower	Misu	Scrophulariaceae
<i>Microseris troximoides</i>	false mountain dandelion	Mitr	Asteraceae
<i>Morus alba</i>	white mulberry	Moal	Moraceae
<i>Montia cordifolia</i>	broadleaf springbeauty	Moco	Portulacaceae
<i>Montia linearis</i>	Indian lettuce	Moli	Portulacaceae
<i>Monardella odoratissima</i>	coyote mint	Mood	Lamiaceae
<i>Montia perfoliata</i>	miner's lettuce	Mope	Portulacaceae
<i>Mollugo verticellata</i>	carpetweed	Move	Molluginaceae

Genus Species	Common Name	Code	Family
<i>Muhlenbergia asperifolia</i>	alkali muhly	Muas	Poaceae
<i>Muhlenbergia filiformis</i>	slender muhly	Mufi	Poaceae
<i>Myosurus aristatus</i>	sedge mousetail	Myar	Ranunculaceae
<i>Myosotis laxa</i>	small forget-me-not	Myla	Boraginaceae
<i>Myosotis micrantha</i>	blue forget-me-not	Mymi	Boraginaceae
<i>Myriophyllum spicatum</i>	spiked water-milfoil	Mysp	Haloragaceae
<i>Myosurus X clavicaulis</i>	little mouse-tail	MyXc	Ranunculaceae
<i>Nama densum</i>	purplemat	Nade	Hydrophyllaceae
<i>Navarretia intertexta</i>	pincushion plant	Nain	Polemoniaceae
<i>Nepeta cataria</i>	catnip	Neca	Lamiaceae
<i>Nicotiana acuminata</i>	wild tobacco	Niac	Solanaceae
<i>Nicotiana attenuata</i>	coyote tobacco	Niat	Solanaceae
<i>Oenothera caespitosa</i>	rockrose	Oeca	Onagraceae
<i>Oenothera pallida</i>	pale evening primrose	Oepa	Onagraceae
<i>Oenothera strigosa</i>	common eveningprimrose	Oest	Onagraceae
<i>Onopordum acanthium</i>	Scotch thistle	Onac	Asteraceae
<i>Onobrychis viciaefolia</i>	holyclover	Onvi	Fabaceae
<i>Opuntia erinacea</i>	pricklypear	Oper	Cactaceae
<i>Opuntia fragilis</i>	brittle pricklypear	Opfr	Cactaceae
<i>Opuntia polyacantha</i>	starvation pricklypear	Oppo	Cactaceae
<i>Orthocarpus barbatus</i>	Grand Coulee owl-clove	Orba	Scrophulariaceae
<i>Orobanche corymbosa</i>	flattop broomrape	Orco	Orobanchaceae
<i>Orobanche fasciculata</i>	clustered broomrape	Orfa	Orobanchaceae
<i>Orobanche grayana</i>	Gray's broomrape	Orgr	Orobanchaceae
<i>Oryzopsis hymenoides</i>	Indian ricegrass	Orhy	Poaceae
<i>Orobanche ludoviciana</i>	Suksdorf's broomrape	Orlu	Orobanchaceae
<i>Oxalis corniculata</i>	creeping yellow wood-sorrel	Oxco	Oxalidaceae
<i>Oxytheca dendroides</i>	false buckwheat	Oxde	Polygonaceae
<i>Panicum capillare</i>	common witchgrass	Paca	Poaceae
<i>Panicum milliaceum</i>	broomcorn millet	Pami	Poaceae
<i>Panicum dichotomiflorum</i>	fall panicum	Pandi	Poaceae
<i>Panicum occidentale</i>	western witchgrass	Paoc	Poaceae
<i>Parthanicissus quinquefolia</i>	Virginia creeper	Paqu	Vitaceae
<i>Paspalum distichum</i>	knotgrass	Pasdi	Poaceae
<i>Psoralea lanceolata</i>	dune scurfpea	Pcla	Fabaceae
<i>Penstemon acuminatus</i>	sand beardtongue	Peac	Scrophulariaceae

Genus Species	Common Name	Code	Family
<i>Penstemon eriantherus</i>	fuzzy beardtongue	Peer	Scrophulariaceae
<i>Perideridia gairdneri</i>	Gairdner's yampah	Pega	Apiaceae
<i>Penstemon glandulosus</i>	stickystem beardtongue	Pegl	Scrophulariaceae
<i>Pellaea glabella</i>	smooth cliffbrake	Pelgl	Polypodiaceae (Pteridaceae)
<i>Pectocarya linearis</i>	winged combseed	Peli	Boraginaceae
<i>Penstemon gairdnerii</i>	Gairdner's beardtongue	Penga	Scrophulariaceae
<i>Petalostemon ornatum</i>	western pairieclover	Peor	Fabaceae
<i>Penstemon richardsonii</i>	basalt beardtongue	Peri	Scrophulariaceae
<i>Pectocarya setosa</i>	bristly combseed	Pese	Boraginaceae
<i>Pediocactus simpsonii</i>	hedgehog cactus	Pesi	Cactaceae
<i>Penstemon speciosus</i>	showy beardtongue	Pesp	Scrophulariaceae
<i>Phalaris arundinacea</i>	reed canarygrass	Phar	Poaceae
<i>Phoenicaulis cheiranthoides</i>	daggerpod	Phch	Brassicaceae
<i>Phragmites communis</i>	common reed	Phco	Poaceae
<i>Phacelia glandulifera</i>	sticky scorpionweed	Phgl	Hydrophyllaceae
<i>Phacelia hastata</i>	whiteleaf scorpionweed	Phha	Hydrophyllaceae
<i>Phacelia heterophylla</i>	virgate scorpionweed	Phhe	Hydrophyllaceae
<i>Phlox hoodii</i>	Hood's phlox	Phho	Polemoniaceae
<i>Philadelphus lewisii</i>	mockorange	Phle	Hydrangeaceae
<i>Phacelia linearis</i>	threadleaf scorpionweed	Phli	Hydrophyllaceae
<i>Phlox longifolia</i>	longleaf phlox	Phlo	Polemoniaceae
<i>Phleum pratense</i>	timothy	Phlpr	Poaceae
<i>Physocarpus malvaceus</i>	ninebark	Phma	Rosaceae
<i>Phacelia ramosissima</i>	basalt scorpionweed	Phra	Hydrophyllaceae
<i>Phlox speciosa</i>	showy phlox	Phsp	Polemoniaceae
<i>Physostegia parviflora</i>	purple dragonhead	Phypr	Lamiaceae
<i>Physalis sp.</i>	ground cherry	Phys.	Solanaceae
<i>Plantago lanceolata</i>	English plantain	Plla	Plantaginaceae
<i>Plectritis macrocera</i>	white cupseed	Plmac	Valerianaceae
<i>Plantago major</i>	common plantain	Plmaj	Plantaginaceae
<i>Platanus occidentalis</i>	sycamore	Ploc	Platanaceae
<i>Plantago patagonica</i>	Indian wheat	Plpa	Plantaginaceae
<i>Plagiobothrys tenellus</i>	Pacific popcornflower	Plte	Boraginaceae
<i>Poa annua</i>	annual bluegrass	Poaan	Poaceae
<i>Populus alba</i>	silver poplar	Poal	Salicaceae
<i>Polygonum amphibium</i>	water smartweed	Poam	Polygonaceae

Genus Species	Common Name	Code	Family
<i>Poa palustris</i>	fowl bluegrass	Poapa	Poaceae
<i>Potentilla arguta</i>	tall cinquefoil	Poar	Rosaceae
<i>Polygonum aviculare</i>	doorweed	Poav	Polygonaceae
<i>Potamogeton berchtoldii</i>	Berchtold's pondweed	Pobe	Potamogetonaceae
<i>Potentilla biennis</i>	biennial cinquefoil	Pobi	Rosaceae
<i>Poa bulbosa</i>	bulbous bluegrass	Pobu	Poaceae
<i>Polygonum coccineum</i>	water smartweed	Pococ	Polygonaceae
<i>Poa compressa</i>	Canada bluegrass	Pocom	Poaceae
<i>Polygonum convolvulus</i>	climbing bindweed	Pocon	Polygonaceae
<i>Potamogeton crispus</i>	curled pondweed	Pocr	Potamogetonaceae
<i>Poa cusickii</i>	Cusick's bluegrass	Pocu	Poaceae
<i>Populus deltoides</i>	plains cottonwood	Pode	Salicaceae
<i>Potamogeton filiformis</i>	slender pondweed	Pofi	Potamogetonaceae
<i>Potamogeton foliosus</i>	leafy pondweed	Pofo	Potamogetonaceae
<i>Potentilla glandulosa</i>	sticky cinquefoil	Pogl	Rosaceae
<i>Potamogeton gramineus</i>	grass-leaved pondweed	Pogm	Potamogetonaceae
<i>Potentilla gracilis</i>	slender cinquefoil	Pogr	Rosaceae
<i>Polygonum hydropiper</i>	marshpepper smartweed	Pohy	Polygonaceae
<i>Poa juncifolia</i>	alkali bluegrass	Poju	Poaceae
<i>Polygonum lapathifolium</i>	willow weed	Pola	Polygonaceae
<i>Polygonum persicaria</i>	heartweed	Polpe	Polygonaceae
<i>Polygonum majus</i>	wiry knotweed	Poma	Polygonaceae
<i>Polemonium micranthum</i>	annual Jacob's ladder	Pomi	Polemoniaceae
<i>Polypogon monspeliensis</i>	rabbitfoot grass	Pomo	Poaceae
<i>Poa nevadensis</i>	Nevada bluegrass	Pone	Poaceae
<i>Populus nigra</i>	Lombardy poplar	Poni	Salicaceae
<i>Potentilla norvegica</i>	Norwegian cinquefoil	Pono	Rosaceae
<i>Portulaca oleracea</i>	common purslane	Pool	Portulacaceae
<i>Poa pratensis</i>	Kentucky bluegrass	Popr	Poaceae
<i>Polygonum ramosissimum</i>	busy knotweed	Pora	Polygonaceae
<i>Potentilla rivalis</i>	brook cinquefoil	Pori	Rosaceae
<i>Poa sandbergii</i>	Sandberg's bluegrass	Posa	Poaceae
<i>Poa scabrella</i>	pine bluegrass	Posc	Poaceae
<i>Potentilla anserina</i>	common silverweed	Potan	Rosaceae
<i>Populus tremuloides</i>	quaking aspen	Pote	Salicaceae
<i>Potentilla paradoxa</i>	bushy cinquefoil	Potpa	Rosaceae

Genus Species	Common Name	Code	Family
<i>Potamogeton pectinatus</i>	fennel-leaf pondweed	Potpe	Potamogetonaceae
<i>Populus trichocarpa</i>	black cottonwood	Potr	Salicaceae
<i>Prunus armeniaca</i>	apricot	Prar	Rosaceae
<i>Prunus avium</i>	sweet cherry	Prav	Rosaceae
<i>Prunus emarginata</i>	bitter cherry	Prem	Rosaceae
<i>Prunus persica</i>	peach	Prpe	Rosaceae
<i>Prunus virginiana</i>	chokecherry	Prvi	Rosaceae
<i>Prunella vulgaris</i>	selfheal	Prvu	Lamiaceae
<i>Pteridium aquilinum</i>	bracken fern	Ptaq	Polypodiaceae (Dennstaedtiaceae)
<i>Puccinellia lemmonii</i>	Lemmon's alkaligrass	Pule	Poaceae
<i>Purshia tridentata</i>	bitterbrush	Putr	Rosaceae
<i>Pyrus communis</i>	pear	Pyco	Rosaceae
<i>Quercus sp.</i>	oak	Quer.	Fagaceae
<i>Ranunculus cymbalaria</i>	shore buttercup	Racy	Ranunculaceae
<i>Ranunculus flammula</i>	creeping buttercup	Rafl	Ranunculaceae
<i>Ranunculus glaberrimus</i>	sagebrush buttercup	Ragl	Ranunculaceae
<i>Raphanus sativus</i>	wild radish	Rasa	Brassicaceae
<i>Ranunculus sceleratus</i>	celeryleaf buttercup	Rasc	Ranunculaceae
<i>Ranunculus subrigidus</i>	stiffleaf buttercup	Rasu	Ranunculaceae
<i>Ranunculus testiculatus</i>	bur buttercup	Rate	Ranunculaceae
<i>Rhus glabra</i>	smooth sumac	Rhgl	Anacardiaceae
<i>Ribes aureum</i>	golden currant	Riau	Grossulariaceae
<i>Ribes cereum</i>	squaw currant	Rice	Grossulariaceae
<i>Rorippa columbiae</i>	Columbia yellowcress	Roco	Brassicaceae
<i>Rorippa curvisiliqua</i>	western yellowcress	Rocu	Brassicaceae
<i>Rorippa islandica</i>	marsh yellowcress	Rois	Brassicaceae
<i>Rorippa nasturium-aquatica</i>	watercress	Rona	Brassicaceae
<i>Rorippa obtusa</i>	bluntleaf yellowcress	Roob	Brassicaceae
<i>Robinia psuedo-acacia</i>	black locust	Rops	Fabaceae
<i>Rotala ramosior</i>	toothcup	Rora	Lythraceae
<i>Rosa woodsii</i>	Wood's rose	Rowo	Rosaceae
<i>Rumex crispus</i>	curly dock	Rucr	Polygonaceae
<i>Rubus discolor</i>	Himalayan blackberry	Rudi	Rosaceae
<i>Ruppia maritima</i>	ditch grass	Ruma	Ruppiaceae
<i>Rumex salicifolius</i>	willow dock	Rusa	Polygonaceae
<i>Rumex venosus</i>	winged dock	Ruve	Polygonaceae

Genus Species	Common Name	Code	Family
<i>Salix amygdaloides</i>	peachleaf willow	Saam	Salicaceae
<i>Salix babylonica</i>	weeping willow	Saba	Salicaceae
<i>Salix bebbiana</i>	Bebb's willow	Sabe	Salicaceae
<i>Sambucus cerulea</i>	blue elderberry	Saca	Caprifoliaceae
<i>Sagittaria cuneata</i>	wapato	Sacu	Alismataceae
<i>Salix discolor</i>	Pussy willow	Sadi	Salicaceae
<i>Salvia dorrii</i>	grayball sage	Sado	Lamiaceae
<i>Salix exigua</i>	coyote willow	Saex	Salicaceae
<i>Salix fragilis</i>	crack willow	Safr	Salicaceae
<i>Saxifraga integrifolia</i>	swamp saxifrage	Sain	Saxifragaceae
<i>Salsola kali</i>	Russian thistle	Saka	Chenopodiaceae
<i>Salix lasiandra</i>	whiplash willow	Salad	Salicaceae
<i>Salix lasiolepis</i>	arroyo willow	Salal	Salicaceae
<i>Saponaria officinalis</i>	bouncingbet	Saof	Caryophyllaceae
<i>Saxifraga oregona</i>	bog saxifrage	Saor	Saxifragaceae
<i>Sagina procumbens</i>	procumbent pearlwort	Sapr	Caryophyllaceae
<i>Salix scouleriana</i>	Scouler's willow	Sasc	Salicaceae
<i>Sarcobatus vermiculatus</i>	greasewood	Save	Chenopodiaceae
<i>Scirpus acutus</i>	hardstem bulrush	Scac	Cyperaceae
<i>Scirpus americanus</i>	threesquare bulrush	Scam	Cyperaceae
<i>Sclerocloa dura</i>	hardgrass	Scdu	Poaceae
<i>Scrophularia lanceolata</i>	lanceleaf figwort	Scla	Scrophulariaceae
<i>Schoenocrambe linifolia</i>	lavacress	Scli	Brassicaceae
<i>Scirpus maritimus</i>	seacoast bulrush	Scma	Cyperaceae
<i>Scirpus microcarpus</i>	small-fruited bulrush	Scmi	Cyperaceae
<i>Scirpus validus</i>	softstem bulrush	Scva	Cyperaceae
<i>Secale cereale</i>	rye	Sece	Poaceae
<i>Senecio hydrophilus</i>	alkali-marsh groundsel	Sehy	Asteraceae
<i>Senecio integerrimus</i>	lambstongue groundsel	Sein	Asteraceae
<i>Sedum leibergii</i>	Leiberg's stonecrop	Sele	Crassulaceae
<i>Setaria lutescens</i>	bristly foxtail	Selu	Poaceae
<i>Senecio pauperculus</i>	balsam groundsel	Sepa	Asteraceae
<i>Senecio serra</i>	butterweed groundsel	Sese	Asteraceae
<i>Senecio vulgaris</i>	common groundsel	Sevu	Asteraceae
<i>Sisymbrium altissimum</i>	Jim Hill's tumbled mustard	Sial	Brassicaceae
<i>Silene douglasii</i>	Douglas' catchfly	Sido	Caryophyllaceae

Genus Species	Common Name	Code	Family
<i>Sitanion hystrix</i>	bottlebrush grass	Sihy	Poaceae
<i>Sisymbrium loeselii</i>	Loesel's tumbled mustard	Silo	Brassicaceae
<i>Silene menziesii</i>	Menzies' catchfly	Sime	Caryophyllaceae
<i>Smilacina stellata</i>	starflower	Smst	Liliaceae
<i>Sonchus asper</i>	prickly sowthistle	Soas	Asteraceae
<i>Solidago canadensis</i>	meadow goldenrod	Soca	Asteraceae
<i>Solanum dulcamara</i>	bittersweet	Sodu	Solanaceae
<i>Solidago gigantea</i>	smooth goldenrod	Sogi	Asteraceae
<i>Solidago graminifolia</i>	bushy goldenrod	Sogr	Asteraceae
<i>Solidago missouriensis</i>	Missouri goldenrod	Somi	Asteraceae
<i>Solanum nigrum</i>	black nightshade	Soni	Solanaceae
<i>Solidago occidentalis</i>	western goldenrod	Sooc	Asteraceae
<i>Sonchus oleraceus</i>	common sowthistle	Sool	Asteraceae
<i>Solanum sarrachoides</i>	hairy nightshade	Sosa	Solanaceae
<i>Solanum triflorum</i>	cutleaf nightshade	Sotr	Solanaceae
<i>Sonchus uliginosus</i>	marsh sowthistle	Soul	Asteraceae
<i>Spartina gracilis</i>	alkali cordgrass	Spagr	Poaceae
<i>Sphaeralcea ambigua</i>	apricot globemallow	Spam	Malvaceae
<i>Sporobolus cryptandrus</i>	sand dropseed	Spcr	Poaceae
<i>Sphaeralcea grossularifolia</i>	gooseberry-leaved globemallow	Sphgr	Malvaceae
<i>Spergularia marina</i>	saltmarsh sandspurry	Spma	Caryophyllaceae
<i>Sphaeralcea munroana</i>	Munro's globemallow	Spmu	Malvaceae
<i>Sphenopholis obtusata</i>	wedgegrass	Spob	Poaceae
<i>Spiranthes romanzoffiana</i>	ladies's tresses	Spro	Orchidaceae
<i>Stipa comata</i>	needle-and-thread grass	Stco	Poaceae
<i>Stellaria longipes</i>	longstalk starwort	Stlo	Caryophyllaceae
<i>Stellaria nitens</i>	shining starwort	Stni	Caryophyllaceae
<i>Stephanomeria paniculata</i>	stiff wirelettuce	Span	Asteraceae
<i>Stachys paustris</i>	swamp hedge-nettle	Stpau	Lamiaceae
<i>Streptanthella longirostris</i>	beaked sandcress	Strlo	Brassicaceae
<i>Stephanomeria tenuifolia</i>	bush wirelettuce	Stte	Asteraceae
<i>Stipa thurberiana</i>	Thurber's needlegrass	Stth	Poaceae
<i>Suaeda occidentalis</i>	slender seepweed	Suoc	Chenopodiaceae
<i>Swainsona salsula</i>	salt rattlepod	Swsa	Fabaceae
<i>Symphoricarpus oreophyllus</i>	mountain snowberry	Syal	Caprifoliaceae
<i>Symphoricarpus albus</i>	common snowberry	Syor	Caprifoliaceae

Genus Species	Common Name	Code	Family
<i>Syringa vulgaris</i>	lilac	Syvu	Oleaceae
<i>Taxus cuspidata</i>	Japanese yew	Tacu	Taxaceae
<i>Taraxacum officinale</i>	dandelion	Taof	Asteraceae
<i>Tamarix parviflora</i>	tamarisk	Tapr	Tamaricaceae
<i>Talinum spinescens</i>	spiny flameflower	Tasp	Portulacaceae
<i>Tetradymia canescens</i>	gray horsebrush	Teca	Asteraceae
<i>Thelypodium integrifolium</i>	entireleaved thelypody	Thin	Brassicaceae
<i>Thuja orientalis</i>	Oriental arborvitae	Thjoc	Cupressaceae
<i>Thelypodium laciniatum</i>	cutleaf ladysfoot mustard	Thla	Brassicaceae
<i>Thalictrum occidentale</i>	western meadowrue	Thloc	Ranunculaceae
<i>Tiquilia nuttallii</i>	desert mat	Tinu	Boraginaceae
<i>Townsendia florifer</i>	showy Townsend-daisy	Tofl	Asteraceae
<i>Toxicodendron rydbergii</i>	poison ivy	Tory	Anacardiaceae
<i>Triticum aestivum</i>	wheat	Trae	Poaceae
<i>Tragopogon dubius</i>	yellow salsify	Trdu	Asteraceae
<i>Trifolium macrocephalum</i>	bigheaded clover	Trfma	Fabaceae
<i>Trifolium fragiferum</i>	strawberry clover	Trfr	Fabaceae
<i>Triglochin maritimum</i>	seaside arrowgrass	Trgma	Juncaginaceae
<i>Triglochin palustre</i>	marsh arrowgrass	Trpa	Juncaginaceae
<i>Trifolium repens</i>	white clover	Trre	Fabaceae
<i>Tribulus terrestris</i>	puncture vine	Trte	Zygophyllaceae
<i>Typha angustifolia</i>	lesser cattail	Tyan	Typhaceae
<i>Typha latifolia</i>	common cattail	Tyla	Typhaceae
<i>Ulmus americana</i>	American elm	Ulam	Ulmaceae
<i>Ulmus pumila</i>	Siberian elm	Ulpu	Ulmaceae
<i>Urtica dioica</i>	stinging nettle	Urdu	Urticaceae
<i>Veronica americana</i>	brooklime	Veam	Scrophulariaceae
<i>Veronica anagallis-aquatica</i>	water speedwell	Veau	Scrophulariaceae
<i>Verbena bracteata</i>	bracted verbena	Vebr	Verbenaceae
<i>Verbena hastata</i>	blue verbena	Veha	Verbenaceae
<i>Veronica peregrina</i>	purslane speedwell	Vepe	Scrophulariaceae
<i>Verbascum thapsus</i>	common mullein	Veth	Scrophulariaceae
<i>Viola adunca</i>	early blue violet	Viad	Violaceae
<i>Vicia americana</i>	American vetch	Viam	Fabaceae
<i>Vicia cracca</i>	bird vetch	Vicr	Fabaceae
<i>Viola palustis</i>	marsh violet	Vipa	Violaceae

Genus Species	Common Name	Code	Family
<i>Viola sp.</i>	violet	Visp	Violaceae
<i>Viola trinervata</i>	sagebrush violet	Vitr	Violaceae
<i>Vicia villosa</i>	hairy vetch	Vivil	Fabaceae
<i>Vitis vinifera</i>	grape	Vivin	Vitaceae
<i>Woodsia oregona</i>	woodsia	Woor	Polypodiaceae (Dryopteriaceae)
<i>Xanthium strumarium</i>	cocklebur	Xast	Asteraceae
<i>Yucca filamentosa</i>	Adam's needle	Yufi	Liliaceae
<i>Yucca glauca</i>	soapweed	Yugl	Liliaceae
<i>Zannichellia palustris</i>	horned pondweed	Zapa	Zannichelliaceae
<i>Zigadenus paniculatus</i>	foothill deathcamas	Zipa	Liliaceae
<i>Zigadenus venenosus</i>	meadow deathcamas	Zive	Liliaceae

Appendix B

Alphabetical Listing By Family

Appendix B

Alphabetical Listing By Family

Family	Genus Species	Common Name	Code
Aceraceae	<i>Acer saccharinum</i>	silver maple	Acsa
Alismataceae	<i>Alisma graminium</i>	narrow-leaf waterplantain	Algr
Alismataceae	<i>Sagittaria cuneata</i>	wapato	Sacu
Amaranthaceae	<i>Amaranthus albus</i>	white pigweed	Amalb
Amaranthaceae	<i>Amaranthus blitoides</i>	prostrate pigweed	Ambl
Anacardiaceae	<i>Rhus glabra</i>	smooth sumac	Rhgl
Anacardiaceae	<i>Toxicodendron rydbergii</i>	poison ivy	Tory
Apiaceae	<i>Anthriscus scandicina</i>	bur chervil	Ansc
Apiaceae	<i>Berula erecta</i>	cut-leaf water parsnip	Beer
Apiaceae	<i>Cicuta douglasii</i>	western water hemlock	Cido
Apiaceae	<i>Cymopterus terebithinus</i>	turpentine springparsley	Cyte
Apiaceae	<i>Daucus carota</i>	Queen Anne's lace	Daca
Apiaceae	<i>Lilaeopsis occidentalis</i>	lilaeopsis	Lioc
Apiaceae	<i>Lomatium canbyi</i>	Canby's desertparsley	Loca
Apiaceae	<i>Lomatium dissectum</i>	fernleaf desertparsley	Lodi
Apiaceae	<i>Lomatium farinosum</i>	Coeur d'Alene desertparsley	Lofa
Apiaceae	<i>Lomatium geyeri</i>	Geyer's desertparsley	Loge
Apiaceae	<i>Lomatium gormanii</i>	Gorman's desertparsley	Logo
Apiaceae	<i>Lomatium grayi</i>	Gray's desertparsley	Logr
Apiaceae	<i>Lomatium macrocarpum</i>	bigseed desertparsley	Loma
Apiaceae	<i>Lomatium triternatum</i>	nineleaf desertparsley	Lotr
Apiaceae	<i>Lomatium tuberosum</i>	Hoover's desertparsley	Lotu
Apiaceae	<i>Perideridia gairdneri</i>	Gairdner's yampah	Pega
Apocynaceae	<i>Apocynum cannabinum</i>	common dogbane	Apcn
Apocynaceae	<i>Apocynum sibiricum</i>	Indian hemp	Apsi
Asclepiadaceae	<i>Asclepias fascicularis</i>	narrow-leaved milkweed	Asfa
Asclepiadaceae	<i>Asclepias speciosa</i>	showy milkweed	Assp
Asteraceae	<i>Achillea millefolium</i>	yarrow	Acmi
Asteraceae	<i>Agoseris glauca</i>	pale mountain dandelion	Aggl
Asteraceae	<i>Agoseris grandiflora</i>	showy mountain dandelion	Aggr

Family	Genus Species	Common Name	Code
Asteraceae	<i>Agoseris heterophylla</i>	annual mountain dandelion	Aghe
Asteraceae	<i>Ambrosia acanthicarpa</i>	bur ragweed	Amac
Asteraceae	<i>Anaphalis margaritacea</i>	pearly everlasting	Anma
Asteraceae	<i>Antennaria dimorpha</i>	low pussytoes	Andi
Asteraceae	<i>Antennaria microphylla</i>	rosy pussytoes	Anmi
Asteraceae	<i>Antennaria umbrinella</i>	umber pussytoes	Anum
Asteraceae	<i>Arctium minus</i>	burdock	Armi
Asteraceae	<i>Arnica sororia</i>	twin arnica	Arso
Asteraceae	<i>Artemisia campestris</i>	Pacific sagebrush	Arca
Asteraceae	<i>Artemisia douglasiana</i>	Douglas' sagebrush	Ardo
Asteraceae	<i>Artemisia dracunculus</i>	tarragon	Arcr
Asteraceae	<i>Artemisia lindleyana</i>	Columbia River mugwort	Arli
Asteraceae	<i>Artemisia ludoviciana</i>	prairie sagebrush	Arlu
Asteraceae	<i>Artemisia rigida</i>	stiff sagebrush	Arri
Asteraceae	<i>Artemisia tridentata</i>	big sagebrush	Artr
Asteraceae	<i>Artemisia tripartita</i>	threetip sagebrush	Artrp
Asteraceae	<i>Aster campestris</i>	western meadow aster	Ascam
Asteraceae	<i>Aster frondosus</i>	alkali aster	Asfr
Asteraceae	<i>Aster hesperius</i>	western marsh aster	Ashe
Asteraceae	<i>Aster occidentalis</i>	western mountain aster	Asoc
Asteraceae	<i>Aster pansus</i>	heath-leaved aster	Aspa
Asteraceae	<i>Aster subspicatus</i>	Douglas' aster	Assub
Asteraceae	<i>Balsamorhiza careyana</i>	Carey's balsamroot	Baca
Asteraceae	<i>Balsamorhiza hookeri</i>	Hooker's balsamroot	Baho
Asteraceae	<i>Balsamorhiza rosea</i>	rosy balsamroot	Baro
Asteraceae	<i>Bidens cernua</i>	nodding beggarticks	Bice
Asteraceae	<i>Bidens frondosa</i>	leafy beggarticks	Bifr
Asteraceae	<i>Brickellia oblongifolia</i>	thoroughwort	Brob
Asteraceae	<i>Centaurea diffusa</i>	tumble knapweed	Cedi
Asteraceae	<i>Centaurea maculosa</i>	spotted knapweed	Cema
Asteraceae	<i>Centaurea repens</i>	Russian knapweed	Cere
Asteraceae	<i>Centaurea solstitialis</i>	yellow starthistle	Ceso
Asteraceae	<i>Chaenactis douglasii</i>	hoary falseyarrow	Chdo
Asteraceae	<i>Chondrilla juncea</i>	rush skeletonweed	Chju
Asteraceae	<i>Chrysothamnus nauseosus</i>	gray rabbitbrush	Chna
Asteraceae	<i>Chrysothamnus viscidiflorus</i>	green rabbitbrush	Chvi

Family	Genus Species	Common Name	Code
Asteraceae	<i>Cichorium intybus</i>	chicory	Ciin
Asteraceae	<i>Cirsium arvense</i>	Canada thistle	Ciar
Asteraceae	<i>Cirsium undulatum</i>	wavyleaved thistle	ciun
Asteraceae	<i>Cirsium vulgare</i>	bull thistle	Civu
Asteraceae	<i>Conyza canadensis</i>	horseweed	Coca
Asteraceae	<i>Coreopsis atkinsoniana</i>	Columbia tickseed	Coat
Asteraceae	<i>Crepis atribarba</i>	slender hawksbeard	Crat
Asteraceae	<i>Crepis barbiger</i>	Leiberg's hawksbeard	Crba
Asteraceae	<i>Crepis intermedia</i>	Gray's hawksbeard	Crpin
Asteraceae	<i>Crepis modocensis</i>	low hawksbeard	Crmo
Asteraceae	<i>Crepis occidentalis</i>	western hawksbeard	Croc
Asteraceae	<i>Crepis runcinata</i>	dandelion hawksbeard	Crru
Asteraceae	<i>Crocidium multicaule</i>	spring gold	Crmu
Asteraceae	<i>Eatonella nivea</i>	white eatonella	Eani
Asteraceae	<i>Erigeron annuus</i>	daisy fleabane	Eran
Asteraceae	<i>Erigeron corymbosus</i>	longleaf fleabane	Ercor
Asteraceae	<i>Erigeron divergens</i>	diffuse fleabane	Erdi
Asteraceae	<i>Erigeron filifolius</i>	threadleaf fleabane	Erfi
Asteraceae	<i>Erigeron linearis</i>	desert yellowdaisy	Erli
Asteraceae	<i>Erigeron piperianus</i>	Piper's daisy	Erpi
Asteraceae	<i>Erigeron poliospermus</i>	cushion fleabane	Erpo
Asteraceae	<i>Erigeron pumilis</i>	shaggy fleabane	Erpu
Asteraceae	<i>Eriophyllum lanatum</i>	woolly sunflower	Erla
Asteraceae	<i>Filago arvensis</i>	field fluffweed	Fiar
Asteraceae	<i>Gaillardia aristata</i>	blanket flower	Gaar
Asteraceae	<i>Gaillardia X grandiflora</i>	Indian blanket flower	Gagr
Asteraceae	<i>Gnaphalium chilense</i>	cottonbatting cudweed	Gnch
Asteraceae	<i>Gnaphalium microcephalum</i>	slender cudweed	Gnmi
Asteraceae	<i>Gnaphalium palustre</i>	lowland cudweed	Gnpa
Asteraceae	<i>Grindelia columbiana</i>	Columbia River gumweed	Grco
Asteraceae	<i>Haplopappus resinus</i>	Columbia goldenweed	Hare
Asteraceae	<i>Haplopappus stenophylla</i>	narrowleaf goldenweed	Hast
Asteraceae	<i>Helenium autumnale</i>	sneezeweed	Heau
Asteraceae	<i>Helianthus annuus</i>	common sunflower	Hean
Asteraceae	<i>Helianthus cusickii</i>	Cusick's sunflower	Hecus
Asteraceae	<i>Heterotheca villosa</i>	hairy golden-aster	Hevi

Family	Genus Species	Common Name	Code
Asteraceae	<i>Hieracium cynoglossoides</i>	houndstongue hawkweed	Hicy
Asteraceae	<i>Hymenopappus filiolius</i>	Columbia cutleaf	Hyfi
Asteraceae	<i>Iva axillaris</i>	Povertyweed	Ivax
Asteraceae	<i>Iva xanthifolia</i>	sumpweed	Ivxa
Asteraceae	<i>Lactuca serriola</i>	prickly lettuce	Lase
Asteraceae	<i>Lagophylla ramosissima</i>	rabbitleaf	Lara
Asteraceae	<i>Layia glandulosa</i>	white-daisy tidytips	Lagl
Asteraceae	<i>Machaeranthera canescens</i>	hoary aster	Maca
Asteraceae	<i>Madia exigua</i>	little tarweed	Maex
Asteraceae	<i>Matricaria chamomilla</i>	wild chamomile	Mach
Asteraceae	<i>Matricaria matricarioides</i>	pineapple weed	Mama
Asteraceae	<i>Microseris troximoides</i>	false mountain dandelion	Mitr
Asteraceae	<i>Onopordum acanthium</i>	Scotch thistle	Onac
Asteraceae	<i>Senecio hydrophilus</i>	alkali-marsh groundsel	Sehy
Asteraceae	<i>Senecio integerrimus</i>	lambstongue groundsel	Sein
Asteraceae	<i>Senecio pauperculus</i>	balsam groundsel	Sepa
Asteraceae	<i>Senecio serra</i>	butterweed groundsel	Sese
Asteraceae	<i>Senecio vulgaris</i>	common groundsel	Sevu
Asteraceae	<i>Solidago canadensis</i>	meadow goldenrod	Soca
Asteraceae	<i>Solidago gigantea</i>	smooth goldenrod	Sogi
Asteraceae	<i>Solidago graminifolia</i>	bushy goldenrod	Sogr
Asteraceae	<i>Solidago missouriensis</i>	Missouri goldenrod	Somi
Asteraceae	<i>Solidago occidentalis</i>	western goldenrod	Sooc
Asteraceae	<i>Sonchus asper</i>	prickly sowthistle	Soas
Asteraceae	<i>Sonchus oleraceus</i>	common sowthistle	Sool
Asteraceae	<i>Sonchus uliginosus</i>	marsh sowthistle	Soul
Asteraceae	<i>Stephanomeria paniculata</i>	stiff wirelettuce	Stpan
Asteraceae	<i>Stephanomeria tenuifolia</i>	bush wirelettuce	Stte
Asteraceae	<i>Taraxacum officinale</i>	dandelion	Taof
Asteraceae	<i>Tetradymia canescens</i>	gray horsebrush	Teca
Asteraceae	<i>Townsendia florifer</i>	showy Townsend-daisy	Tofl
Asteraceae	<i>Tragopogon dubius</i>	yellow salsify	Trdu
Asteraceae	<i>Xanthium strumarium</i>	cocklebur	Xast
Betulaceae	<i>Betula occidentalis</i>	red birch	Beoc
Bignoniaceae	<i>Catalpa bignonioides</i>	catalpa	Cabi
Boraginaceae	<i>Amsinckia intermedia</i>	rancher's fiddleneck	Amin

Family	Genus Species	Common Name	Code
Boraginaceae	<i>Amsinckia lycopsoides</i>	fiddleneck	Amly
Boraginaceae	<i>Amsinckia retrorsa</i>	rigid fiddleneck	Amre
Boraginaceae	<i>Amsinckia tessellata</i>	devil's lettuce	Amte
Boraginaceae	<i>Asperugo procumbens</i>	catchweed	Aspr
Boraginaceae	<i>Cryptantha ambigua</i>	obscure cryptantha	Cram
Boraginaceae	<i>Cryptantha circumscissa</i>	matted cryptantha	Crci
Boraginaceae	<i>Cryptantha fendleri</i>	Fendler's cryptantha	Crfe
Boraginaceae	<i>Cryptantha flaccida</i>	weak-stemmed cryptantha	Crfl
Boraginaceae	<i>Cryptantha interrupta</i>	bristly cryptantha	Cryin
Boraginaceae	<i>Cryptantha leucophaea</i>	gray cryptantha	Crle
Boraginaceae	<i>Cryptantha pterocarya</i>	winged cryptantha	Crpt
Boraginaceae	<i>Cryptantha scoparia</i>	desert cryptantha	Crsc
Boraginaceae	<i>Cryptantha spiculifera</i>	Snake River cryptantha	Crsp
Boraginaceae	<i>Cryptantha torreyana</i>	Torrey's cryptantha	Crto
Boraginaceae	<i>Hackelia arida</i>	sagebrush stickseed	Haar
Boraginaceae	<i>Hackelia diffusa</i>	diffuse stickseed	Hadi
Boraginaceae	<i>Heliotropium curassavicum</i>	salt heliotrope	Hecur
Boraginaceae	<i>Lappula redowskii</i>	western stickseed	Lare
Boraginaceae	<i>Lithospermum arvense</i>	corn gromwell	Litar
Boraginaceae	<i>Lithospermum ruderale</i>	western gromwell	Liru
Boraginaceae	<i>Mertensia longiflora</i>	small bluebells	Melo
Boraginaceae	<i>Mertensia oblongifolia</i>	leafy bluebells	Meob
Boraginaceae	<i>Myosotis laxa</i>	small forget-me-not	Myla
Boraginaceae	<i>Myosotis micrantha</i>	blue forget-me-not	Mymi
Boraginaceae	<i>Pectocarya linearis</i>	winged combseed	Peli
Boraginaceae	<i>Pectocarya setosa</i>	bristly combseed	Pese
Boraginaceae	<i>Plagiobothrys tenellus</i>	Pacific popcornflower	Plte
Boraginaceae	<i>Tiquilia nuttallii</i>	desert mat	Tinu
Brassicaceae	<i>Arabidopsis thaliana</i>	common wallcress	Arth
Brassicaceae	<i>Arabis cusickii</i>	Cusick's rockcress	Arcu
Brassicaceae	<i>Arabis sparsiflora</i>	elegant rockcress	Arsp
Brassicaceae	<i>Camelina microcarpa</i>	littlepod falseflax	Camic
Brassicaceae	<i>Capsella bursa-pastoris</i>	shepherd's purse	Cabu
Brassicaceae	<i>Cardamine oligosperma</i>	little western bittercress	Caol
Brassicaceae	<i>Cardamine pensylvanica</i>	Pennsylvania bittercress	Cape
Brassicaceae	<i>Cardaria chalapensis</i>	hoarycress	Cach

Family	Genus Species	Common Name	Code
Brassicaceae	<i>Cardaria draba</i>	whitetop	Cadr
Brassicaceae	<i>Cardaria pubescens</i>	globepodded hoarycress	Capu
Brassicaceae	<i>Chorispora tenella</i>	blue mustard	Chte
Brassicaceae	<i>Descurainia pinnata</i>	western tansymustard	Depi
Brassicaceae	<i>Descurainia richardsonii</i>	Richardson's tansymustard	Deri
Brassicaceae	<i>Descurainia sophia</i>	flixweed	Deso
Brassicaceae	<i>Draba nemorosa</i>	woods whitlowgrass	Drne
Brassicaceae	<i>Draba verna</i>	spring whitlowgrass	Drve
Brassicaceae	<i>Erucastrum gallicum</i>	dog mustard	Erga
Brassicaceae	<i>Erysimum asperum</i>	rough wallflower	Eras
Brassicaceae	<i>Erysimum occidentale</i>	pale wallflower	Eroc
Brassicaceae	<i>Hutchinsia procumbens</i>	hutchinsia	Hupr
Brassicaceae	<i>Idahoia scapigera</i>	scalepod	Idsc
Brassicaceae	<i>Lepidium densiflorum</i>	prairie pepperweed	Lede
Brassicaceae	<i>Lepidium dictyotum</i>	veiny peppergrass	Ledi
Brassicaceae	<i>Lepidium latifolium</i>	broadleaf pepperweed	Lela
Brassicaceae	<i>Lepidium perfoliatum</i>	clasping pepperweed	Lepe
Brassicaceae	<i>Lepidium virginicum</i>	tall pepperweed	Levi
Brassicaceae	<i>Lesquerella douglasii</i>	Columbia bladderpod	Ledo
Brassicaceae	<i>Lesquerella tuplashensis</i>	White Bluffs bladderpod	Letu
Brassicaceae	<i>Malcolmia africana</i>	malcolmia	Maaf
Brassicaceae	<i>Phoenicaulis cheiranthoides</i>	daggerpod	Phch
Brassicaceae	<i>Raphanus sativus</i>	wild radish	Rasa
Brassicaceae	<i>Rorippa columbiae</i>	Columbia yellowcress	Roco
Brassicaceae	<i>Rorippa curvisiliqua</i>	western yellowcress	Rocu
Brassicaceae	<i>Rorippa islandica</i>	marsh yellowcress	Rois
Brassicaceae	<i>Rorippa nasturium-aquatica</i>	watercress	Rona
Brassicaceae	<i>Rorippa obtusa</i>	bluntleaf yellowcress	Roob
Brassicaceae	<i>Schoenrambe linifolia</i>	lavacress	Scli
Brassicaceae	<i>Sisymbrium altissimum</i>	Jim Hill's tumbledustard	Sial
Brassicaceae	<i>Sisymbrium loeselii</i>	Loesel's tumbledustard	Silo
Brassicaceae	<i>Streptanthella longirostris</i>	beaked sandcress	Strlo
Brassicaceae	<i>Thelypodium integrifolium</i>	entireleaved thelypod	Thin
Brassicaceae	<i>Thelypodium laciniatum</i>	cutleaf ladysfoot mustard	Thla
Cactaceae	<i>Opuntia erinacea</i>	prickly pear	Oper
Cactaceae	<i>Opuntia fragilis</i>	brittle pricklypear	Opfr

Family	Genus Species	Common Name	Code
Cactaceae	<i>Opuntia polyacantha</i>	starvation pricklypear	Oppo
Cactaceae	<i>Pediocactus simpsonii</i>	hedgehog cactus	Pesi
Callitrichaceae	<i>Callitriche palustris</i>	water starwort	Capa
Cannabinaceae	<i>Cannabis sativa</i>	hemp	Casa
Capparidaceae	<i>Cleome lutea</i>	yellow bee-plant	Clu
Caprifoliaceae	<i>Sambucus cerulea</i>	blue elderberry	Saca
Caprifoliaceae	<i>Symphoricarpus albus</i>	common snowberry	Syor
Caprifoliaceae	<i>Symphoricarpus oreophyllus</i>	mountain snowberry	Syal
Caryophyllaceae	<i>Arenaria franklinii</i>	Franklin's sandwort	Arfr
Caryophyllaceae	<i>Arenaria pussila</i>	dwarf sandwort	Arpu
Caryophyllaceae	<i>Cerastium nutans</i>	nodding chickweed	Cenu
Caryophyllaceae	<i>Cerastium viscosum</i>	sticky chickweed	Cevi
Caryophyllaceae	<i>Cerastium vulgatum</i>	common chickweed	Cevu
Caryophyllaceae	<i>Dianthus armeria</i>	grass pink	Diar
Caryophyllaceae	<i>Gypsophila paniculata</i>	baby's breath	Gypa
Caryophyllaceae	<i>Holosteum umbellatum</i>	jagged chickweed	Houm
Caryophyllaceae	<i>Loeflingia squarrosa</i> var. <i>squarrosa</i>	loeflingia	Losq
Caryophyllaceae	<i>Sagina procumbens</i>	procumbent pearlwort	Sapr
Caryophyllaceae	<i>Saponaria officinalis</i>	bouncingbet	Saof
Caryophyllaceae	<i>Silene douglasii</i>	Douglas' catchfly	Sido
Caryophyllaceae	<i>Silene menziesii</i>	Menzies' catchfly	Sime
Caryophyllaceae	<i>Spergularia marina</i>	saltmarsh sandspurry	Spma
Caryophyllaceae	<i>Stellaria longipes</i>	longstalk starwort	Stlo
Caryophyllaceae	<i>Stellaria nitens</i>	shining starwort	Stni
Ceratophyllaceae	<i>Ceratophyllum demersum</i>	coontail	Cede
Chenopodiaceae	<i>Atriplex nuttallii</i> var. <i>fulcata</i>	saltsage	Atnu
Chenopodiaceae	<i>Atriplex patula</i>	fat-hen saltbush	Atpa
Chenopodiaceae	<i>Atriplex rosea</i>	tumble saltbush	Atro
Chenopodiaceae	<i>Atriplex truncata</i>	wedgescale orache	Attr
Chenopodiaceae	<i>Bassia hyssopifolia</i>	smotherweed	Bahy
Chenopodiaceae	<i>Ceratoides lanata</i>	winterfat	Cela
Chenopodiaceae	<i>Chenopodium album</i>	lamb's quarters	Chal
Chenopodiaceae	<i>Chenopodium botrys</i>	Jerusalem oak	Chbo
Chenopodiaceae	<i>Chenopodium leptophyllum</i>	slimleaf goosefoot	Chle
Chenopodiaceae	<i>Chenopodium rubrum</i>	red goosefoot	Chru
Chenopodiaceae	<i>Corispermum hyssopifolium</i>	common bugseed	Cohy

Family	Genus Species	Common Name	Code
Chenopodiaceae	<i>Grayia spinosa</i>	spiny hopsage	Grsp
Chenopodiaceae	<i>Kochia scoparia</i>	summer cypress	Kosc
Chenopodiaceae	<i>Salsola kali</i>	Russian thistle	Saka
Chenopodiaceae	<i>Sarcobatus vermiculatus</i>	greasewood	Save
Chenopodiaceae	<i>Suaeda occidentalis</i>	slender seepweed	Suoc
Convolvulaceae	<i>Convolvulus arvensis</i>	field bindweed	Coar
Cornaceae	<i>Cornus stolonifera</i>	red-osier dogwood	Cost
Crassulaceae	<i>Crassula aquatica</i>	pigmy-weed	Craq
Crassulaceae	<i>Sedum leibergii</i>	Leiberg's stonecrop	Sele
Cucurbitaceae	<i>Echinocystis lobata</i>	wild cucumber	Eclo
Cupressaceae	<i>Juniperus occidentalis</i>	western juniper	Juoc
Cupressaceae	<i>Juniperus scopulorum</i>	Rocky Mountain juniper	Jusc
Cupressaceae	<i>Thuja orientalis</i>	Oriental arborvitae	Thjoc
Cuscutaceae	<i>Cuscuta denticulata</i>	desert dodder	Cude
Cuscutaceae	<i>Cuscuta epithymum</i>	common dodder	Cuep
Cuscutaceae	<i>Cuscuta indecora</i>	plain dodder	Cuin
Cuscutaceae	<i>Cuscuta pentagona var. calycina</i>	field dodder	Cupe
Cyperaceae	<i>Carex amplifolia</i>	big-leaf sedge	Caam
Cyperaceae	<i>Carex aperta</i>	Columbia sedge	Caap
Cyperaceae	<i>Carex aquatilis</i>	water sedge	Caaq
Cyperaceae	<i>Carex athrostachya</i>	slenderbeak sedge	Caat
Cyperaceae	<i>Carex aurea</i>	golden sledge	Caau
Cyperaceae	<i>Carex brevior</i>	short-beaked sedge	Cabr
Cyperaceae	<i>Carex diandra</i>	lesser paniced sedge	Cadi
Cyperaceae	<i>Carex douglasii</i>	Douglas' sedge	Cado
Cyperaceae	<i>Carex filifolia</i>	threadleaf sedge	Cafi
Cyperaceae	<i>Carex hystricina</i>	porcupine sedge	Cahy
Cyperaceae	<i>Carex lanuginosa</i>	woolly sedge	Cala
Cyperaceae	<i>Carex lenticularis</i>	Kellogg's sedge	Cale
Cyperaceae	<i>Carex microptera</i>	smallwinged sedge	Cami
Cyperaceae	<i>Carex praeegracilis</i>	clustered field sedge	Capr
Cyperaceae	<i>Carex siccata</i>	silvertop sedge	Casi
Cyperaceae	<i>Carex vulpenoidea</i>	fox sedge	Cavu
Cyperaceae	<i>Cyperus aristatus</i>	awned flatsedge	Cyar
Cyperaceae	<i>Cyperus erythrorhizos</i>	redroot flatsedge	Cyer
Cyperaceae	<i>Cyperus esculentus</i>	yellow flatsedge	Cyes

Family	Genus Species	Common Name	Code
Cyperaceae	<i>Cyperus rivularis</i>	shining flatsedge	Cyri
Cyperaceae	<i>Cyperus strigosus</i>	straw-colored flatsedge	Cyst
Cyperaceae	<i>Eleocharis acicularis</i>	needle spikerush	Elac
Cyperaceae	<i>Eleocharis ovata</i>	ovoid spikerush	Elov
Cyperaceae	<i>Eleocharis palustis</i>	common spikerush	Elpa
Cyperaceae	<i>Eleocharis rostellata</i>	beaked spikerush	Elro
Cyperaceae	<i>Eriophorum gracile</i>	slender cottongrass	Ergr
Cyperaceae	<i>Lipocarpa aristulata</i>	aristulate lipocarpa	Lipar
Cyperaceae	<i>Scirpus acutus</i>	hardstem bulrush	Scac
Cyperaceae	<i>Scirpus americanus</i>	threesquare bulrush	Scam
Cyperaceae	<i>Scirpus maritimus</i>	seacoast bulrush	Scma
Cyperaceae	<i>Scirpus microcarpus</i>	small-fruited bulrush	Scmi
Cyperaceae	<i>Scirpus validus</i>	softstem bulrush	Scva
Dipsicaceae	<i>Dipsicus sylvestris</i>	teasel	Disy
Elaeagnaceae	<i>Elaeagnus angustifolia</i>	Russian olive	Elan
Equisetaceae	<i>Equisetum arvense</i>	common horsetail	Eqar
Equisetaceae	<i>Equisetum hyemale</i>	Dutch scouringrush	Eqhy
Equisetaceae	<i>Equisetum laevigatum</i>	smooth scouringrush	Eqla
Equisetaceae	<i>Equisetum palustre</i>	marsh horsetail	Eqpa
Equisetaceae	<i>Equisetum variegatum</i>	northern scouringrush	Eqva
Euphorbiaceae	<i>Eremocarpus setigerus</i>	doveweed	Erse
Euphorbiaceae	<i>Euphorbia esula</i>	leafy spurge	Eues
Euphorbiaceae	<i>Euphorbia glyptosperma</i>	corrugate-seed spurge	Eugl
Euphorbiaceae	<i>Euphorbia serpyllifolia</i>	thymeleaf spurge	Euse
Euphorbiaceae	<i>Euphorbia supina</i>	milk spurge	Eusu
Fabaceae	<i>Alhagi maurorum</i>	camelthorn	Alps
Fabaceae	<i>Astragalus carcinus</i>	buckwheat milkvetch	Ascar
Fabaceae	<i>Astragalus columbianus</i>	Columbia milkvetch	Ascol
Fabaceae	<i>Astragalus conjunctus var. rickardii</i>	Dr. Bill's locoweed	Ascon
Fabaceae	<i>Astragalus geyeri</i>	Geyer's milkvetch	Asge
Fabaceae	<i>Astragalus lentiginosus</i>	freckled milkvetch	Aslen
Fabaceae	<i>Astragalus purshii</i>	woolly-pod milkvetch	Aspu
Fabaceae	<i>Astragalus reventiformis</i>	Yakima milkvetch	Asre
Fabaceae	<i>Astragalus sclerocarpus</i>	stalked-pod milkvetch	Assc
Fabaceae	<i>Astragalus spaldingii</i>	Spalding's milkvetch	Asspa
Fabaceae	<i>Astragalus speirocarpus</i>	medick milkvetch	Asspe

Family	Genus Species	Common Name	Code
Fabaceae	<i>Astragalus succumbens</i>	crouching milkvetch	Assuc
Fabaceae	<i>Caragana arborescens</i>	Siberian peatree	Caar
Fabaceae	<i>Gleditsia triacanthos</i>	honey locust	Gltr
Fabaceae	<i>Glycyrrhiza lepidota</i>	licorice	Glle
Fabaceae	<i>Lotus purshiana</i>	Spanish clover	Lopu
Fabaceae	<i>Lupinus laxiflorus</i>	spurred lupine	Lula
Fabaceae	<i>Lupinus lepidus</i>	prairie lupine	Lulep
Fabaceae	<i>Lupinus leucophyllus</i>	velvet lupine	Luleu
Fabaceae	<i>Lupinus pusillus</i>	low lupine	Lupu
Fabaceae	<i>Lupinus saxosus</i>	rock lupine	Lusa
Fabaceae	<i>Lupinus sericeus</i>	silky lupine	Luse
Fabaceae	<i>Lupinus sulphureus</i>	sulfur lupine	Lusu
Fabaceae	<i>Lupinus wyethii</i>	Wyeth's lupine	Luwy
Fabaceae	<i>Medicago lupulina</i>	black medick	Melu
Fabaceae	<i>Medicago sativa</i>	alfalfa	Mesa
Fabaceae	<i>Melilotus alba</i>	white sweetclover	Meal
Fabaceae	<i>Melilotus officinalis</i>	yellow sweetclover	Meof
Fabaceae	<i>Onobrychis viciaefolia</i>	holyclover	Onvi
Fabaceae	<i>Petalostemon ornatum</i>	western prairieclover	Peor
Fabaceae	<i>Psoralea lanceolata</i>	dune scurfpea	Pcla
Fabaceae	<i>Robinia psuedo-acacia</i>	black locust	Rops
Fabaceae	<i>Swainsona salsula</i>	salt rattlepod	Swsa
Fabaceae	<i>Trifolium fragiferum</i>	strawberry clover	Trfr
Fabaceae	<i>Trifolium macrocephalum</i>	bigheaded clover	Trfma
Fabaceae	<i>Trifolium repens</i>	white clover	Trre
Fabaceae	<i>Vicia americana</i>	American vetch	Viam
Fabaceae	<i>Vicia cracca</i>	bird vetch	Vicr
Fabaceae	<i>Vicia villosa</i>	hairy vetch	Vivil
Fagaceae	<i>Juglans nigra</i>	black walnut	Juni
Fagaceae	<i>Quercus sp.</i>	oak	Quer.
Gentianaceae	<i>Centaurium exaltatum</i>	western centaury	Ceex
Geraniaceae	<i>Erodium cicutarium</i>	storksbill	Erci
Geraniaceae	<i>Geranium viscosissimum</i>	sticky geranium	Gevi
Grossulariaceae	<i>Ribes aureum</i>	golden currant	Riau
Grossulariaceae	<i>Ribes cereum</i>	squaw currant	Rice
Haloragaceae	<i>Myriophyllum spicatum</i>	spiked water-milfoil	Mysp

Family	Genus Species	Common Name	Code
Hydrangeaceae	<i>Philadelphus lewisii</i>	mockorange	Phle
Hydrocharitaceae	<i>Elodea canadensis</i>	Canadian waterweed	Elca
Hydrocharitaceae	<i>Elodea nuttallii</i>	Nuttall's waterweed	Elnu
Hydrophyllaceae	<i>Hydrophyllum capitatum</i>	Ballhead waterleaf	Hyca
Hydrophyllaceae	<i>Nama densum</i>	purplemat	Nade
Hydrophyllaceae	<i>Phacelia glandulifera</i>	sticky scorpionweed	Phgl
Hydrophyllaceae	<i>Phacelia hastata</i>	whiteleaf scorpionweed	Phha
Hydrophyllaceae	<i>Phacelia heterophylla</i>	virgate scorpionweed	Phhe
Hydrophyllaceae	<i>Phacelia linearis</i>	threadleaf scorpionweed	Phli
Hydrophyllaceae	<i>Phacelia ramosissima</i>	basalt scorpionweed	Phra
Hypericaceae (Clusiaceae)	<i>Hypericum formosum</i>	western St. John's-Wort	Hyfo
Hypericaceae (Clusiaceae)	<i>Hypericum majus</i>	Canadian St. John's-Wort	Hyma
Hypericaceae (Clusiaceae)	<i>Hypericum perforatum</i>	Klamath weed	Hype
Iridaceae	<i>Iris missouriensis</i>	western blue flag	Irm
Iridaceae	<i>Iris psuedacorus</i>	yellow flag	Irps
Juncaceae	<i>Juncus articulatus</i>	jointed rush	Juar
Juncaceae	<i>Juncus balticus</i>	Baltic rush	Juba
Juncaceae	<i>Juncus bufonius</i>	toad rush	Jubu
Juncaceae	<i>Juncus ensifolius</i>	dagger-leaf rush	Juen
Juncaceae	<i>Juncus mertensianus</i>	Merten's rush	Jume
Juncaceae	<i>Juncus nevadensis</i>	Sierra rush	June
Juncaceae	<i>Juncus nodosus</i>	tuberous rush	Juno
Juncaceae	<i>Juncus regelii</i>	Regel's rush	Jure
Juncaceae	<i>Juncus tenuis</i>	slender rush	Jute
Juncaceae	<i>Juncus torreyi</i>	Torrey's rush	Juto
Juncaginaceae	<i>Triglochin maritimum</i>	seaside arrowgrass	Trgma
Juncaginaceae	<i>Triglochin palustre</i>	marsh arrowgrass	Trpa
Lamiaceae	<i>Agastache occidentalis</i>	western horsemint	Agoc
Lamiaceae	<i>Glechoma heteracea</i>	field balm	Glhe
Lamiaceae	<i>Lycopus americanus</i>	cut-leaf bugleweed	Lyam
Lamiaceae	<i>Lycopus asper</i>	rough bugleweed	Lyas
Lamiaceae	<i>Marrubium vulgare</i>	horehound	Mavu
Lamiaceae	<i>Mentha arvensis</i>	field mint	Mear
Lamiaceae	<i>Mentha piperita</i>	peppermint	Mepi
Lamiaceae	<i>Mentha spicata</i>	spearmint	Mensp
Lamiaceae	<i>Monardella odoratissima</i>	coyote mint	Mood

Family	Genus Species	Common Name	Code
Lamiaceae	<i>Nepeta cataria</i>	catnip	Neca
Lamiaceae	<i>Physostegia parviflora</i>	purple dragonhead	Phypr
Lamiaceae	<i>Prunella vulgaris</i>	selfheal	Prvu
Lamiaceae	<i>Salvia dorrii</i>	grayball sage	Sado
Lamiaceae	<i>Stachys paustris</i>	swamp hedge-nettle	Stpau
Lemnaceae	<i>Lemna minor</i>	duckweed	Lemi
Liliaceae	<i>Allium acuminatum</i>	Hooker's onion	Alac
Liliaceae	<i>Allium cernuum</i>	nodding onion	Alce
Liliaceae	<i>Allium douglasii</i>	Douglas' onion	Aldo
Liliaceae	<i>Allium macrum</i>	rock onion	Alma
Liliaceae	<i>Allium robinsonii</i>	Robinson's onion	Alro
Liliaceae	<i>Allium schoenoprasum</i>	chives	Alsh
Liliaceae	<i>Allium scillioides</i>	squill onion	Alsl
Liliaceae	<i>Asparagus officinalis</i>	asparagus	Asof
Liliaceae	<i>Brodiaea douglasii</i>	Douglas' clusterlily	Brdo
Liliaceae	<i>Brodiaea howellii</i>	Howell's clusterlily	Brho
Liliaceae	<i>Calochortus macrocarpus</i>	sagebrush mariposa lily	Cama
Liliaceae	<i>Fritillaria pudica</i>	yellow bell	Frpu
Liliaceae	<i>Smilacina stellata</i>	starflower	Smst
Liliaceae	<i>Yucca filamentosa</i>	Adam's needle	Yufi
Liliaceae	<i>Yucca glauca</i>	soapweed	Yugl
Liliaceae	<i>Zigadenus paniculatus</i>	foothill deathcamas	Zipa
Liliaceae	<i>Zigadenus venenosus</i>	meadow deathcamas	Zive
Linaceae	<i>Linum perenne</i>	wild blueflax	Lipe
Loasaceae	<i>Mentzelia albicaulis</i>	whitestem stickleaf	Menal
Loasaceae	<i>Mentzelia laevicaulis</i>	blazingstar	Mela
Lythraceae	<i>Ammannia robusta</i>	scarlet ammannia	Amro
Lythraceae	<i>Lythrum hyssopifolium</i>	hyssop loosestrife	Lyhy
Lythraceae	<i>Lythrum salicaria</i>	purple loosestrife	Lysa
Lythraceae	<i>Rotala ramosior</i>	toothcup	Rora
Malvaceae	<i>Sphaeralcea ambigua</i>	apricot globemallow	Spam
Malvaceae	<i>Sphaeralcea grossularifolia</i>	gooseberry-leaved globemallow	Sphgr
Malvaceae	<i>Sphaeralcea munroana</i>	Munro's globemallow	Spmu
Marsileaceae	<i>Marsilea vestita</i>	clover fern	Mave
Molluginaceae	<i>Mollugo verticellata</i>	carpetweed	Move
Moraceae	<i>Morus alba</i>	white mulberry	Moal

Family	Genus Species	Common Name	Code
Nyctaginaceae	<i>Abronia millefera</i>	white sand verbena	Abme
Oleaceae	<i>Fraxinus pennsylvanica</i>	green ash	Frpe
Oleaceae	<i>Syringa vulgaris</i>	lilac	Syvu
Onagraceae	<i>Boisduvalia glabella</i>	smooth spikeprimrose	Bogl
Onagraceae	<i>Boisduvalia stricta</i>	stiff spikeprimrose	Bost
Onagraceae	<i>Camissonia andina</i>	obscure desertprimrose	Caan
Onagraceae	<i>Camissonia contorta</i>	bentpod desertprimrose	Caco
Onagraceae	<i>Camissonia hilgardii</i>	Hilgard's desertprimrose	Cahi
Onagraceae	<i>Camissonia minor</i>	small-flowered desertprimrose	Camin
Onagraceae	<i>Camissonia parvula</i>	small desertprimrose	Campa
Onagraceae	<i>Camissonia pygmaea</i>	dwarf desertprimrose	Capy
Onagraceae	<i>Epilobium angustifolium</i>	fireweed	Epan
Onagraceae	<i>Epilobium glaberrimum</i>	smooth willowherb	Epglb
Onagraceae	<i>Epilobium glandulosum</i>	common willowherb	Epgln
Onagraceae	<i>Epilobium minutum</i>	small willowherb	Epmi
Onagraceae	<i>Epilobium palustre</i>	swamp willowherb	Eppl
Onagraceae	<i>Epilobium paniculatum</i>	tall willowherb	Eppa
Onagraceae	<i>Epilobium watsonii</i>	Watson's willowherb	Epwa
Onagraceae	<i>Gayophytum diffusum</i>	spreading gayophytum	Gadi
Onagraceae	<i>Gayophytum ramosissimum</i>	hairstem gayophytum	Gara
Onagraceae	<i>Ludwigia palustris</i> var. <i>pacifica</i>	false loosestrife	Lupa
Onagraceae	<i>Oenothera caespitosa</i>	rockrose	Oeca
Onagraceae	<i>Oenothera pallida</i>	pale evening primrose	Oepa
Onagraceae	<i>Oenothera strigosa</i>	common eveningprimrose	Oest
Orchidaceae	<i>Epipactis gigantea</i>	giant helleborine	Epgi
Orchidaceae	<i>Spiranthes romanzoffiana</i>	lady's tresses	Spro
Orobanchaceae	<i>Orobanche corymbosa</i>	flattop broomrape	Orco
Orobanchaceae	<i>Orobanche fasciculata</i>	clustered broomrape	Orfa
Orobanchaceae	<i>Orobanche grayana</i>	Gray's broomrape	Orgr
Orobanchaceae	<i>Orobanche ludoviciana</i>	Suksdorf's broomrape	Orlu
Oxalidaceae	<i>Oxalis corniculata</i>	creeping yellow wood-sorrel	Oxco
Plantaginaceae	<i>Plantago lanceolata</i>	English plantain	Plla
Plantaginaceae	<i>Plantago major</i>	common plantain	Plmaj
Plantaginaceae	<i>Plantago patagonica</i>	Indian wheat	Plpa
Platanaceae	<i>Platanus occidentalis</i>	sycamore	Ploc
Poaceae	<i>Agropyron caninum</i>	slender wheatgrass	Agca

Family	Genus Species	Common Name	Code
Poaceae	<i>Agropyron cristatum</i>	crested wheatgrass	Agcr
Poaceae	<i>Agropyron dasytachyum</i>	thickspike wheatgrass	Agda
Poaceae	<i>Agropyron intermedium</i>	intermediate wheatgrass	Agpin
Poaceae	<i>Agropyron repens</i>	quackgrass	Agre
Poaceae	<i>Agropyron sibericum</i>	Siberian wheatgrass	Agsi
Poaceae	<i>Agropyron spicatum</i>	bluebunch wheatgrass	Agsp
Poaceae	<i>Agropyron triticeum</i>	annual wheatgrass	Agtr
Poaceae	<i>Agrostis alba</i>	redtop bentgrass	Agal
Poaceae	<i>Agrostis exarata</i>	spike bentgrass	Agex
Poaceae	<i>Agrostis interrupta</i>	interrupted bentgrass	Agsin
Poaceae	<i>Agrostis scabra</i>	ticklegass	Agsc
Poaceae	<i>Agrostis tenuis</i>	colonial bentgrass	Agte
Poaceae	<i>Alopecurus aequalis</i>	meadow foxtail	Alae
Poaceae	<i>Aristida longiseta</i>	red three-awn	Arlo
Poaceae	<i>Avena sativa</i>	oat	Avsa
Poaceae	<i>Bromus carinatus</i>	mountain brome	Brca
Poaceae	<i>Bromus inermis</i>	smooth brome	Brin
Poaceae	<i>Bromus japonicus</i>	Japanese brome	Brja
Poaceae	<i>Bromus mollis</i>	soft brome	Brmo
Poaceae	<i>Bromus tectorum</i>	cheatgrass	Brte
Poaceae	<i>Cenchrus longispinus</i>	sandbur	Celo
Poaceae	<i>Dactylis glomerata</i>	orchardgrass	Dagl
Poaceae	<i>Deschampsia atropurpurea</i>	mountain hairgrass	Deat
Poaceae	<i>Distichlis stricta</i>	alkali saltgrass	Dist
Poaceae	<i>Echinochloa crus-galli</i>	large barnyardgrass	Eccr
Poaceae	<i>Elymus cinereus</i>	giant wildrye	Elci
Poaceae	<i>Elymus flavescens</i>	sand wildrye	Elfl
Poaceae	<i>Elymus glaucus</i>	blue wildrye	Elgl
Poaceae	<i>Eragrostis hypnoides</i>	creeping eragrostis	Erhy
Poaceae	<i>Eragrostis lutescens</i>	yellow lovegrass	Erlu
Poaceae	<i>Eragrostis pectinacea</i>	purple lovegrass	Erpe
Poaceae	<i>Festuca arundinacea</i>	tall fescue	Fear
Poaceae	<i>Festuca bromoides</i>	barren sixweeks	Febr
Poaceae	<i>Festuca idahoensis</i>	Idaho fescue	Feid
Poaceae	<i>Festuca microstachys</i>	small sixweeks	Fema
Poaceae	<i>Festuca octoflora</i>	slender sixweeks	Feoc

Family	Genus Species	Common Name	Code
Poaceae	<i>Festuca ovina</i>	sheep fescue	Feov
Poaceae	<i>Festuca pratensis</i>	meadow fescue	Fepr
Poaceae	<i>Festuca washingtonica</i>	Washington fescue	Fewa
Poaceae	<i>Heleochloa alopecuroides</i>	heleochloa	Heal
Poaceae	<i>Hierochloe odorata</i>	vanilla grass	Hiod
Poaceae	<i>Hordeum brachyantherum</i>	meadow barley	Hobr
Poaceae	<i>Hordeum glaucum</i>	seagreen barley	Hogl
Poaceae	<i>Hordeum jubatum</i>	squirreltail barley	Hoju
Poaceae	<i>Hordeum leporinum</i>	seaside barley	Hole
Poaceae	<i>Koeleria cristata</i>	prairie junegrass	Kocr
Poaceae	<i>Leersia oryzoides</i>	cutgrass	Leor
Poaceae	<i>Leptochloa fascicularis</i>	loose-flowered sprangletop	Lefa
Poaceae	<i>Lolium multiflorum</i>	perennial rye	Lomu
Poaceae	<i>Melica bulbosa</i> var. <i>intonsa</i>	oniongrass	Mebu
Poaceae	<i>Melica spectabilis</i>	showy oniongrass	Melsp
Poaceae	<i>Muhlenbergia asperifolia</i>	alkali muhly	Muas
Poaceae	<i>Muhlenbergia filiformis</i>	slender muhly	Mufi
Poaceae	<i>Oryzopsis hymenoides</i>	Indian ricegrass	Orhy
Poaceae	<i>Panicum capillare</i>	common witchgrass	Paca
Poaceae	<i>Panicum dichotomiflorum</i>	fall panicum	Pandi
Poaceae	<i>Panicum milliaceum</i>	broomcorn millet	Pami
Poaceae	<i>Panicum occidentale</i>	western witchgrass	Paoc
Poaceae	<i>Paspalum distichum</i>	knotgrass	Pasdi
Poaceae	<i>Phalaris arundinacea</i>	reed canarygrass	Phar
Poaceae	<i>Phleum pratense</i>	timothy	Phlpr
Poaceae	<i>Phragmites communis</i>	common reed	Phco
Poaceae	<i>Poa annua</i>	annual bluegrass	Poan
Poaceae	<i>Poa bulbosa</i>	bulbous bluegrass	Pobu
Poaceae	<i>Poa compressa</i>	Canada bluegrass	Pocom
Poaceae	<i>Poa cusickii</i>	Cusick's bluegrass	Pocu
Poaceae	<i>Poa juncifolia</i>	alkali bluegrass	Poju
Poaceae	<i>Poa nevadensis</i>	Nevada bluegrass	Pone
Poaceae	<i>Poa palustris</i>	fowl bluegrass	Poapa
Poaceae	<i>Poa pratensis</i>	Kentucky bluegrass	Popr
Poaceae	<i>Poa sandbergii</i>	Sandberg's bluegrass	Posa
Poaceae	<i>Poa scabrella</i>	pine bluegrass	Posc

Family	Genus Species	Common Name	Code
Poaceae	<i>Polypogon monspeliensis</i>	rabbitfoot grass	Pomo
Poaceae	<i>Puccinellia lemmonii</i>	Lemmon's alkaligrass	Pule
Poaceae	<i>Sclerocloa dura</i>	hardgrass	Scdu
Poaceae	<i>Secale cereale</i>	rye	Sece
Poaceae	<i>Setaria lutescens</i>	bristly foxtail	Selu
Poaceae	<i>Sitanion hystrix</i>	bottlebrush grass	Sihy
Poaceae	<i>Spartina gracilis</i>	alkali cordgrass	Spagr
Poaceae	<i>Sphenopholis obtusata</i>	wedgegrass	Spob
Poaceae	<i>Sporobolus cryptandrus</i>	sand dropseed	Spcr
Poaceae	<i>Stipa comata</i>	needle-and-thread grass	Stco
Poaceae	<i>Stipa thurberiana</i>	Thurber's needlegrass	Stth
Poaceae	<i>Triticum aestivum</i>	wheat	Trae
Polemoniaceae	<i>Collomia grandiflora</i>	largeflower collomia	Comgr
Polemoniaceae	<i>Collomia linearis</i>	narrowleaf collomia	Coli
Polemoniaceae	<i>Eriastrum sparsiflorum</i>	few-flowered eriastrum	Erspa
Polemoniaceae	<i>Gilia inconspicua</i>	inconspicuous gilia	Gein
Polemoniaceae	<i>Gilia leptomeria</i>	Great Basin gilia	Gile
Polemoniaceae	<i>Gilia lottiae</i>	gilia	Gilo
Polemoniaceae	<i>Gilia minutiflora</i>	smallflower gilia	Gimi
Polemoniaceae	<i>Gilia sinuata</i>	shy gilia	Gisi
Polemoniaceae	<i>Leptodactylon pungens</i>	prickly phlox	Lepu
Polemoniaceae	<i>Linanthus pharnaceoides</i>	threadleaf linanthus	Liph
Polemoniaceae	<i>Microsteris gracilis</i>	pink microsteris	Migr
Polemoniaceae	<i>Navarretia intertexta</i>	pincushion plant	Nain
Polemoniaceae	<i>Phlox hoodii</i>	Hood's phlox	Phho
Polemoniaceae	<i>Phlox longifolia</i>	longleaf phlox	Phlo
Polemoniaceae	<i>Phlox speciosa</i>	showy phlox	Phsp
Polemoniaceae	<i>Polemonium micranthum</i>	annual Jacob's ladder	Pomi
Polygonaceae	<i>Chorizanthe watsonii</i>	Watson's spineflower	Chwa
Polygonaceae	<i>Eriogonum baileyi</i>	Bailey's buckwheat	Erba
Polygonaceae	<i>Eriogonum codium</i>	Umtanum buckwheat	Ercod
Polygonaceae	<i>Eriogonum compositum</i>	northern buckwheat	Ercom
Polygonaceae	<i>Eriogonum elatum</i>	tall buckwheat	Erel
Polygonaceae	<i>Eriogonum heracleoides</i>	parsnipflower buckwheat	Erhe
Polygonaceae	<i>Eriogonum microthecum</i>	slender buckwheat	Ermi
Polygonaceae	<i>Eriogonum niveum</i>	snow buckwheat	Erni

Family	Genus Species	Common Name	Code
Polygonaceae	<i>Eriogonum ovalifolium</i> var. <i>celsum</i>	cushion buckwheat	Erov
Polygonaceae	<i>Eriogonum sphaerocephalum</i>	rock buckwheat	Ersr
Polygonaceae	<i>Eriogonum strictum</i>	strict buckwheat	Erst
Polygonaceae	<i>Eriogonum thymoides</i>	thymeleaf buckwheat	Erth
Polygonaceae	<i>Eriogonum vimineum</i>	broom buckwheat	Erv
Polygonaceae	<i>Oxytheca dendroides</i>	false buckwheat	Oxde
Polygonaceae	<i>Polygonum amphibium</i>	water smartweed	Poam
Polygonaceae	<i>Polygonum aviculare</i>	doorweed	Poav
Polygonaceae	<i>Polygonum coccineum</i>	water smartweed	Pococ
Polygonaceae	<i>Polygonum convolvulus</i>	climbing bindweed	Pocon
Polygonaceae	<i>Polygonum hydropiper</i>	marshpepper smartweed	Pohy
Polygonaceae	<i>Polygonum lapathifolium</i>	willow weed	Pola
Polygonaceae	<i>Polygonum majus</i>	wiry knotweed	Poma
Polygonaceae	<i>Polygonum persicaria</i>	heartweed	Polpe
Polygonaceae	<i>Polygonum ramosissimum</i>	busy knotweed	Pora
Polygonaceae	<i>Rumex crispus</i>	curly dock	Rucr
Polygonaceae	<i>Rumex salicifolius</i>	willow dock	Rusa
Polygonaceae	<i>Rumex venosus</i>	winged dock	Ruve
Polypodiaceae (Dennstaedtiaceae)	<i>Pteridium aquilinum</i>	bracken fern	Ptaq
Polypodiaceae (Dryopteriaceae)	<i>Woodsia oregona</i>	woodsia	Woor
Polypodiaceae (Pteridaceae)	<i>Adiantum pedatum</i>	maiden-hair fern	Adpe
Polypodiaceae (Pteridaceae)	<i>Pellaea glabella</i>	smooth cliffbrake	Pelgl
Portulacaceae	<i>Calyptridium roseum</i>	rosy calyptridium	Caro
Portulacaceae	<i>Lewisia rediviva</i>	bitterroot	Lere
Portulacaceae	<i>Montia cordifolia</i>	broadleaf springbeauty	Moco
Portulacaceae	<i>Montia linearis</i>	Indian lettuce	Moli
Portulacaceae	<i>Montia perfoliata</i>	miner's lettuce	Mope
Portulacaceae	<i>Portulaca oleracea</i>	common purslane	Pool
Portulacaceae	<i>Talinum spinescens</i>	spiny flameflower	Tasp
Potamogetonaceae	<i>Potamogeton berchtoldii</i>	Berchtold's pondweed	Pobe
Potamogetonaceae	<i>Potamogeton crispus</i>	curled pondweed	Pocr
Potamogetonaceae	<i>Potamogeton filiformis</i>	slender pondweed	Pofi
Potamogetonaceae	<i>Potamogeton foliosus</i>	leafy pondweed	Pof
Potamogetonaceae	<i>Potamogeton gramineus</i>	grass-leaved pondweed	Pogm
Potamogetonaceae	<i>Potamogeton pectinatus</i>	fennel-leaf pondweed	Potpe
Primulaceae	<i>Centunculus minimus</i>	chaffweed	Cemi

Family	Genus Species	Common Name	Code
Primulaceae	<i>Dodecatheon cusickii</i>	Cusick's shootingstar	Docu
Primulaceae	<i>Lysimachia ciliata</i>	fringed loosestrife	Lyci
Ranunculaceae	<i>Aquilegia formosa</i>	red columbine	Aqfo
Ranunculaceae	<i>Clematis ligustifolia</i>	western virginsbower	Clli
Ranunculaceae	<i>Delphinium multiplex</i>	Kittitas larkspur	Demu
Ranunculaceae	<i>Delphinium nuttallianum</i>	upland larkspur	Denu
Ranunculaceae	<i>Myosurus aristatus</i>	sedge mousetail	Myar
Ranunculaceae	<i>Myosurus X clavicaulis</i>	little mousetail	MyXc
Ranunculaceae	<i>Ranunculus cymbalaria</i>	shore buttercup	Racy
Ranunculaceae	<i>Ranunculus flammula</i>	creeping buttercup	Rafl
Ranunculaceae	<i>Ranunculus glaberrimus</i>	sagebrush buttercup	Ragl
Ranunculaceae	<i>Ranunculus sceleratus</i>	celeryleaf buttercup	Rasc
Ranunculaceae	<i>Ranunculus subrigidus</i>	stiffleaf buttercup	Rasu
Ranunculaceae	<i>Ranunculus testiculatus</i>	bur buttercup	Rate
Ranunculaceae	<i>Thalictrum occidentale</i>	western meadowrue	Thloc
Rosaceae	<i>Amelanchier alnifolia</i>	western serviceberry	Amaln
Rosaceae	<i>Crataegus douglasii</i>	black hawthorn	Crdo
Rosaceae	<i>Geum macrophyllum</i>	Oregon avens	Gema
Rosaceae	<i>Geum triflorum</i>	old man's whiskers	Getr
Rosaceae	<i>Malus pumila</i>	apple	Mapu
Rosaceae	<i>Physocarpus malvaceus</i>	ninebark	Phma
Rosaceae	<i>Potentilla anserina</i>	common silverweed	Potan
Rosaceae	<i>Potentilla arguta</i>	tall cinquefoil	Poar
Rosaceae	<i>Potentilla biennis</i>	biennial cinquefoil	Pobi
Rosaceae	<i>Potentilla glandulosa</i>	sticky cinquefoil	Pogl
Rosaceae	<i>Potentilla gracilis</i>	slender cinquefoil	Pogr
Rosaceae	<i>Potentilla norvegica</i>	Norwegian cinquefoil	Pono
Rosaceae	<i>Potentilla paradoxa</i>	bushy cinquefoil	Potpa
Rosaceae	<i>Potentilla rivalis</i>	brook cinquefoil	Pori
Rosaceae	<i>Prunus armeniaca</i>	apricot	Prar
Rosaceae	<i>Prunus avium</i>	sweet cherry	Prav
Rosaceae	<i>Prunus emarginata</i>	bitter cherry	Prem
Rosaceae	<i>Prunus persica</i>	peach	Prpe
Rosaceae	<i>Prunus virginiana</i>	chokecherry	Prvi
Rosaceae	<i>Purshia tridentata</i>	bitterbrush	Putr
Rosaceae	<i>Pyrus communis</i>	pear	Pyco

Family	Genus Species	Common Name	Code
Rosaceae	<i>Rosa woodsii</i>	Wood's rose	Rowo
Rosaceae	<i>Rubus discolor</i>	Himalayan blackberry	Rudi
Rubiaceae	<i>Galium aparine</i>	cleavers	Gaap
Rubiaceae	<i>Galium multiflorum</i>	shrubby bedstraw	Gami
Ruppiaceae	<i>Ruppia maritima</i>	ditch grass	Ruma
Salicaceae	<i>Populus alba</i>	silver poplar	Poal
Salicaceae	<i>Populus deltoides</i>	plains cottonwood	Pode
Salicaceae	<i>Populus nigra</i>	Lombardy poplar	Poni
Salicaceae	<i>Populus tremuloides</i>	quaking aspen	Pote
Salicaceae	<i>Populus trichocarpa</i>	black cottonwood	Potr
Salicaceae	<i>Salix amygdaloides</i>	peachleaf willow	Saam
Salicaceae	<i>Salix babylonica</i>	weeping willow	Saba
Salicaceae	<i>Salix bebbiana</i>	Bebb's willow	Sabe
Salicaceae	<i>Salix discolor</i>	pussy willow	Sadi
Salicaceae	<i>Salix exigua</i>	coyote willow	Saex
Salicaceae	<i>Salix fragilis</i>	crack willow	Safr
Salicaceae	<i>Salix lasiandra</i>	whiplash willow	Salad
Salicaceae	<i>Salix lasiolepis</i>	arroyo willow	Salal
Salicaceae	<i>Salix scouleriana</i>	Scouler's willow	Sasc
Santalaceae	<i>Comandra umbellata</i>	bastard toadflax	Coum
Saxifragaceae	<i>Heuchera cylindrica</i>	lava alumroot	Hecy
Saxifragaceae	<i>Lithophragma bulbifera</i>	bulbiferous fringe-cup	Libu
Saxifragaceae	<i>Lithophragma glabra</i>	smooth fringe-cup	Ligl
Saxifragaceae	<i>Lithophragma parviflora</i>	smallflower fringe-cup	Lipa
Saxifragaceae	<i>Saxifraga integrifolia</i>	swamp saxifrage	Sain
Saxifragaceae	<i>Saxifraga oregona</i>	bog saxifrage	Saor
Scrophulariaceae	<i>Castilleja exilis</i>	alkali paintbrush	Caex
Scrophulariaceae	<i>Castilleja thompsonii</i>	Thompson's paintbrush	Cath
Scrophulariaceae	<i>Collinsia grandiflora</i>	showy blue-eyed Mary	Congr
Scrophulariaceae	<i>Collinsia parviflora</i>	small blue-eyed Mary	Copa
Scrophulariaceae	<i>Gratiola neglecta</i>	American hedge-hyssop	Grne
Scrophulariaceae	<i>Limosella acaulis</i>	mudwort	Liac
Scrophulariaceae	<i>Limosella aquatica</i>	mudwort	Liaq
Scrophulariaceae	<i>Linaria dalmatica</i>	dalmatian toadflax	Lida
Scrophulariaceae	<i>Linaria vulgaris</i>	butter-and-eggs	Livu
Scrophulariaceae	<i>Lindernia anagallidea</i>	false pimpernel	Lian

Family	Genus Species	Common Name	Code
Scrophulariaceae	<i>Lindernia dubia</i>	false pimpernel	Lidu
Scrophulariaceae	<i>Mazus japonicus</i>	Japanese mazus	Maja
Scrophulariaceae	<i>Mimetanthe pilosa</i>	downy monkeyflower	Mipi
Scrophulariaceae	<i>Mimulus floribundus</i>	purplestem monkeyflower	Mifl
Scrophulariaceae	<i>Mimulus guttatus</i>	yellow monkeyflower	Migu
Scrophulariaceae	<i>Mimulus ringens</i>	Allegheny monkeyflower	Miri
Scrophulariaceae	<i>Mimulus suksdorfii</i>	Suksdorf's monkeyflower	Misu
Scrophulariaceae	<i>Orthocarpus barbatus</i>	Grand Coulee owl-clove	Orba
Scrophulariaceae	<i>Penstemon acuminatus</i>	sand beardtongue	Peac
Scrophulariaceae	<i>Penstemon eriantherus</i>	fuzzy beardtongue	Peer
Scrophulariaceae	<i>Penstemon gairdnerii</i>	Gairdner's beardtongue	Penga
Scrophulariaceae	<i>Penstemon glandulosus</i>	stickystem beardtongue	Pegl
Scrophulariaceae	<i>Penstemon richardsonii</i>	basalt beardtongue	Peri
Scrophulariaceae	<i>Penstemon speciosus</i>	showy beardtongue	Pesp
Scrophulariaceae	<i>Scrophularia lanceolata</i>	lanceleaf figwort	Scla
Scrophulariaceae	<i>Verbascum thapsus</i>	common mullein	Veth
Scrophulariaceae	<i>Veronica americana</i>	brooklime	Veam
Scrophulariaceae	<i>Veronica anagallis-aquatica</i>	water speedwell	Vean
Scrophulariaceae	<i>Veronica peregina</i>	purslane speedwell	Vepe
Simarubaceae	<i>Ailanthus altissima</i>	tree-of-heaven	Aial
Solanaceae	<i>Datura stramonium</i>	Jimson-weed	Dast
Solanaceae	<i>Lycium halimifolium</i>	matrimony vine	Lyha
Solanaceae	<i>Nicotiana acuminata</i>	wild tobacco	Niac
Solanaceae	<i>Nicotiana attenuata</i>	coyote tobacco	Niat
Solanaceae	<i>Physalis sp.</i>	ground cherry	Phys.
Solanaceae	<i>Solanum dulcamara</i>	bittersweet	Sodu
Solanaceae	<i>Solanum nigrum</i>	black nightshade	Soni
Solanaceae	<i>Solanum sarrachoides</i>	hairy nightshade	Sosa
Solanaceae	<i>Solanum triflorum</i>	cutleaf nightshade	Sotr
Tamaricaceae	<i>Tamarix parviflora</i>	tamarisk	Tapr
Taxaceae	<i>Taxus cuspidata</i>	Japanese yew	Tacu
Typhaceae	<i>Typha angustifolia</i>	lesser cattail	Tyan
Typhaceae	<i>Typha latifolia</i>	common cattail	Tyla
Ulmaceae	<i>Ulmus americana</i>	American elm	Ulam
Ulmaceae	<i>Ulmus pumila</i>	Siberian elm	Ulpu
Urticaceae	<i>Urtica dioica</i>	stinging nettle	Urdu

Family	Genus Species	Common Name	Code
Valerianaceae	<i>Plectritis macrocera</i>	white cupseed	Plmac
Verbenaceae	<i>Verbena bracteata</i>	bracted verbena	Vebr
Verbenaceae	<i>Verbena hastata</i>	blue verbena	Veha
Violaceae	<i>Viola adunca</i>	early blue violet	Viad
Violaceae	<i>Viola palustis</i>	marsh violet	Vipa
Violaceae	<i>Viola sp.</i>	violet	Visp
Violaceae	<i>Viola trinervata</i>	sagebrush violet	Vitr
Vitaceae	<i>Parthanocissus quinquefolia</i>	Virginia creeper	Paqu
Vitaceae	<i>Vitis vinifera</i>	grape	Vivin
Zannichelliaceae	<i>Zannichellia palustris</i>	horned pondweed	Zapa
Zygophyllaceae	<i>Tribulus terrestris</i>	puncture vine	Trte

Distribution

<u>No. of Copies</u>	<u>No. of Copies</u>	
OFFSITE		
2	Calypso Consulting 1130 21 st St. Bellingham, WA 98225 ATTN: K. Beck F. Caplow	
2	Confederated Tribes of the Umatilla Indian Reservation P.O. Box 638 Pendleton, OR 97801 ATTN: M. Farrow R. Gay	
2	Nez Perce Tribe P.O. Box 365 Lapwai, ID 83540 ATTN: D. Landeen	
4	U.S. Fish and Wildlife Service Hanford Reach National Monument 3250 Port of Benton Blvd. Richland, WA 99352 ATTN: H. Brunkal P. Call D. Gonzalez G. Hughes	
2	Yakama Nation P.O. Box 151 Toppenish, WA 98948 ATTN: T. Zeilman	
	3	Washington Natural Heritage Program Department of Natural Resources P.O. Box 47014 Olympia, WA 98504-7014 ATTN: J. Gamon
	2	Washington State University – Tri Cities 2710 University Drive Richland, WA 99352 ATTN: S. Link S. Simmons
ONSITE		
	5 DOE Richland Operations Office	
	P. F. Dunigan	A5-58
	J. B. Hall	A2-15
	A. L. Rodriguez	A5-58
	D. C. Ward	A2-15
	J. Zeisloft	A2-15
	6 Bechtel Hanford, Inc.	
	K. A. Gano	H0-23
	A. L. Johnson	H0-23
	C. J. Kemp	H0-19
	T. E. Marceau	H0-23
	D. D. Teel	H0-23
	S. G. Weiss	H0-20
	2 CH2M HILL Incorporated	
	J. K. Linville	H9-03
	J. J. Sharpe	H9-03

<u>No. of Copies</u>		<u>No. of Copies</u>	
	Duratek Federal Services, NW		L. L. Cadwell K6-85
	R. C. Roos H1-11		M. A. Chamness K6-85
			J. L. Downs K6-85
			C. A. Duberstein K6-85
2	Fluor Daniel Hanford Company		R. E. Durham K6-85
			K. D. Hand K6-85
	S. A. Hays S6-71		F. Khan K6-85
	A. R. Johnson H5-26		G. P. O'Connor K6-85
			T. M. Poston K6-75
	U.S. Environmental Protection Agency		E. L. Prendergast K6-75
			W. H. Rickard K6-85
	L. Gadbois B5-01		M. R. Sackschewsky (49) K6-85
			D. C. Stapp K6-75
70	Pacific Northwest National Laboratory		J. A. Stegen K6-85
			B. L. Tiller K6-85
	J. M. Becker K6-85		R. S. Weeks P7-79
	C. A. Brandt K6-85		R. K. Zufelt K6-85
	A. L. Bunn K6-85		Hanford Technical Library (2) P8-55
	N. A. Cadoret K8-41		