



Floristic analysis of the Centennial Region, Montana  
by Denise R Culver

A thesis submitted in partial fulfillment of the requirements for the degree of Master of Science in  
Biological Sciences  
Montana State University  
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Abstract:

This study focuses on analysis and interpretation of biogeographic and floristic variables among the Centennial Mountains and Valley (Centennial Region) and 10 representative regional floras from western North America to test the hypotheses that: 1) the Centennial Region is a Great Basin refugium; and 2) that the Centennial Region is floristically rich. Explanations for richness generally include only ecological determinants. In contrast, historical determinants of floristic diversity may transcend ecological ones and may include how species are related, where they evolved, and what taxonomic tendencies they possess.

Phenetic analyses of the presence and absence of taxa among floras from western North America were performed to determine which province primarily influenced the Centennial Region. Utilization of regional endemics in determining biogeographic distribution is also addressed.

Historical biogeographic inferences were derived from floristic similarity indices among selected floras from western North America (Q-mode analysis). Generalized track analysis (R-mode) and vicariance biogeographic analysis were not performed due to: 1) the small size of the study areas relative to total geographical distribution of species; and 2) the lack of areas of endemism combined with a paucity of phylogenetic analyses of constituent North America taxa. Critiques of Q-mode analysis are rebutted. A data matrix consisting of 3217 taxa in 11 geographical regions was created to determine the percent similarities between the Centennial Region and the 10 western North American floras. After adjusting the data to mitigate floristic size differences (by using only the shared taxa with the Centennial Region).

Results indicate that it is the Rocky Mountain flora which dominates the flora of the Centennial Region ( $x=62\%$ ) and its four constituent vegetational zones. The Centennial Region is only very weakly influenced by the flora of the Great Basin ( $x=30\%$ ). An analysis of the sensitive plants of the Centennial Region reveals that only 3 of the 766 taxa in the Centennial Region have primary distributions in the Great Basin province.

Additionally, the richness of the Centennial flora as determined by species numbers (766 vascular plants) does not differ from other regions of similar topography in western North America. Pleistocene glaciation, geographic proximity, and latitude are discussed as factors that contribute to the strong Rocky Mountain influence observed in the Centennial Region.

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MONTANA STATE UNIVERSITY  
Bozeman, Montana

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APPROVAL

of a thesis submitted by

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This thesis has been read by each member of the thesis committee and has been found to be satisfactory regarding content, English usage, format, citations, bibliographic style, and consistency, and is ready for submission to the College of Graduate Studies

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Nov. 28, 1994

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## ABSTRACT

This study focuses on analysis and interpretation of biogeographic and floristic variables among the Centennial Mountains and Valley (Centennial Region) and 10 representative regional floras from western North America to test the hypotheses that: 1) the Centennial Region is a Great Basin refugium; and 2) that the Centennial Region is floristically rich. Explanations for richness generally include only ecological determinants. In contrast, historical determinants of floristic diversity may transcend ecological ones and may include how species are related, where they evolved, and what taxonomic tendencies they possess.

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Results indicate that it is the Rocky Mountain flora which dominates the flora of the Centennial Region ( $\bar{x}$ =62%) and its four constituent vegetational zones. The Centennial Region is only very weakly influenced by the flora of the Great Basin ( $\bar{x}$ =30%). An analysis of the sensitive plants of the Centennial Region reveals that only 3 of the 766 taxa in the Centennial Region have primary distributions in the Great Basin province.

Additionally, the richness of the Centennial flora as determined by species numbers (766 vascular plants) does not differ from other regions of similar topography in western North America. Pleistocene glaciation, geographic proximity, and latitude are discussed as factors that contribute to the strong Rocky Mountain influence observed in the Centennial Region.

## INTRODUCTION

The present flora of the western United States is the result of climate, geology, soils, ecology, and evolutionary forces, and has evolved radically since the Eocene and Oligocene epochs (Wing, 1987; Wolfe, 1987). For example, the flora of the Rocky Mountain region has changed from the lowland rain and seasonally dry tropical forests and warm temperate deciduous forests during the Tertiary to the cold temperate montane vegetation of the Pleistocene. The change in vegetation from the Tertiary to the Quaternary was drastic with no ecological and very little taxonomic contiguity.

The Centennial Region lies in a biogeographically complex area at the interface of the Rocky Mountain, Great Basin, and Pacific Northwest regions. Knowledge of the historical development of the Centennial Region is important and complementary to an understanding of the ecological attributes of this region. Patterns of species distribution in the Centennial Region are undoubtedly the result of both ecological and historical processes.

In addition to detailing the flora of the Centennial Region, this study should contribute to a better understanding of floristic regions in the northern Rocky Mountain ecosystem. Additionally, the inventory of

sensitive plants found in the Centennial Region should serve as a management tool for the Montana Heritage Program, Bureau of Land Management and Red Rock Lakes National Wildlife Refuge for purposes of conserving the flora of the Centennial Region.

#### Statement of Problem

The Centennial Region is located within the Rocky Mountain Province (Cronquist, 1982) but it has frequently been described as a refugium for Great Basin species (Kratz, 1988; Lesica et. al., 1992; Heidel et. al., 1993). This assertion has been supported by documenting the occurrences of sensitive plants and by identifying the proportion of "Great Basin" species in the Centennial Region (Heidel et. al., 1993). Does the Centennial Region belong to the Great Basin floristic province, or to what degree is the flora of the Centennial Region influenced by the flora of the Great Basin?

The southwestern region of Montana, which includes the Centennial Region, has also been described as the most floristically diverse (rich) in Montana (Lesica et. al., 1984). Similarly, Shelley (1986) described the Centennial Region as an area of high floristic and geographic diversity with a number of taxa which are either regional endemics or on the edge of their range. However, there are no taxa strictly endemic to the Centennial Region, and very few are

endemic to Montana. Thus, how rich is the flora of the Centennial Region compared to other floras of comparable size in western North America?

### Biogeography

Biogeography is the study of the spatial relations of animals and plants, particularly on a global scale (Polunin, 1960; Gleason & Cronquist, 1964; Daubenmire, 1978). The origins of biogeography stem from taxonomy, for only after animal and plant names were standardized could distribution information be accumulated and patterns be revealed (Daubenmire, 1978). Linnaeus (1707-1778), the founder of modern systematics first speculated that the world's biota originated from a single land mass, or "paradise" (Myers and Giller, 1988). But, it was a contemporary of Linnaeus, Buffon (1707-1788), who first alleged that the Old and New Worlds had no mammal species in common. Buffon did not discount Linnaeus's explanation of a center of origin, for he too believed that the Old World was "paradise" and the source area for all flora and fauna (Nelson and Platnick, 1981). The assumption of centers of origin has been used to explain historical distribution since the time of Darwin (1859). However, the centers of origin concept is no longer readily assumed because assumptions of vicariance have been just as useful in explaining taxonomic distributions (Croizat et. al., 1974; Nelson and Platnick, 1981). Also,

such concepts do not explain patterns of Tertiary and Quaternary taxonomic distributions, which are usually very different for a given taxon (Lavin, 1994).

There are two methods, ecological and historical, to explain the biogeographical distribution of organisms. Neither method is exclusive of the other for they both have a common goal: to describe and understand how present geographical distributions evolved. However, they are essentially very different approaches. Ecological biogeography describes distribution patterns of extant species in terms of the organism's interaction with its environment. Historical biogeography explores the reasons for current distributions in terms of their history rather than exclusively in terms of their current ecology (Platnick and Nelson, 1981).

### Historical Biogeography

Geographical distributions change because of the dispersal of organisms, the division of geographic regions (vicariance), adaptive radiation, and extinction (Connor, 1988). Explanations of historical biogeographical distributions have resulted in the seemingly polarized views of vicariance and dispersal.

### Vicariance

Vicariance biogeography is concerned with discovering the common distribution patterns shown by unrelated taxa

(Platnick and Nelson, 1978). The relationships among areas of endemism are determined from congruent patterns of phylogenetic relationships of taxa that inhabit those areas. Primitive cosmopolitanism is assumed; that is, that the collective set of areas of endemism initially contained the same set of taxa. A certain sequence of vicariant events subsequently divided the originally cosmopolitan region into separate areas of endemism by promoting allopatric speciation. The relative ages of the sequences of these vicariant events can be inferred from the relationships between constituent taxa. Sister species should theoretically occupy the same two areas of endemism during the most recent vicariant event. Croizat et.al. (1974) state that the general features of modern biotic distribution have been determined by subdivision (vicariance) of ancestral biotas in response to changing geography.

### Dispersal

Dispersal biogeography is concerned with the movement of species from a source area to a region of colonization. It follows the premise that a species expands its range either by undergoing a jump dispersal or a step by step progression (without jumps) over pre-existing barriers (Brundin, 1988). An ancestral species enlarges its range and is subsequently fragmented into two disjunct ranges. The two populations then differentiate through time forming

two allopatric (geographically separated) descendant species. The appearance of a barrier which promotes the fragmentation of the ancestral species is implied. Nelson and Platnick (1981) argue that this model is the same as vicariance because the dispersal action takes place prior to the appearance of a barrier. Thus, dispersal biogeography assumes that an ancestral species crosses a pre-existing barrier (e.g. an ocean), thereby expanding and fragmenting its range simultaneously (Nelson and Platnick, 1981). Implicit in dispersal biogeography is the assumption of a center of origin.

#### Phenetic (Q-Mode) Analysis

The phenetic (Q-mode) method analyzes the biotic similarity among geographical sites (Conner, 1988). Site resemblance is assumed to indicate affiliation in the same biotic province (Hagemerir and Stults, 1964), and therefore, that a historical relationship exists between sites (Nichols, 1988). The similarity of floras among regions suggests a degree of past (and present) floristic exchange due to proximity or appropriate dispersal corridors.

The main assumption of phenetics is that similarity in species ranges or floristic composition indicates historical relatedness. In biogeography, phenetic analyses of biotas have been used to assess the degree of relationship between

two biotas (Connor, 1988). Initially, an extensive floristic survey is essential to pursue the question of historical influences using phenetics. Floristics provide an "objective, exhaustive and repeatable approach to vegetation analysis" (Major and Taylor, 1977). Floristics can thus become a standard by which historical biogeographic hypotheses can be tested (Hadley, 1984). Regional floristic data are essential for the recognition of phytogeographic problems and for any paleo-environmental reconstruction (Charlet, 1991). Floristic studies are repeatable and distribution data for all taxa can be collected and continually updated. Major and Taylor (1977) have emphasized that even data on the presence and absence of plants in an area contains environmental and evolutionary (historical) clues. Legendre (1986) states that the presence or absence of a species in a region can be regarded as a descriptor that does not change at random. The existence of repeated patterns in species distributions implies the operation of some general causal processes which in part explain the present day distribution of taxa (Myers and Giller, 1988). McLaughlin (1989) also found that analysis based on shared species reflects the floristic composition of an area. Investigation of floristic similarity establishes a basis from which regional floristic history can be developed and can provide additional

information helpful in defining floristic provinces rather than using physical boundaries alone.

The relationship between sites can then be estimated by computation of an ad hoc or probabilistic statistic based on the number of taxa shared between sites (Simberloff and Connor, 1979).

### Criticisms of Phenetic Analysis

Connor (1988) is critical of phenetic similarity indices stating that they may be poor estimates of historical relationships. One reason is that they depend on areas of different sizes, and the number of taxa are affected by the size differences. This criticism is accounted for in this study by adjusting: 1) the land areas of different-sized floras to a standard size; and 2) the floristic size by comparing only the shared taxa among the Centennial Region and the comparative floras. Additionally, Connor dismisses phenetic analysis because of the assumption that the diversity of all taxa at a particular site is controlled largely by forces operating on an ecological time scale (Hamilton and Rubinoff, 1963; Hamilton et.al., 1963; Strong et. al., 1977). However, historical influences can also be identified as determinants and would precede the ecological ones.

Species-Area Relationship

It is well known that the number of species increases systematically in samples of larger area and that the rate of increase of species number decreases with increasing area (Williamson, 1988). Species-area relationships have been discussed concerning islands (MacArthur & Wilson, 1967), but they can also be observed in the numbers of species occupying different-sized areas of the same geographical region (Begon et. al., 1990). This arithmetic plot of species number against area is described as curvilinear, with the number of species increasing more slowly at larger areas (Goodall, 1952). Species-area plots, by their nature, emphasize the continuity of natural variation (Williamson, 1988). Species richness may be positively correlated with area because larger areas constitute samples of more varied habitats, each with its respective species pool (Williams, 1964).

Another illustration of the species-area relationship is accomplished by plotting the species number against area on a log scale (Harper et. al., 1978, Begon et. al., 1990). MacArthur and Wilson (1967) give an approximation for the number of species with the equation:

$$S = CA^z \quad (1)$$

where  $S$  is the number of species,  $A$  is the area,  $C$  is a constant and  $z$  is the slope of the line.

## OPERATIONAL GEOGRAPHIC UNITS

Centennial Region, MT

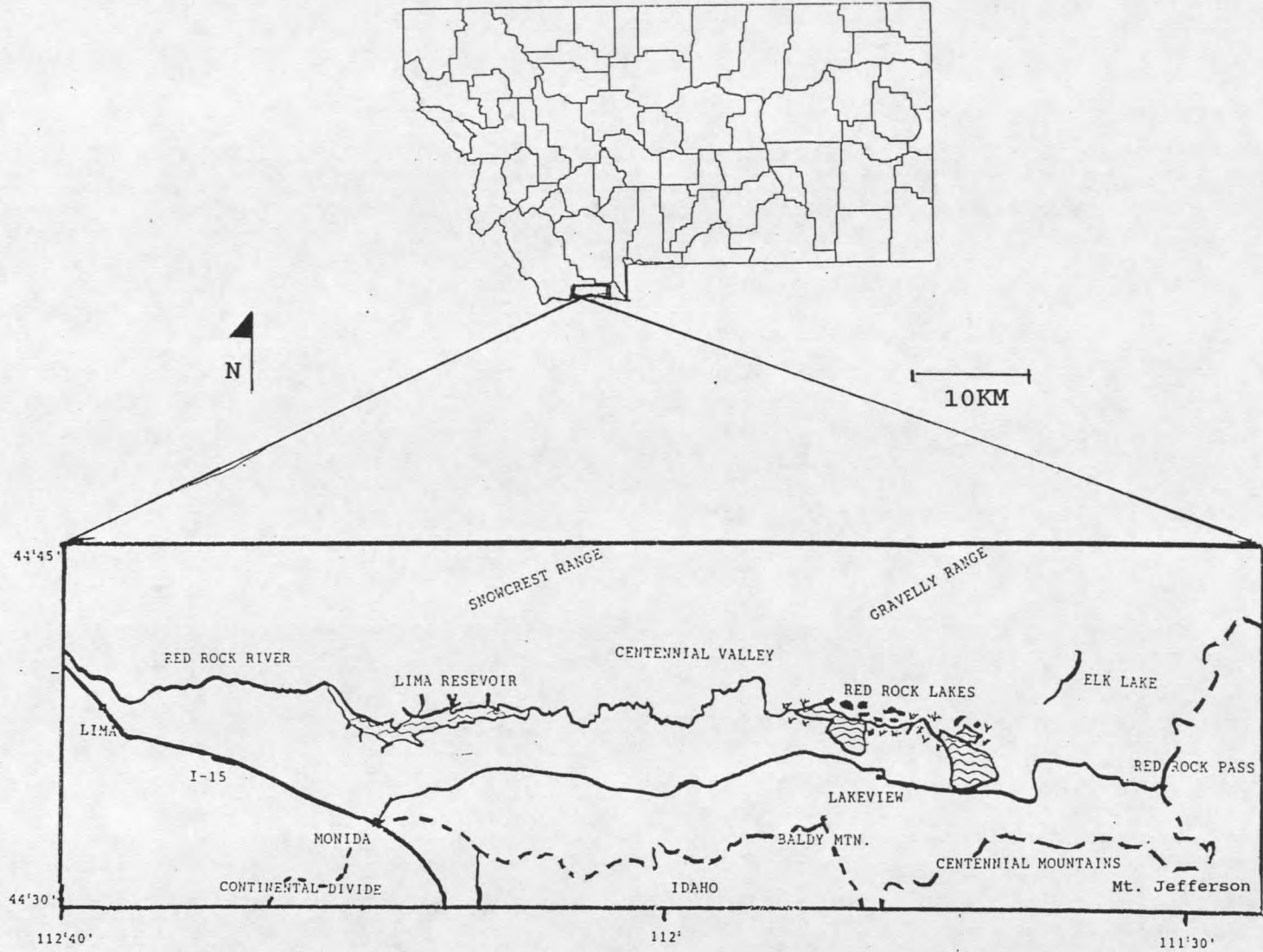
The Centennial Mountains form much of the Continental Divide along the border between southwestern Montana and Idaho (Figure 1). It is one of the few ranges in North America that runs in an east-west direction, forming the south side of Centennial Valley from Monida Pass, Montana to the Henry's Fork of the Snake River in Idaho. Mount Jefferson on the east side of the range is the highest point, reaching an elevation of 3,114 meters.

The Centennial Valley is a high elevation (2,031 meters) intermontane valley centered on the headwaters of the Red Rock River and may be accessed via two passes: Monida Pass (2,061 meters) and Red Rock Pass (2,136 meters). The valley is located between  $44^{\circ} 30'$  and  $44^{\circ} 45'$  latitude and  $111^{\circ} 30'$  and  $112^{\circ} 40'$  longitude. Centennial Valley encompasses an area approximately  $1,365 \text{ km}^2$ , and is bordered on the northeast, northwest, and the south by the Gravelly Range, the Snowcrest Mountains, and the Snake River Plains respectively.

Geology

The Centennial Mountains belong to the Laramide orogeny

Figure 1. Location of the Centennial Region in southwestern Montana



system and are included in the broader category of the central Rockies (Eardley, 1951). The mountains are tectonic in origin, arising from the prominent Centennial fault, a fault block of east-west orientation which runs along the northern foot slope of the mountains. The Centennial Mountains to the south of the fault are the uplifted range-block and the Centennial Valley to the north is the down-thrown basin block, resulting in a 3,000 foot fault scarp. The uplift of the Centennial Range began in Lower Cretaceous time, which marked the advent of the Laramide orogeny, and continued to early Eocene time (Honkala, 1960).

The Centennial escarpment was further modified by glaciation during the Pinedale (70,000 to 15,000 y.a.) and Bull Lake (200,00 to 130,000 y.a.) stages (Taylor and Ashley, 1990). Small terminal moraines at the foot slope of the mountains are common as are small north-south trending glacial valleys and cirques. More recently, the scarp has been modified by avalanches and landslides which are evident along the mountain sides.

The rocks comprising the Centennial Mountains are: 1) Precambrian metamorphics; 2) Paleozoic, Mesozoic, and Cenozoic sediments; and 3) Cenozoic volcanics. The watershed to the east of the mountains which includes the Alaska Basin area and the Tom Creek drainage is comprised almost entirely of Precambrian metamorphosed carbonates (Taylor and Ashley, 1990).

Above these Precambrian metamorphics, at the headwaters of Red Rock Creek and Tom Creek, sedimentary rocks prevail. Represented in these high altitude rocks are Cambrian rocks progressively overlain by sedimentaries of: 1) Devonian Jefferson Limestone or Three Forks Formation; 2) Mississippian Madison Formation Limestone; 3) Permian Phosphoria Formation, Pennsylvanian Amsden and Quadrant Formation; and in some areas 4) Tertiary volcanics (Egbert, 1960; Taylor and Ashley, 1990). With the exception of the Phosphoria Formation which contains cherts, shales, and phosphorite (Cressman and Swanson, 1960), the above strata are primarily composed of limestone, dolomite, and sandstones (Mann, 1954).

The continuity of the Centennial Mountains is disrupted by a north-south trending fault through the Odell Creek drainage. Honkala (1960) theorized that this is a high-angle normal fault. The area west of the fault is composed of Tertiary volcanics. Mount Baldy dominates this area at an elevation of 3,016 meters.

The geologic composition of the Centennial Valley floor is Quaternary alluvium which resulted from the erosional breakdown of the surrounding mountains (Taylor and Ashley, 1990).

### Climate

The Centennial Region is characterized by long cold winters and short cool summers. The average precipitation

for 1993 was 45 cm. Average snowfall during the winter months is 385 cm (NOAA, 1993). The occurrence of snowfall in every month of the year is not uncommon.

The mean annual temperature is 1.1<sup>0</sup>C. During extreme cold periods, air temperatures commonly drop to the -1<sup>0</sup>C to -5<sup>0</sup>C range. The maximum summer temperature rarely exceeds 32<sup>0</sup>C (NOAA, 1993).

Although frost occasionally occurs during every month of the year, the average length of the frost-free season is approximately 51 days extending from mid-June to mid-August (Caprio et. al., 1990).

### Soils

The soils of the eastern portion of the Centennial Mountains (east of Odell Creek) consist of rock outcrops and talus slopes at higher elevations and mollisols on the benches and terraces. The soils of the Centennial Mountains west of Odell Creek, north and south of the Red Rock River basin, are inceptisols and alfisols. The parent materials are colluvium and igneous and sedimentary rocks. The Red Rock River drainage contains characteristic mollisols from a cold, wet basin derived from the alluvium parent material. The soils surrounding the Lima Reservoir are calcareous aridisols and mollisols developed from the parent materials of alluvium and colluvium (Caprio et. al., 1990).

Soils of the Centennial Valley are currently in the process of being mapped by the Soil Conservation Service (Gomez, 1993).

### Vegetation

In this study, the Centennial Region was divided into four vegetation zones: sagebrush\grassland, riparian, montane, and subalpine according to the classification presented by Pfister et. al. (1977) and Mueggler and Stewart (1980).

The sagebrush\grassland zone included three types at the lower elevations: 1) the foothills are dominated by big sagebrush (*Artemisia tridentata*), three-part sagebrush (*A. tripartita*), rabbit brush (*Chrysothamnus nauseosus* and *C. viscidiflorus*), Junegrass (*Koeleria nitida*), Sandberg bluegrass (*Poa secunda*), Idaho fescue (*Festuca idahoensis*), wheatgrasses (*Agropyron smithii*, *A. spicatum*, *A. dasystachyum*) and rye grasses (*Elymus cinerus*, *E. canadensis*); 2) the Centennial sandhills are dominated by thickspike wheat grass (*Agropyron dasystachyum*), silverleaf phacelia (*Phacelia hastata*), big sagebrush (*Artemisia tridentata*), threetip sagebrush (*Artemisia tripartita*), and Idaho fescue (*Festuca idahoensis*); and 3) the vegetation of roadside and disturbed areas consists mostly of smooth brome (*Bromus inermis*), Kentucky bluegrass (*Poa pratensis*) and Canada thistle (*Cirsium arvense*).

The riparian zone consists of lower, wetter meadows dominated by tufted hairgrass (*Deschampsia cespitosa*), sedges (*Carex* spp.) and rushes (*Juncus balticus*). The marshes and drainages are dominated by willows (*Salix* spp.) and small stands of aspen (*Populus tremuloides*) and spruce (*Picea engelmannii*). The aquatic areas include bullrush (*Scirpus acutus*), water milfoil (*Myriophyllum spicatum*), and water weed (*Elodea canadensis*).

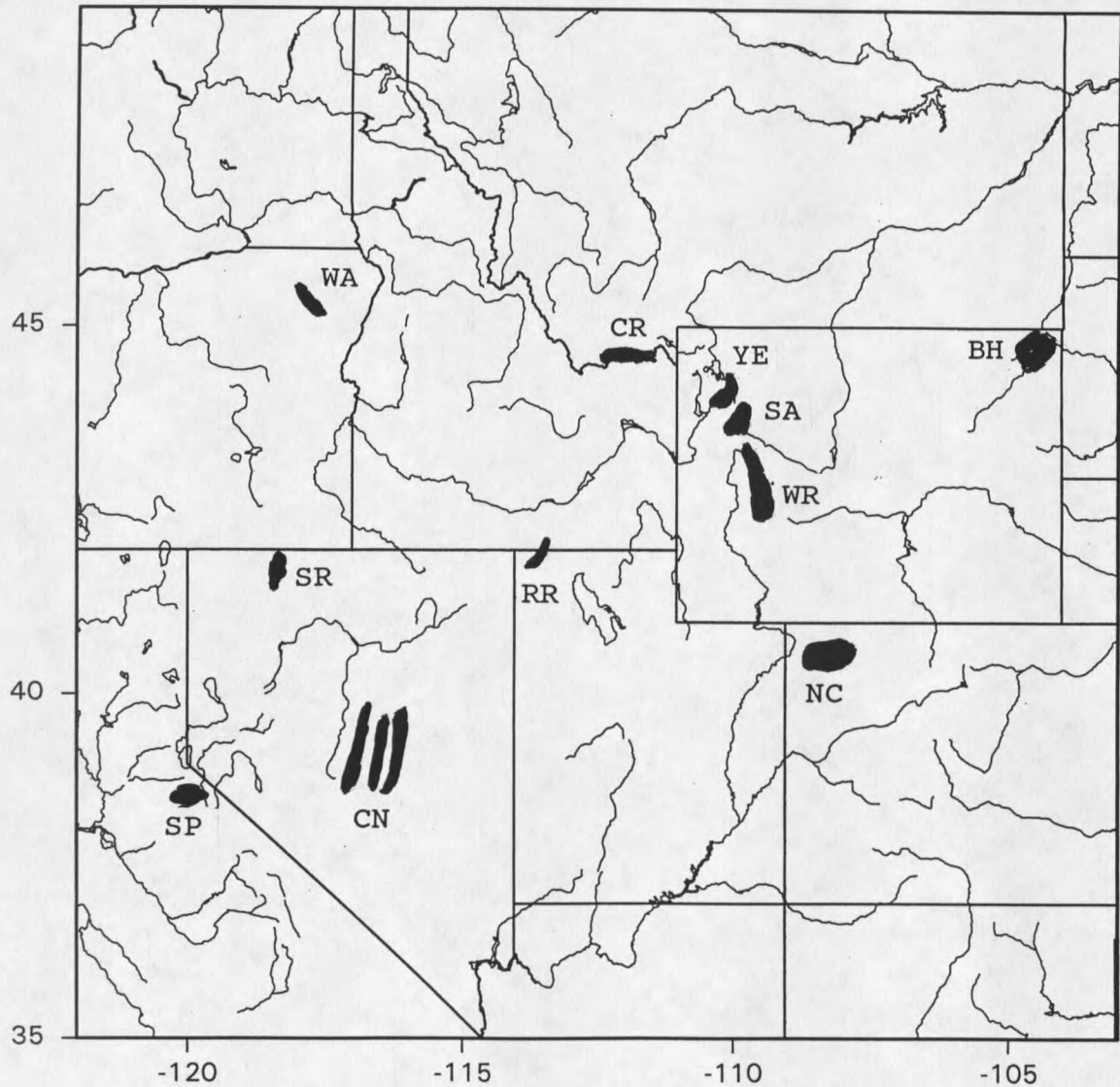
The montane zone is predominately coniferous forest dominated by Douglas fir (*Pseudotsuga menziesii*), northern reedgrass (*Calamagrostis stricta*), lodgepole pine (*Pinus contorta*), meadow rue (*Thalictrum venulosum*) and birchleaf spiraea (*Spiraea betulifolia*). The streams and cool higher slopes are characterized by spruce (*Picea engelmannii*) and false soloman's seal (*Maianthemum stellata*).

The subalpine zone consists of whitebark pine (*Pinus albicaulis*) and subalpine fir (*Abies lasiocarpa*) with occasional stands of limber pine (*Pinus flexilis*) with Idaho fescue (*Festuca idahoensis*). Rock cliffs and outcroppings included in this zone were dominated by rock mat (*Petrophytum caespitosum*), whitlow grass (*Draba oligosperma*) and mountain sorrel (*Oxyria digyna*).

### Comparative Floras

The flora of the Centennial Region was compared with 10 regional floras. The comparative floras were chosen from available theses of floristic surveys of western North America in an attempt to include all geographic regions adjacent to the Centennial Region (Figure 2). In a phenetic (Q-mode) biogeographic analysis, each flora constitutes a Operational Geographic Unit (OGU) as described by Crovello (1981). The floras are drawn from 7 states and from areas ranging in size from 341 km<sup>2</sup> to 34,000 km<sup>2</sup>.

Figure 2. Location of the study areas (Operational Geographical Units) according to their relative latitudinal positions.



Abbreviations:

- CR-Centennial Region, MT
- YE-Headwaters of the Yellowstone, WY
- BH-Northwest Black Hills, WY
- SA-Southeastern Absarokas, WY
- NC-Flat Tops and White River Plateau, CO
- WR-Western Wind River Range
- WA-Wallowa Mountains, OR
- SP-Sonora Pass, CA
- CN-Toiyabe, Toiyama, and Monitor Ranges, NV
- SR-Santa Rosa Range, NV
- RR-Raft River Range, UT

The author(s) of the floras, observed number of taxa (OBS), latitude and longitude, and area of the floras are given in Table 1. The floras are from the following floristic regions and provinces of North America according to Cronquist (1982):

North American Prairies Province

Northwest Blackhills, WY

Vancouverian Province

Sonora Pass, CA

Wallowa Mountains, OR

Rocky Mountain Province

Centennial Region, MT

Yellowstone Headwaters, WY

Western Wind River Range, WY

Southeast Absarokas, WY

Flat Tops and White River Plateau, CO

Great Basin Province

Raft River Range, UT

Toiyabe, Toiyabe, and Monitor Ranges, NV  
(Central NV)

Santa Rosa Range, NV

A total of 3217 native, exotic, terrestrial, and aquatic species including infraspecific taxa were recorded from the 11 western North American floras including the Centennial Region.

Table 1. Data used in the statistical analyses by Operational Geographic unit (OGU). Location of the OGUs are shown in Figure 1.

OGU	ABBV.	REFERENCE(S)	OBS	AREA (km <sup>2</sup> )	LAT	LONG
Centennial Region, MT	CR	Culver, App. A Lowry, 1979 Dorn, 1968	766	1,347	44 35	111 50
Yellowstone WY	YE	Snow, 1989	887	3,820	44 00	110 00
Southeast Absarokas, WY	SA	Kirkpatrick, 1987	902	4,351	43 90	109 37
Western Wind Rivers, WY	WR	Fertig, 1992	1029	4,403	43 00	109 50
Flat Tops and White River Plateau, CO	NC	Vanderhorst, 1993	882	6,475	40 00	107 50
NW Black Hills, WY	BH	Marriot, 1985	976	6,475	44 50	104 50
Raft River, UT	RR	Preece, 1950	318	341	41 50	113 40
Santa Rosa Range, NV	SR	Charlet, 1991	375	1,595	41 60	117 50
Toiyabe, Toquima, & Monitor Ranges, NV	CN	Goodrich, 1981	1064	34,000	39 10	117 20
Sonora Pass, CA	SP	Lavin, 1983	824	2,500	38 40	119 80
Wallowa Mtns., OR	WA	Mason, 1975 Abrams, 1950, 1953, 1955 Abrams & Ferris, 1960	907	714	45 30	117 30

Abbreviations:

OGU-Operational geographic unit  
 OBS-Observed number of taxa per OGU  
 LAT-Latitude (estimated mid-point)  
 LONG-Longitude (estimated mid-point)

## METHODS

Floristic Survey

The floristic survey of the Centennial Region was conducted between 10 May and 20 September 1993 and between 1 June and 20 August 1994. A total of 863 plant specimens were obtained and the primary set was deposited at the Montana State University Herbarium (MONT). Collection sites were chosen to represent the complete range of habitats and geography. These collection sites were sampled repeatedly during both field seasons and attempt was made to spend equal amounts of time in each of the four vegetation zones. However, due to constraints of access, some areas were sampled only a few times (e.g. avalanche chutes, scree slopes, rock outcrops). At each location, voucher specimens of all flowering and fruiting species were collected. Habitat information, associated species, and elevation were recorded for each specimen. The specimens were identified at the MSU Herbarium during the academic years of 1993-94 using floras of: Dorn (1984), Hitchcock and Cronquist (1961, 1964, 1973), Hitchcock et. al. (1959, 1969), Hermann (1970), Cronquist (1955, 1989), Cronquist et. al. (1984), Barkley (1978), Rollins (1993), and Barneby (1964). The more difficult determinations were verified by comparisons

with specimens in the Montana State University Herbarium. Verification of many specimens was done by Dr. Jack Rumely and all *Castilleja* specimens were verified by Sarah Mathews. Following identification of the specimens, an annotated checklist was compiled. The checklist (Appendix A) was supplemented with riparian taxa from Dorn (1968) and subalpine taxa from Lowry (1979).

#### Sensitive Plant Survey

During the 1993 field season, populations of sensitive plants of the Centennial Region were surveyed under a contract with The Montana Natural Heritage Program (Nature Conservancy). Table 2 lists the sensitive plants that occur in the Centennial Region and their presence or absence within the 10 comparative floras. Known Centennial Region populations were relocated in addition to searching for new populations in appropriate habitats. The results are in the unpublished report, Sensitive Plant Species Inventory in the Centennial Valley, Beaverhead County, Montana (Culver, 1993).

The sensitive plant survey was continued in the summer of 1994 under a contract with the Bureau of Land Management. An addendum to the above report was submitted in September 1994 to the Billings, MT office (Culver, 1994).

Table 2. The presence or absence of the sensitive plant species (as of March 24, 1993) for the Centennial Region, MT within the 10 Operational Geographical Units (OGUs).

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
<i>Aquilegia formosa</i>	X	-	-	-	-	-	X	X	X	X	X
<i>Astragalus argophyllus</i> var. <i>argophyllus</i>	X	-	-	-	-	X	-	-	X	-	-
<i>Astragalus ceramicus</i> var. <i>apus</i>	X	-	-	-	-	-	-	-	-	-	-
<i>Astragalus lentiginosus</i> var. <i>salinus</i>	X	-	-	-	-	-	-	-	X	-	-
<i>Astragalus leptaleus</i>	X	-	-	-	-	-	-	-	-	-	-
<i>Astragalus terminalis</i>	X	-	-	-	-	-	-	-	-	-	-
<i>Atriplex truncata</i>	X	-	-	-	-	-	-	-	X	-	-
<i>Balsamorhiza macrophylla</i>	X	-	-	-	-	-	-	-	-	-	-
<i>Carex idaho</i>	X	-	-	-	-	-	-	-	-	-	-
<i>Carex multicosata</i>	X	-	-	-	-	-	X	-	-	-	-
<i>Carex vallicola</i>	X	X	-	X	X	X	-	X	X	X	-
<i>Castilleja rustica</i>	X	-	-	-	-	-	-	-	-	-	-
<i>Cryptantha fendleri</i>	X	X	-	-	-	X	-	-	-	-	-
<i>Downingia laeta</i>	X	-	-	-	-	-	-	-	X	-	-
<i>Elymus flavescens</i>	X	-	-	-	-	-	-	-	-	-	-
<i>Erigeron gracilis</i>	X	X	-	X	-	X	-	-	-	-	-
<i>Eriogonum ovalifolium</i> var. <i>nevadense</i>	X	-	-	-	-	-	-	X	-	-	-
<i>Gentiana aquatica</i>	X	-	-	-	-	X	-	-	-	-	-
<i>Gentianopsis simplex</i>	X	-	-	-	-	-	X	-	-	-	-

Table 2 continued. The presence or absence of the sensitive plant species (as of March 24, 1993) for the Centennial Region, MT within the 10 Operational Geographical Units (OGUs).

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
<i>Haplopappus nanus</i>	X	-	-	-	-	-	-	-	X	-	-
<i>Helenium hoopsii</i>	X	X	-	-	X	X	-	X	-	-	X
<i>Ipomopsis congesta</i> var. <i>crebifolia</i>	X	-	-	-	-	X	-	-	-	-	-
<i>Lesquerella</i> sp. novum	X	-	-	-	-	-	-	-	-	-	-
<i>Oenothera pallida</i> var. <i>idahoensis</i>	X	-	-	-	-	-	-	-	-	-	-
<i>Orobanche corymbosa</i>	X	-	-	-	-	-	X	-	X	-	-
<i>Potentilla plattensis</i>	X	-	-	X	-	X	-	-	-	-	-
<i>Primula alcalina</i>	X	-	-	-	-	-	-	-	-	-	-
<i>Ranunculus jovis</i>	X	-	-	-	-	X	-	-	-	-	-
<i>Senecio debilis</i>	X	X	-	-	-	X	-	-	-	-	-
<i>Sphaeralcea munroana</i>	X	-	-	-	-	-	-	-	X	X	X
<i>Stellaria crassifolia</i>	X	-	-	X	-	X	-	-	-	-	-
<i>Thalictrum alpinum</i>	X	X	-	X	X	X	X	-	-	-	-
<i>Thelypodium paniculatum</i>	X	-	-	-	-	X	-	-	-	-	-
<i>Thelypodium sagittatum</i> var. <i>sagittatum</i>	X	-	-	-	-	-	-	-	-	-	-

Abbreviations: CR-Centennial Region, YE-Yellowstone, BH-Black Hills, SA-Southeastern Absarokas, NC-Northwestern Colorado, WR-Wind Rivers, WA-Wallowa Mtns., SP-Sonora Pass, CN-Central Nevada Ranges, SR-Santa Rosa Range, RR-Raft River Range

### Quantitative Analysis

The Q-Mode site comparison method was used to analyze the flora of the Centennial Region with the 10 comparative floras. Comparisons of the individual vegetation zones within the Centennial Region and the 10 comparative floras were performed in an attempt to determine which modern day floristic region is more dominant in each elevational gradient with the Centennial Region.

The vicariance approaches were not used in this study due to: 1) the lack of areas of endemism (Centennial Region has no endemic taxa); and 2) the lack of phylogenetic studies of constituent taxa. Generalized track analysis (R-mode) or panbiogeography is a method that consists of mapping the geographic distributions (tracks) of monophyletic (descended from unique ancestry) taxa in an effort to determine if two or more tracks coincide. It is assumed that a given generalized track circumscribes regions that have a common history (Croizat et. al., 1974). Unlike the phenetic analysis where similarities using shared taxa are determined among biotas of different geographic areas, panbiogeography focuses on spatiotemporal analysis of the distribution patterns of organisms (Craw, 1983). R-mode is not amenable in this study since species distributions would extend to include most of western North America, if not much of the northern hemisphere. Therefore, little resolution

could be achieved concerning the floristic relationships of the Centennial Region.

Q-mode analysis is based on the number of shared taxa among sites and is, therefore, amenable to the study of floristic relationships of the Centennial Region. Q-mode analysis will identify the relative cosmopolitanism among a set of sites. Given the very widespread nature of the species that occur in the Centennial Region (from Pacific Northwest to the Great Plains), Q-mode analysis was selected for this study. A phenetic analysis of the Centennial Region with the other floras from the contiguous geographic regions can identify the degree of cosmopolitanism.

#### Floristic Similarity

All similarity indices were calculated with the computer program NTSYS-pc (Rohlf, 1993). The degree of similarity between sites was determined by calculating the Jaccard's (1908) Index of Floristic Similarity ( $S_j$ ). Jaccard's Index is based on the presence-absence relationship between the number of species common to two floras and the total number of species (Mueller-Dombois and Ellenberg, 1974). The assumption of shared absences is accounted for by omitting the absences or negative matches.

$$S_j = \frac{\text{species in common}}{\text{total sample size}} \quad (2)$$

The Sorenson (1948) Index of Floristic Similarity ( $S_s$ ) referred to as the Dice Similarity Index (Sokal and Sneath, 1963) in the NTSYS-pc program was calculated for each pairwise comparison. Although the results were similar to those obtained with the Jaccard Index, Dice's Index is not discussed here since it considers shared absences as an indication of relationship among geographical sites.

Jaccard's floristic similarity index was calculated for all pair-wise comparisons of plant associations and geographical regions. A rectangular data matrix consisting of 3217 taxa as rows and 11 geographical regions as columns was constructed in order to generate distance measures. When infraspecific identifications were not available for a given species, the nominate variety was assumed and entered for that species. The nomenclature of each flora was cross-checked for synonymy using Hitchcock and Cronquist (1961, 1964, 1973), Hitchcock et. al. (1959, 1969), Hermann (1970), Cronquist (1955, 1989), Cronquist et. al. (1984), Rumely and Lavin (1992) for Poaceae, and Hermann (1970) for Cyperaceae.

#### Distance (Similarity) Measures and Cluster Analysis

The distance data obtained from the similarity matrices were subjected to cluster analysis via the unweighted pair group method using arithmetic average (UPGMA) in the NTSYS-pc program. Relative similarities can thus be readily

visualized on a dendrogram. The size of the floras should be kept in mind when determining results of cluster analysis since this type of distance measures is strongly biased by large differences in the sizes of floras forcing the small floras to cluster together and apart from the larger one. In an effort to diminish clustering artifacts due to size differences, distance matrices were generated by eliminating from the original matrix all those species that did not have an occurrence in the Centennial Region. The structure of the resulting dendrograms from such a modified distance matrix reflects primarily the number of taxa in each area, and secondarily shared similarity among the sites not including Centennial Region. Also, a distance matrix was derived from a data matrix of only shared genera among the geographical sites.

#### Species Richness

Connor (1988) stated that phenetic similarity indices may be poor estimates of historical relationships, because of the sensitivity of taxa numbers (richness) to area size. To account for this criticism, species richness of the Centennial Region was compared to the other floras by standardizing each flora's area. The data were adjusted to a standard area of 100 km<sup>2</sup> to compensate for the effect of

different-sized areas of the OGU's, following Whitaker (1975):

$$\frac{\text{observed number of taxa}}{\log (\text{OGU area})} = \frac{\text{adjusted number of taxa}}{\log (100 \text{ km}^2)} \quad (3)$$

Additionally, the adjusted numbers of taxa allowed for a more accurate comparison of floristic richness of the Centennial Region with other regions of similar topography.

#### Species-Area Relationship

The asymptotic relationship between species and area was tested by plotting the observed number of species against the actual area. The number of observed taxa for each OGU was then plotted against actual area on a log graph. The equation from MacArthur and Wilson (1967) was used to obtain an approximation for the number of predicted species (Equation 1). The values for C and z were calculated using an optimizer function in Quattro Pro v5.0 (Borland International, Inc.), minimizing the sum of squared error. Finally, a linear regression was executed on the log-log plot. The analysis of the species-area relationship was performed to illustrate the parameter values that a regression yields, permitting a comparison of the bivariate distribution of species number and area (Connor and McCoy, 1979). The species-area relationship of the Centennial Region and the adjacent regional floras are examined here as a secondary component of biogeographical patterns.

## RESULTS AND DISCUSSION

Floristic Survey

Prior to this study, a floristic inventory of the Centennial Mountains was completed by Lowry (1979) who documented 362 taxa (including subspecies and varieties) representing 190 genera in 43 families. These taxa represent approximately 15% of the flora of Montana (Shelley, 1986). In a floristic study of the Red Rock Lakes National Wildlife Refuge and adjacent Centennial Mountains, Dorn (1968) listed 487 taxa (not including subspecies and varieties) in 243 genera and 65 families, representing approximately 21% of Montana's flora (Shelley, 1986). The floristic survey for this study yielded 488 taxa. Combining the results of this study with those of Dorn and Lowry, a total of 766 taxa (including subspecies and varieties) in 298 genera and 71 families was documented for the Centennial Region. Following Dorn (1984) the Centennial Region represents approximately 60% of the families and 45% of the genera in Montana (infraspecific taxa numbers were not available).

Cluster and Similarity Analyses

The similarity of the Centennial Region to the comparative floras calculated from the entire data set (3217 taxa from the 11 OGUs) varied from 9% to 55% (Table 3, Figure 3). The Centennial Region flora exhibited the highest similarity with the Yellowstone and Wind River floras at 39% (Table 3). This was followed by the floras from the Southeastern Absarokas, 36%; Northwestern Colorado, 30%; Wallowa Mountains, 28%; and the Black Hills, 24%. The Great Basin floras had similarities with the Centennial Range ranging from 18% (Santa Rosa Range) to 21% (Raft River Range).

To mitigate the effects of flora size differences, the data set was refined to include only taxa shared with the Centennial Region flora (Table 4, Figure 4). The highest similarities demonstrated were again with the Wind River flora at 66% and the Yellowstone flora at 61%; followed by floras from Southeastern Absarokas, 58%; Northwestern Colorado, 50%; Wallowa Mountains, 48%; and the Black Hills, 44%. The Great Basin floristic similarities with the Centennial Region ranged from 23% (Santa Rosa Range) to 41% (Central Nevada ranges).

When the analysis was performed including only genera shared with the Centennial Region the percent similarities (Table 5, Figure 5) ranged from 81% (Wind River Range) to 39% (Santa Rosa Range).

Table 3. Percent similarities between all possible pairs of the OGUs (entire data set) based on Jaccard's coefficient of similarity. Numbers following each OGU represent the total taxa for each OGU.

	CR(766)	YE(887)	BH(975)	SA(902)	NC(882)	WR(102)	WA(907)	SP(824)	CN(106)	SR(375)	RR(318)
CR	1.00										
YE	0.39	1.00									
BH	0.24	0.24	1.00								
SA	0.36	0.48	0.23	1.00							
NC	0.30	0.39	0.26	0.33	1.00						
WR	0.39	0.55	0.23	0.48	0.41	1.00					
WA	0.28	0.32	0.17	0.25	0.25	0.31	1.00				
SP	0.18	0.20	0.12	0.18	0.18	0.21	0.24	1.00			
CN	0.20	0.21	0.17	0.19	0.21	0.22	0.20	0.26	1.00		
SR	0.18	0.17	0.09	0.15	0.15	0.17	0.21	0.19	0.21	1.00	
RR	0.21	0.19	0.12	0.16	0.20	0.18	0.19	0.16	0.18	0.28	1.00

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Abbreviations for the Operation Geographic Units (OGU):

CR-Centennial Region, MT  
 YE-Yellowstone Headwaters, WY  
 BH-Black Hills, WY  
 SA-Southeast Absarokas, WY  
 NC-Flat Tops and White River Plateau, CO  
 WR-Western Wind River Range  
 WA-Wallowa Mountains, OR  
 SP-Sonora Pass, CA  
 CN-Toiyabe, Toiyama, & Monitor Ranges, NV  
 SR-Santa Rosa Range, NV  
 RR-Raft River Range, UT

Figure 3. Dendrogram depicting the clustering of eleven OGUs (the entire data set) based on floristic similarity. Numbers following OGUs (Table 3 for abbreviations) represent the total taxa number in each OGU.

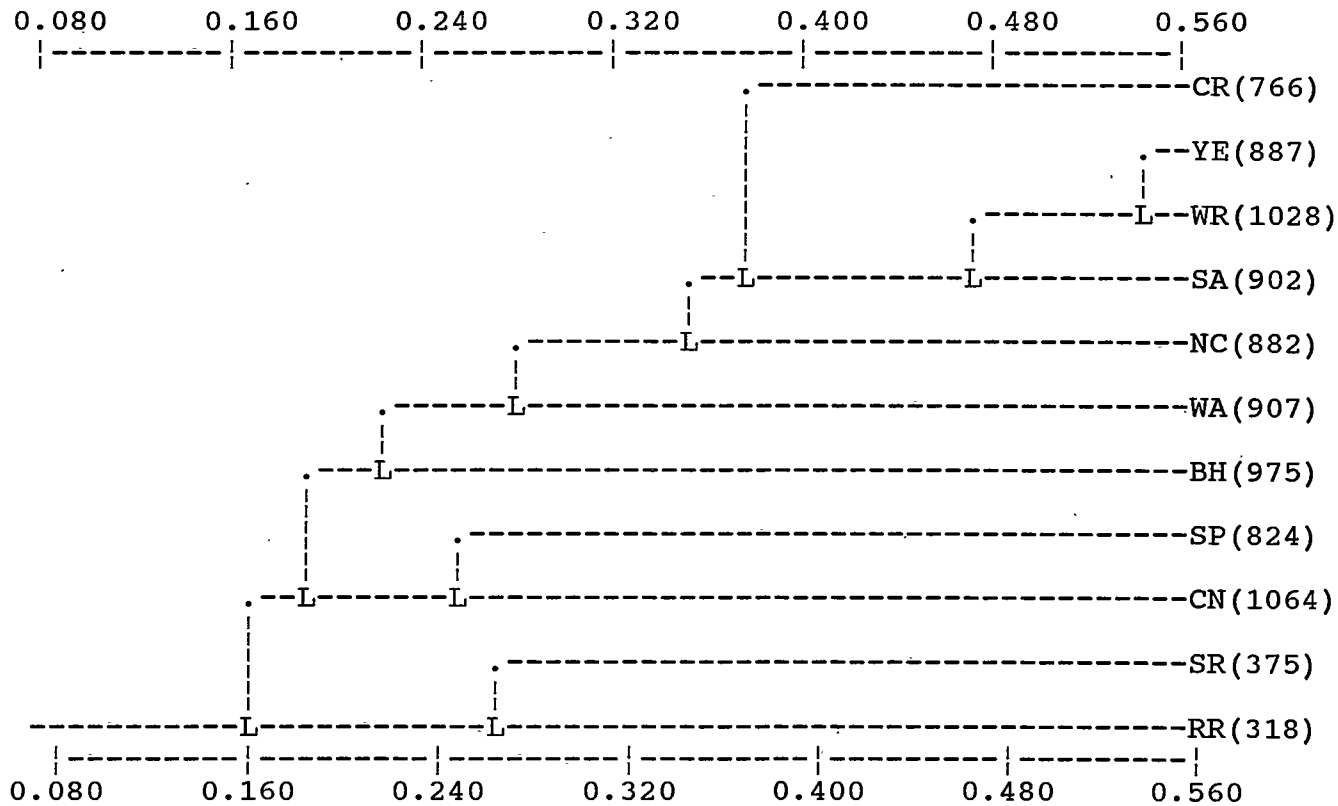


Table 4. Percent similarities between all possible pairs of the OGUs (shared taxa only) based on Jaccard's coefficient of similarity. Numbers following each OGU (Table 3 for abbreviations) represent total shared taxa with the Centennial Region.

CR(766)YE(464)BH(338)SA(448)NC(383)WR(508)WA(365)SP(239)CN(314)SR(174)RR(189)

CR	1.00											
YE	0.61	1.00										
BH	0.44	0.42	1.00									
SA	0.58	0.62	0.41	1.00								
NC	0.50	0.57	0.48	0.51	1.00							
WR	0.66	0.70	0.44	0.63	0.61	1.00						
WA	0.48	0.53	0.37	0.44	0.48	0.50	1.00					
SP	0.31	0.35	0.31	0.32	0.36	0.35	0.38	1.00				
CN	0.41	0.38	0.41	0.38	0.42	0.42	0.39	0.47	1.00			
SR	0.23	0.27	0.21	0.23	0.27	0.27	0.32	0.30	0.37	1.00		
RR	0.25	0.30	0.26	0.27	0.35	0.30	0.34	0.32	0.37	0.40	1.00	

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Table 5. Percent similarities between all possible pairs of the OGUs based on Jaccard's coefficient of similarity. Numbers following each OGU represent shared genera with the Centennial Region.

CV(298)YE(223)BH(198)SA(203)NC(222)WR(240)WA(205)SP(135)CN(175)SR(115)RR(139)

CV	1.00											
YE	0.75	1.00										
BH	0.66	0.63	1.00									
SA	0.68	0.75	0.62	1.00								
NC	0.74	0.75	0.67	0.70	1.00							
WR	0.81	0.79	0.64	0.72	0.77	1.00						
WA	0.69	0.75	0.60	0.65	0.71	0.69	1.00					
SP	0.45	0.53	0.47	0.48	0.53	0.53	0.57	1.00				
CN	0.59	0.55	0.58	0.52	0.58	0.57	0.55	0.57	1.00			
SR	0.39	0.48	0.40	0.44	0.43	0.42	0.50	0.51	0.50	1.00		
RR	0.47	0.54	0.44	0.50	0.54	0.50	0.56	0.53	0.55	0.57	1.00	

Figure 4. Dendrogram depicting the clustering of the eleven OGUs (shared occurrences only) based on floristic similarity. Numbers following OGUs (Table 3 for abbreviations) represent the number of shared taxa with the Centennial Region.

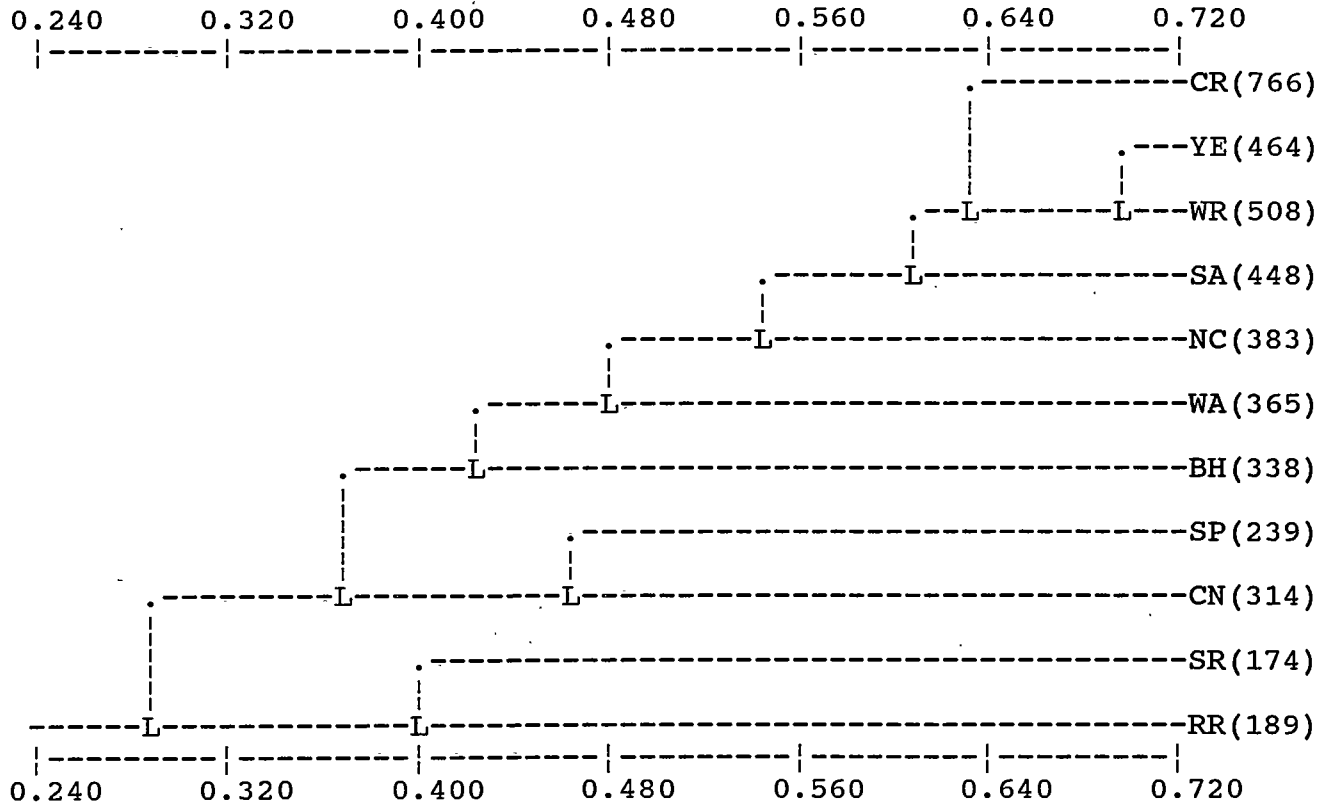
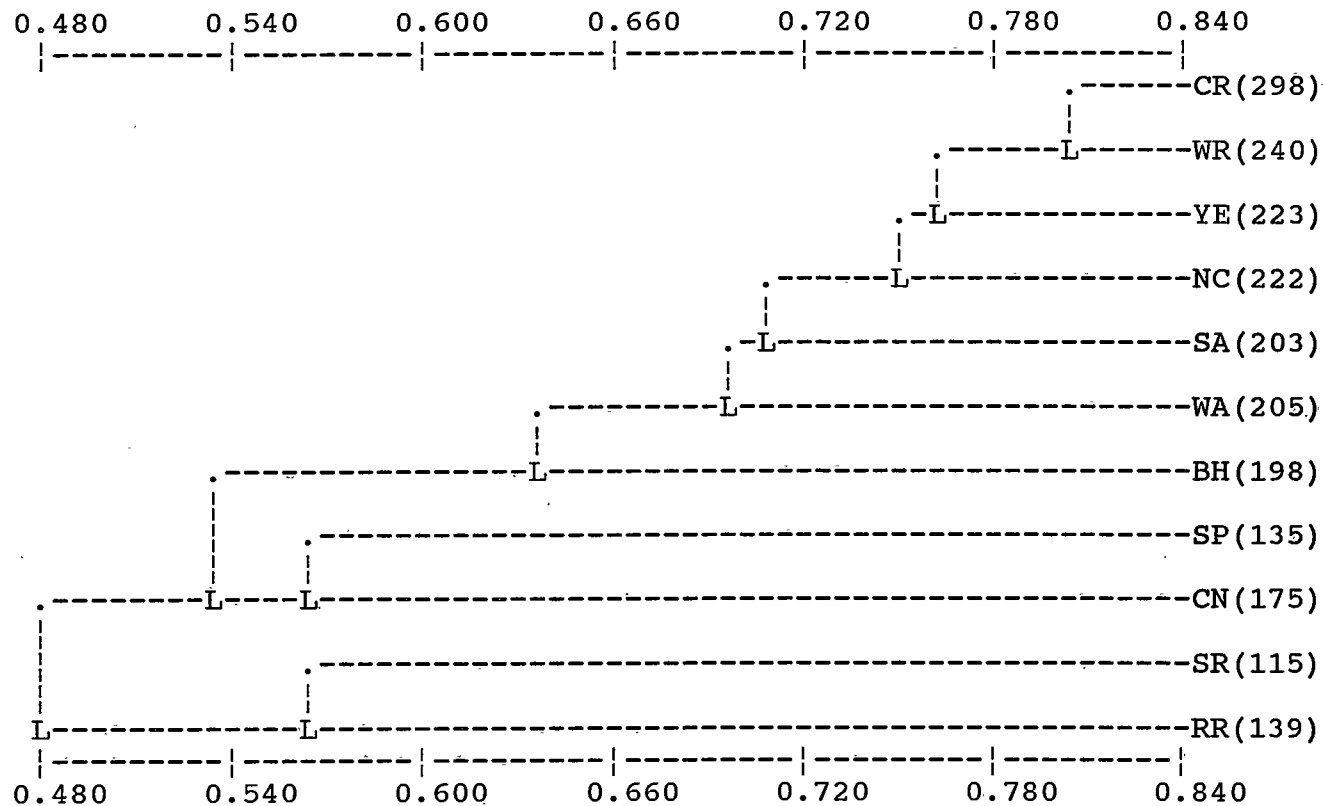


Figure 5. Dendrogram depicting the clustering of floras (OGUs) (shared genera only), based on floristic similarity. Numbers following each OGU (Table 3 for abbreviations) represent shared genera with the Centennial Region.



Similarity analyses for the shared taxa in the 4 vegetation zones of the Centennial Region and the 10 OGUs (Tables 6-9, Figures 6-9) all indicate a strong similarity between the Centennial Region and the Rocky Mountain province floras of the Wind River with a mean of 68%. The means for Yellowstone and Southeastern Absarokas are 64% along the elevational gradients. The mean percent similarity of the 4 vegetation zones with the Great Basin floras (Raft River Range, Central Nevada Ranges, and Santa Rosa Range) is only 39%.

#### Regional Endemics (Sensitive Plants)

A similarity analysis was performed using only the 34 sensitive plants identified in the Centennial Region (Table 10). This analysis revealed that the Centennial Region exhibits the highest similarity with the Wind River flora (38%) and the Central Nevada flora (26%). Table 2 depicts the presence or absence of these sensitive plants within the OGUs.

The sensitive plants of the Centennial Region that occur in the Great Basin floras (Central Nevada, Santa Rosa Range, and the Raft River Range) are as follows: *Aquilegia formosa*, *Astragalus argophyllus* var. *argophyllus*, *A. lentiginosus* var. *salinus*, *Atriplex truncata*, *Carex vallicola*, *Downingia laeta*, *Haplopappus nanus*, *Oenothera pallida* var. *idahoensis*, and *Sphaeralcea munroana* (Table 2).

Table 6. Percent similarities between all possible pairs of the OGUs and the sagebrush/grassland vegetation zone based on Jaccard's coefficient of similarity. Numbers following each OGU (Table 3 for abbreviations) represent shared taxa with the Centennial Region.

CR(400)YE(253)BH(196)SA(239)NC(211)WR(275)WA(180)SP(133)CN(184)SR(117)RR(118)

CR	1.00											
YE	0.63	1.00										
BH	0.49	0.51	1.00									
SA	0.60	0.65	0.49	1.00								
NC	0.53	0.59	0.53	0.54	1.00							
WR	0.69	0.73	0.48	0.64	0.60	1.00						
WA	0.45	0.50	0.39	0.42	0.46	0.47	1.00					
SP	0.33	0.36	0.33	0.32	0.40	0.38	0.37	1.00				
CN	0.46	0.41	0.43	0.41	0.46	0.45	0.44	0.49	1.00			
SR	0.29	0.32	0.27	0.28	0.31	0.32	0.38	0.33	0.44	1.00		
RR	0.29	0.33	0.31	0.31	0.37	0.34	0.37	0.32	0.45	0.43	1.00	

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Table 7. Percent similarities between all possible pairs of the OGUs and the riparian vegetation zone based on Jaccard's coefficient of similarity. Numbers following each OGU represent shared taxa with the Centennial Region.

CR(221)YE(117)BH(108)SA(120)NC(97)WR(148)WA(88)SP(67)CN(97)SR(40)RR(48)

CR	1.00										
YE	0.53	1.00									
BH	0.49	0.42	1.00								
SA	0.54	0.63	0.42	1.00							
NC	0.44	0.53	0.47	0.49	1.00						
WR	0.67	0.64	0.45	0.61	0.52	1.00					
WA	0.40	0.45	0.32	0.45	0.39	0.41	1.00				
SP	0.30	0.37	0.31	0.36	0.32	0.37	0.44	1.00			
CN	0.44	0.38	0.53	0.39	0.45	0.43	0.37	0.48	1.00		
SR	0.18	0.27	0.19	0.24	0.22	0.21	0.33	0.32	0.29	1.00	

Figure 6. Dendrogram depicting the clustering of the sagebrush\grassland vegetation zone and the OGUs based on floristic similarity. Numbers following OGUs (Table 3 for abbreviations) represent the number of shared taxa with Centennial Region.

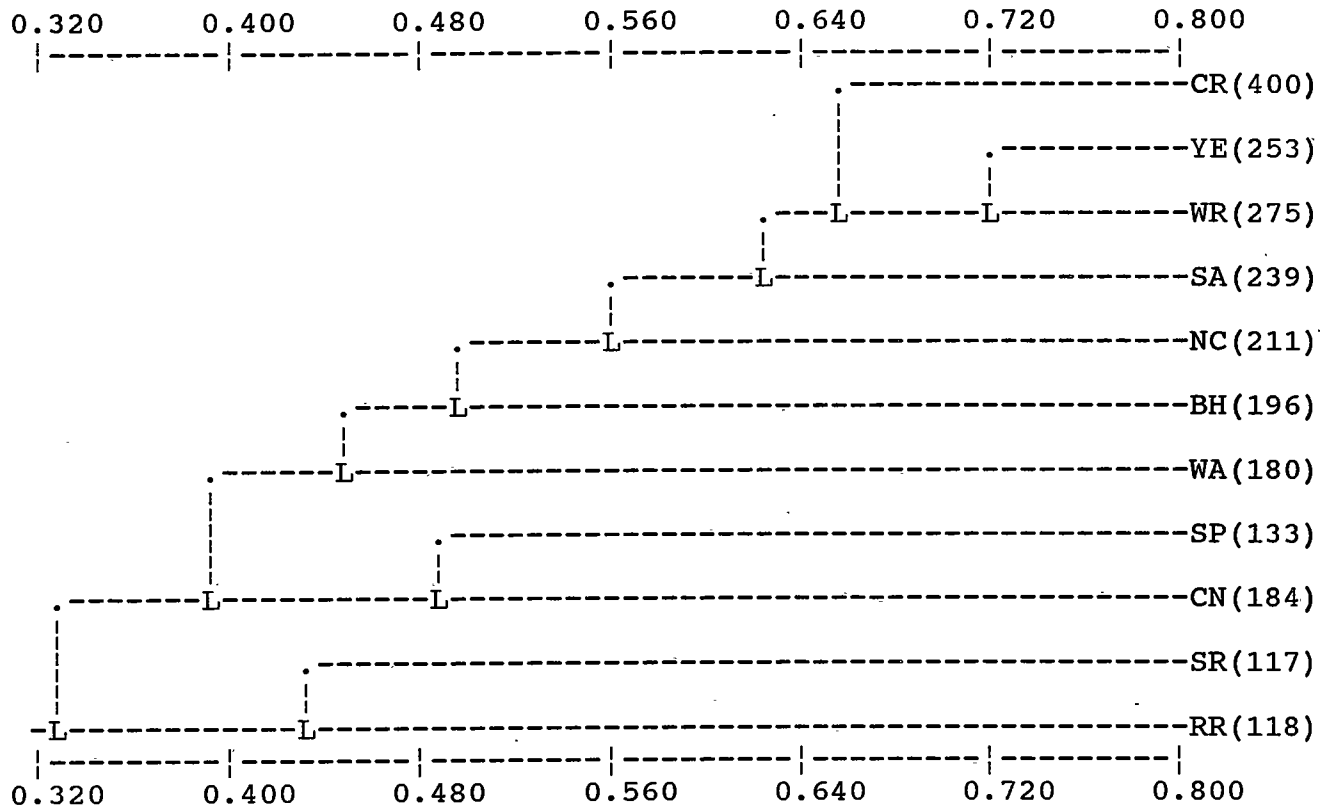


Figure 7. Dendrogram depicting the clustering of the riparian vegetation zone and the OGUs based on floristic similarity. Numbers following OGUs (Table 3 for abbreviations) represent the number of shared taxa with the Centennial Region.

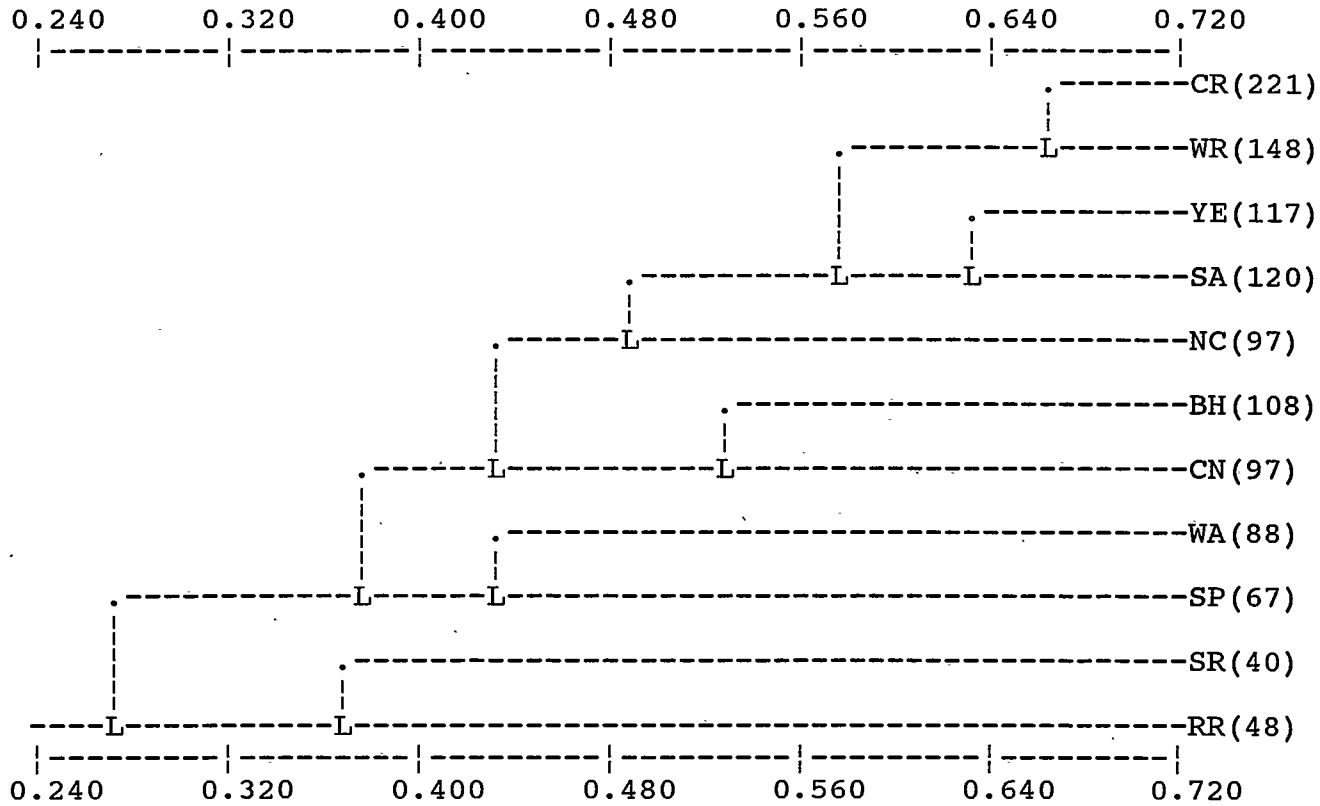


Table 8. Percent similarities between all possible pairs of the OGUs and the montane vegetation zone based on Jaccard's coefficient of similarity. Numbers following each OGU (Table 3 for abbreviations) represent shared taxa with the Centennial Region.

CR(287) YE(206) BH(118) SA(199) NC(157) WR(205) WA(183) SP(103) CN(109) SR(69) RR(81)

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CR	1.00											
YE	0.72	1.00										
BH	0.41	0.42	1.00									
SA	0.69	0.69	0.42	1.00								
NC	0.55	0.59	0.46	0.56	1.00							
WR	0.71	0.79	0.43	0.76	0.65	1.00						
WA	0.64	0.63	0.42	0.54	0.56	0.62	1.00					
SP	0.36	0.40	0.36	0.37	0.41	0.39	0.42	1.00				
CN	0.38	0.41	0.31	0.42	0.40	0.42	0.42	0.50	1.00			
SR	0.24	0.26	0.21	0.23	0.27	0.27	0.30	0.34	0.41	1.00		
RR	0.28	0.32	0.28	0.30	0.39	0.34	0.32	0.36	0.42	0.40	1.00	

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Table 9. Percent similarities between all possible pairs of the OGUs and the subalpine vegetation zone based on Jaccard's coefficient of similarity. Numbers following each OGU represent shared taxa with the Centennial Region.

CR(103) YE(68) BH(25) SA(76) NC(51) WR(70) WA(48) SP(48) CN(37) SR(22) RR(18)

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CR	1.00											
YE	0.66	1.00										
BH	0.24	0.29	1.00									
SA	0.74	0.66	0.28	1.00								
NC	0.50	0.55	0.25	0.48	1.00							
WR	0.68	0.77	0.28	0.66	0.66	1.00						
WA	0.47	0.53	0.28	0.41	0.50	0.51	1.00					
SP	0.38	0.39	0.33	0.40	0.48	0.40	0.45	1.00				
CN	0.36	0.35	0.38	0.41	0.47	0.39	0.37	0.58	1.00			
SR	0.21	0.27	0.21	0.26	0.35	0.28	0.32	0.30	0.47	1.00		
RR	0.17	0.18	0.16	0.19	0.28	0.24	0.22	0.21	0.31	0.43	1.00	

Figure 8. Dendrogram depicting the clustering of the montane vegetation zone and the OGUs based on floristic similarity. Numbers following OGUs (Table 3 for abbreviations) represent the number of shared taxa with the Centennial Region.

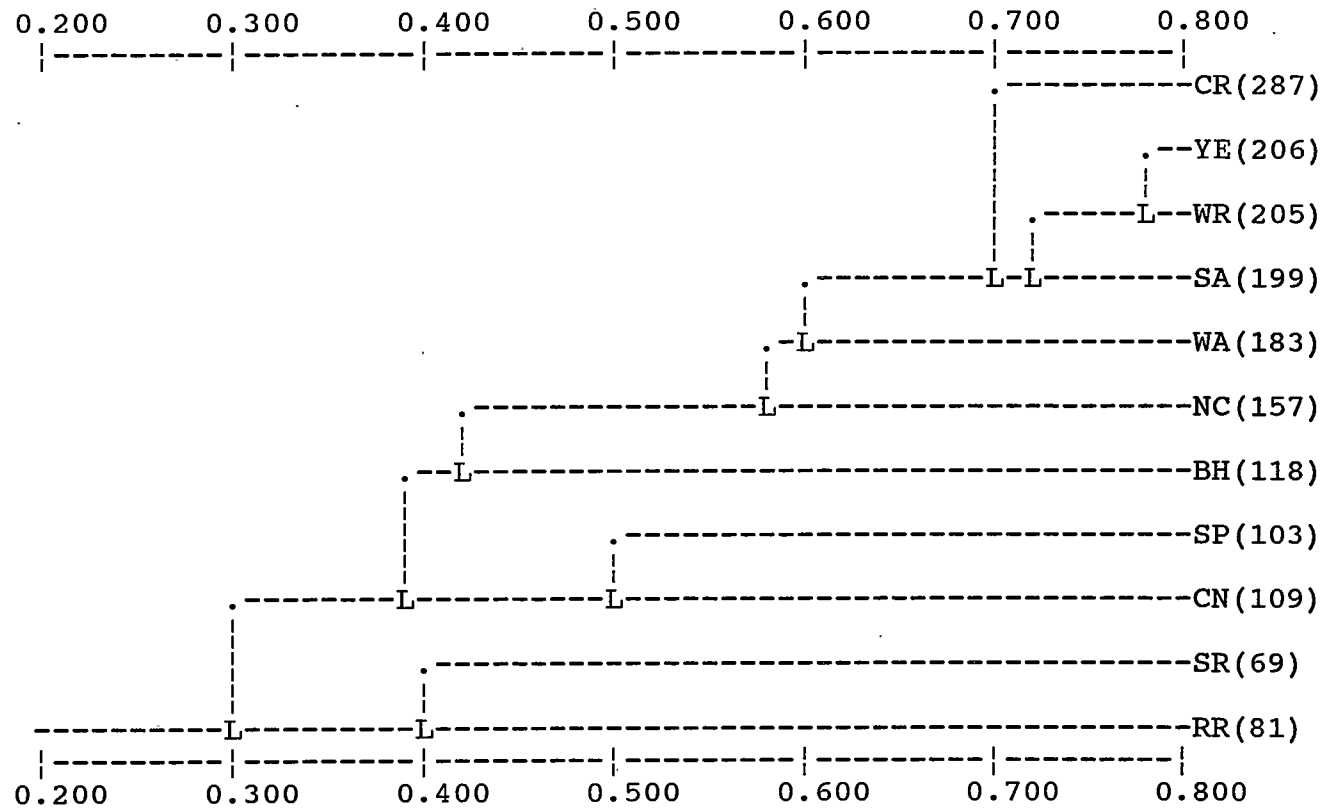


Figure 9. Dendrogram depicting the clustering of the subalpine vegetation zone and the OGUs based on floristic similarity. Numbers following OGUs (Table 3 for abbreviations) represent the number of shared taxa with the Centennial Region.

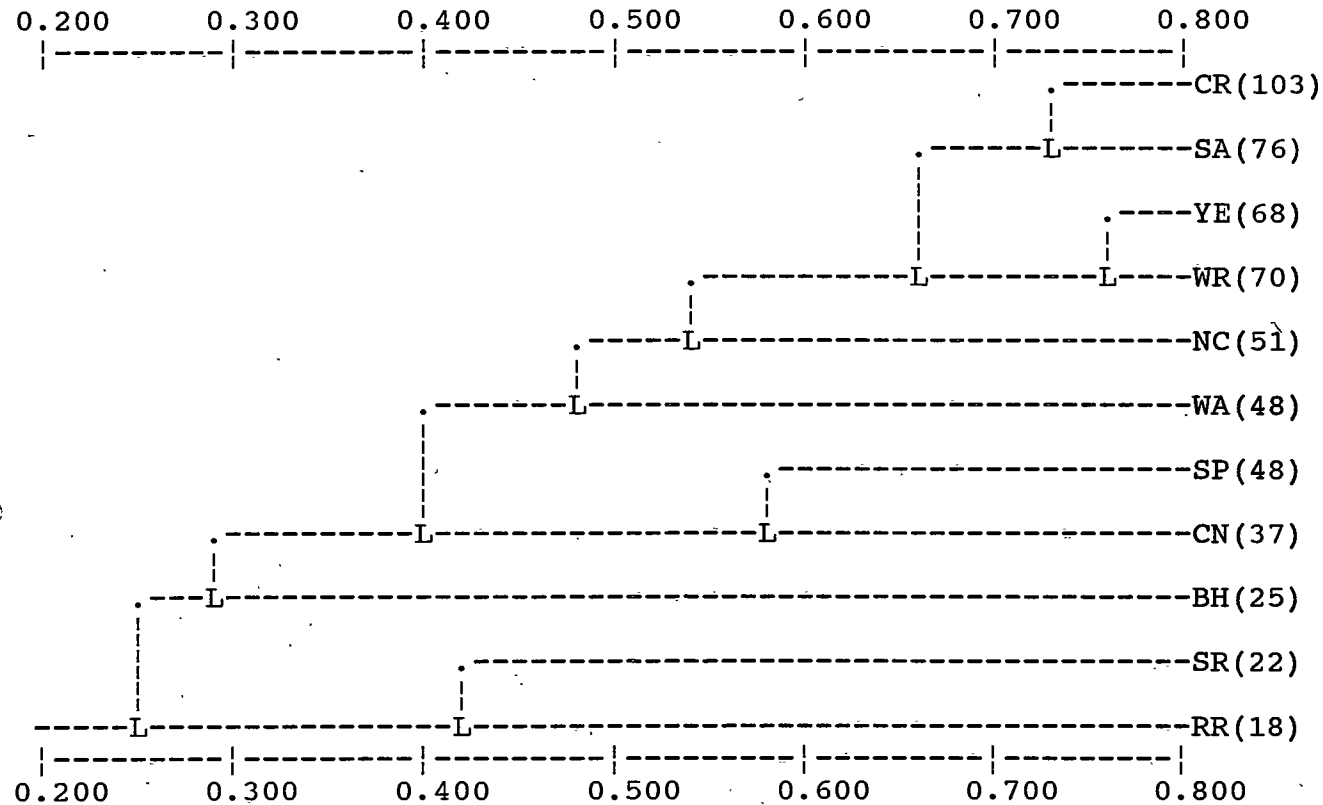


Table 10. Percent similarities between all possible pairs of the OGUs and the sensitive plants based on Jaccard's coefficient of similarity. Numbers following each OGU (Table 3 for abbreviations) represent shared taxa with the Centennial Region.

	CR(34)	YE(6)	BH(0)	SA(5)	NC(3)	WR(13)	WA(5)	SP(4)	CN(10)	SR(3)	RR(3)
CR	1.00										
YE	0.18	1.00									
BH	0.00	0.00	1.00								
SA	0.15	0.38	0.00	1.00							
NC	0.09	0.50	0.00	0.33	1.00						
WR	0.38	0.46	0.00	0.38	0.23	1.00					
WA	0.15	0.10	0.00	0.11	0.14	0.06	1.00				
SP	0.12	0.25	0.00	0.13	0.40	0.13	0.13	1.00			
CN	0.26	0.07	0.00	0.07	0.08	0.10	0.15	0.17	1.00		
SR	0.09	0.13	0.00	0.14	0.20	0.07	0.14	0.40	0.30	1.00	
RR	0.09	0.13	0.00	0.00	0.20	0.07	0.14	0.40	0.18	0.50	1.00

Of these nine species, only *Astragalus lentiginosus* var. *salinus*, *Atriplex truncata*, *Downingina laeta*, *Haplopappus nanus*, *Oenothera pallida* var. *idahoensis*, and *Sphaeralcea munroana* occur exclusively in the Great Basin and the Centennial Region flora. *Atriplex truncata*, *Downingina laeta* (historical records) and *Haplopappus nanus* were not relocated. The remaining three sensitive plants were relocated and new populations of *Astragalus lentiginosus* var. *salinus* and *Sphaeralcea munroana* were documented (Culver, 1993; 1994). Only 3 of the 34 sensitive species in the Centennial Region have a distribution primarily from the Great Basin. The assertion that the Centennial Region is a Great Basin refugium does not find strong support from this study. In fact, most of the 34 sensitive plant taxa occur primarily in the Rocky Mountain province as evidenced by the 38% similarity with the western Wind River Range flora (Table 10). As with the majority of the taxa in the Centennial Region, many of the sensitive plants listed for the Centennial Region have widespread distributions in western North America. These include: *Carex vallicola*, *C. idahoensis*, *Cryptantha fendleri*, *Gentiana aquatica*, *Gentianopsis simplex*, *Helenium hoopesii*, *Orobanche corymbosa*, *Potentilla plattensis*, *Ranunculus jovis* and *Thalictrum alpinum* (Lesica and Shelley, 1991).

Examples of such extensive species distributions are exemplified by the *Astragalus* species occurring in the

Centennial Region. *A. argophyllus* var. *argophyllus* extends from central and northwestern Nevada, north and eastward across the Snake River Plains to the upper forks of the Salmon River in Idaho, and south to western Wyoming and central Utah (Barneby, 1964). Although the range of the species is centered in the Great Basin, it also extends into eastern California and western Colorado (Barneby, 1964). The variety *argophyllus* is also found in the western Wind River Range, Wyoming (Table 2). *A. lentiginosus* occurs from east-central Washington and Oregon, to northern California and Nevada and into eastern Idaho (Barneby, 1964). However, the variety *salinus* found in the Centennial Region, occurs only in the Great Basin province (Lesica and Shelly, 1991). These two varieties represent the Great Basin affinities in the Centennial Region. Another example is *Astragalus ceramicus*. The species occurs throughout eastern Idaho, eastern Wyoming, southern Utah, northeastern Arizona, northwestern New Mexico, Colorado, eastern Oklahoma, Nebraska, and the Dakotas (Barneby, 1964). However, the variety *apus* only occurs in southeastern Idaho and the sandhill area of the Centennial Region (Lesica & Shelly, 1991). As a whole, the species is more indicative of a short-grass prairie habitat than a Great Basin desert shrub community. The two other *Astragalus*; *A. leptaleus* and *A. terminalis*, occur in western Montana and east-central Idaho

(Barneby, 1964). These species could at best be indicative of a northern Rocky Mountain influence.

Another regional endemic that has widespread species distribution is *Oenothera pallida* var. *idahoensis*. Although the variety *idahoensis* occurs only in Beaverhead County, Montana and Fremont County, Idaho, the species as a whole occurs from eastern Washington and Oregon, east to Montana, New Mexico, and Arizona (Lesica and Shelly, 1991).

Two of the regional endemics, *Aquilegia formosa* and *Castilleja rustica* were determined to be misidentified in past floristic surveys. *Aquilegia formosa* is in fact *Aquilegia flavescens* with reddish sepals. Verification of *A. flavescens* specimens was performed using petal lengths and spur morphology. The petal lengths of the specimens collected were approximately 10-11 mm long and the spurs are incurved. The petal lengths of *A. formosa* are shorter, 5-6 mm, and the spurs are straight. According to Hitchcock (1964), *A. formosa* and *A. flavescens* "cross freely, (especially in southwestern Montana) producing an intermediate phase that has been called variety *miniana* Nels. & Macbr., in which the sepals are more or less pinkish and the blade of the petals is mostly 4.5-6 mm long, whereas the var. *flavescens* characteristically has yellow sepals and petal blades 6-13 mm long." Invoking hybrid origins of these *A. flavescens* populations from the Centennial Region

is ad hoc and should be considered only if some other evidence rather than reddish pigment is found.

Seven new populations of *Castilleja rustica* were documented, indicating that populations of *C. rustica* were previously either overlooked or misidentified because of the similarities shared with *C. flava* and *C. pallescens*. According to Cronquist et. al. (1984), *C. rustica* is not distinguished as a separate species, but as a variety of *C. flava*. In variety *flava*, the calyx is much more deeply cleft in front (8-12 mm) than in the back and the galea is longer (7-12 mm) compared to variety *rustica* (5-8 mm). He also states, "*C. flava* and *C. rustica* share too many characters in common to be kept apart, and the two appear to merge in eastern Idaho." Based on the galea and calyx morphology, the specimens from the Centennial Region are *C. rustica* (Sarah Mathews, 1994).

The field observations and regional distributions for all the sensitive plants are summarized in Culver (1993, 1994).

#### Glaciation and Proximity Effects

The historical effects of proximity and glaciation have been a main determinant of the Rocky Mountain influence on the flora of the Centennial Region. All four areas (Centennial Region, Yellowstone, Wind Rivers, and Absarokas) share a similar climatic history and underwent extensive

glaciation during the Pleistocene (2 m.y.a.) (Pielou, 1992). During that time the plant species could have dispersed to areas of similar topography and climate.

The effect of proximity on the flora of the Centennial Region from the Rocky Mountain floras is evidenced by the observed floristic similarities with the Wind River Range, 66%; Yellowstone Headwaters, 61%; and the Southeastern Absarokas, 58% (Table 4). Latitude has previously been determined to be the best predictor of floristic similarity of alpine plants in the Rocky Mountains (Hadley, 1987) and in both montane and alpine plants along the Cascade-Sierra axis. The Centennial Region, Yellowstone, Wind Rivers, and the Southeastern Absarokas lie within only 1 degree of latitude and 2 degrees of longitude of one another (Table 1). Charlet (1991) also found evidence of a strong latitudinal gradient, but only within a narrow longitudinal range. Therefore, proximity and latitude may be just as important as determinants of plant distributions as are the ecological determinants of climate, substrate, topography.

The Centennial Region is considered a part of the Greater Yellowstone Ecosystem (Gomez, 1993) which encompasses the mountain ranges of the Southeastern Absarokas, Yellowstone Headwaters and the Wind Rivers. Past and current corridors between these areas for large mammals and birds have contributed to the dispersal of both vertebrate and plant taxa. A possible migratory route

between the Centennial Region and the western Wind Rivers is evidenced by the high similarity of shared taxa (66%) and genera (81%), and the presence of 13 of the 34 sensitive plants within the Wind River flora.

Recent human history could have additionally contributed to the dispersal of similar taxa via the Monida-Yellowstone stageline which travelled through Centennial Valley during the early 1900's (Beaverhead County History Book Association, 1990).

#### Species-Area Relationship

Figure 10 illustrates the asymptotic relationship between the observed number of species and the areas of the OGUs. The curvilinear relationship between species number and area agrees with the early observations from Jaccard (1902) to Connor and McCoy (1979).

A preliminary regression was performed on a log-log plot (Figure 11) to observe the trend between area size and species number. The regression yielded an  $r^2$  of 0.48 for the equation:

$$y = 0.22x + 2.11 \quad (4)$$

A linear regression on the untransformed comparison (not shown) yielded an  $r^2$  of 0.22 for the equation:

$$y = 0.012x + 738.30 \quad (5)$$

The log-log plot (Figure 11) gives a higher  $r^2$  of 0.48, which is consistent with the findings of Connor and McCoy (1979), in which they reported that the log-log plots (power function) gave higher  $r^2$  values and a better fit; however, they caution that it may be premature to conclude that a particular model is a best-fit. The  $r^2$  of 0.48 from the log-log plot indicates that the variability in area size could account for almost half of the variability in the number of taxa in each area.

The evaluation of the species-area relationship (Equation 1) resulted in a slope ( $z$  value) of 0.16 (Figure 12). The value of the constant  $C$  was determined to be 227.57. This  $z$  value is within the range of values, 0.12-0.17, reported for a variety of biotas on mainlands (MacArthur and Wilson, 1967; Harper et. al., 1978).

Figure 10. Curvilinear relationship between the observed number of species and the area.

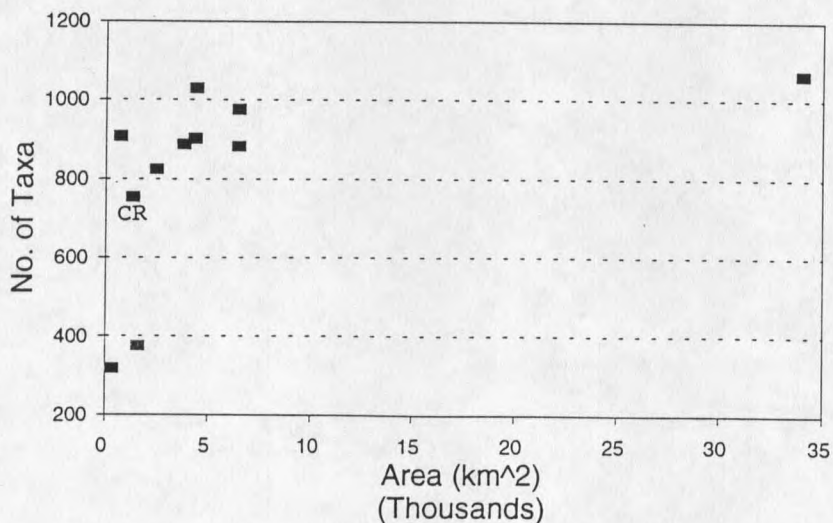


Figure 11. Species-area relationship of the OGU's using the log of the observed number of taxa and area.

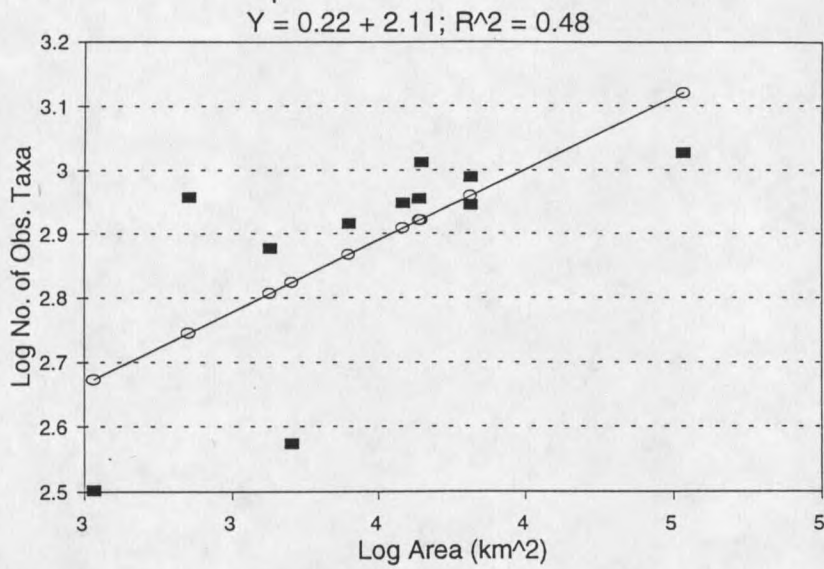
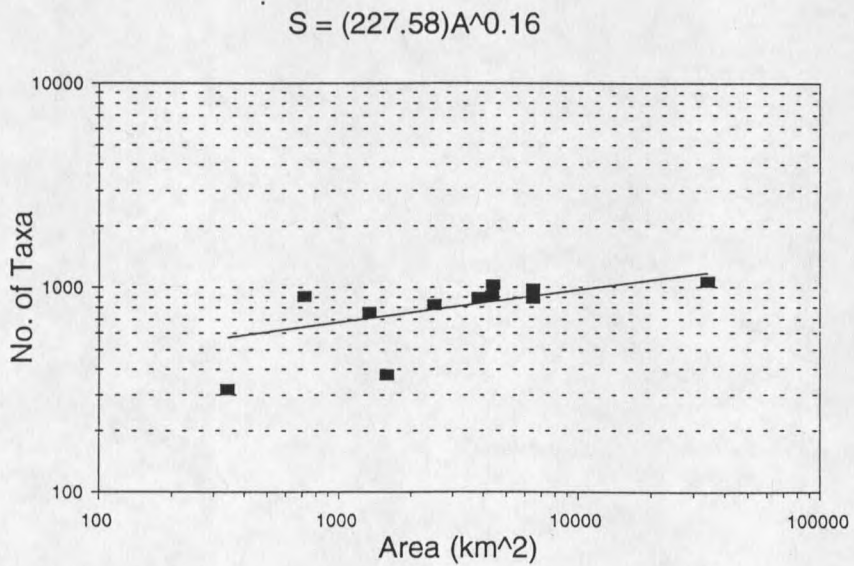


Figure 12. Species-area relationship of the OGU's using a log scale.



The species-area relationship demonstrated with the 11 OGUs from western North America can be used to compare the diversities among the geographical provinces of different-sized areas. These data indicate that the Centennial Region does not differ notably from the other OGUs. The effect of area on floristic richness can also be accounted for so that the effect of other variables can be examined.

Future studies might address the question how rich the Centennial Region is compared to other areas in Montana or questions concerning adequate area size for public land conservation.

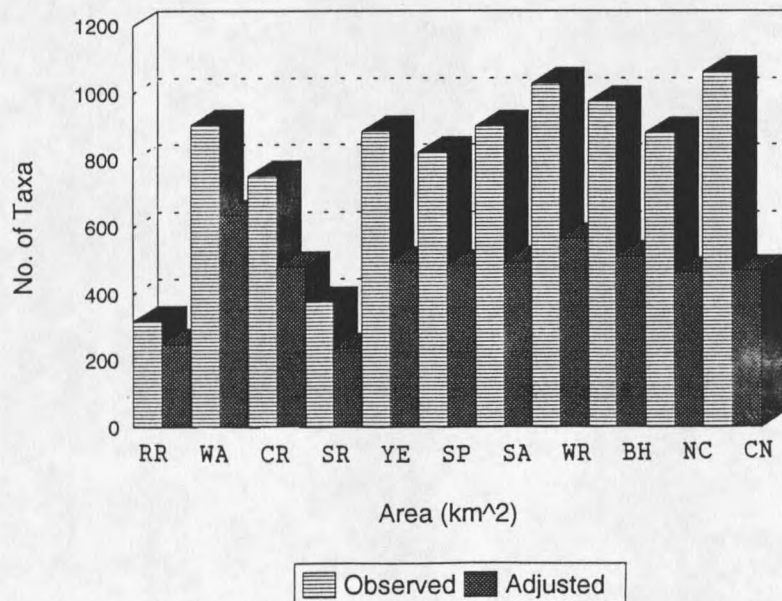
#### Species Richness

After modifying the effect of different-sized areas, the species richness of the Centennial Region (490) is slightly higher than the mean of 463 (Table 11). Figure 13 illustrates the relationship between the observed and adjusted taxa within the OGUs. The adjusted number of species in the Centennial Region is similar to those in other Rocky Mountain provinces with similar topography: Yellowstone (495); Southeastern Absarokas (496). Therefore, the richness of the flora of the Centennial Region is not higher than the other western North American floras used for comparison.

Table 11. Species richness relationship between number of observed and adjusted taxa (mean = 463).

OGUs	No. of Observed Taxa	Area (km <sup>2</sup> )	No. of Adj. Taxa /100 km <sup>2</sup>
Centennial Region	766	1,347	490
Flat Tops & White River Plateau	882	6,475	463
NW Black Hills	976	6,475	512
Raft River	318	341	251
Santa Rosa Range	375	1,595	234
SE Absarokas	902	4,351	496
Sonora Pass	824	2,500	485
Toiyabe, Toquima, & Monitor Ranges	1,064	34,000	470
Wallowa Mtns.	907	714	636
Wind River Range	1,029	4,403	565
Yellowstone	887	3,820	495

Figure 13. Species richness comparison of the actual and observed number of taxa (from Table 11).



## SUMMARY

The phenetic (Q-mode) analyses indicate that the flora of the Centennial Region has been primarily influenced by the Rocky Mountain flora and only weakly influenced by the Great Basin flora. The use of regional endemics as indicators of biogeographical affinity was shown to be inconsequential and misleading. Historical effects of proximity and latitude have been important during the development of the Centennial Region flora, perhaps as important as the effects of climate, topography, and other ecological factors.

The species-area relationship of the 11 floras demonstrated that the variability of area size can account for approximately half of the variability of species richness. Finally, the species richness of the Centennial Region is not exceptional and is similar to other western North American floras possessing similar topography. However, given the limited plant diversity in Montana, future studies comparing the Centennial Region with other Montana floras might show that the Centennial Region is relatively floristically rich.

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APPENDICES

APPENDIX A-ANNOTATED CHECKLIST OF THE VASCULAR PLANTS  
OF THE CENTENNIAL REGION, MONTANA

Annotated checklist of vascular plants for Cenntennial Valley and Mountains. References are C=Culver; L=Lowry; D=Dorn; M=Montana Natural Heritage Program; H=Historical Record. Vegetation Zones: SG=Sagebrush\Grassland; RI=Riparian; MO=Montane; SA=Subalpine

	REF	SG	RI	MO	SA
<u>PTERIDOPHYTES</u>					
Equisetaceae					
<i>Equisetum</i>					
<i>arvense</i> L.	C	-	X	-	-
<i>fluviatlile</i> L.	C	X	-	-	-
<i>hyemale</i> L.					
var. <i>affine</i> (Engelm.) A. A. Eat.	C	-	X	-	-
<i>laevigatum</i> A. Br.	D	-	X	-	-
<i>palustre</i> L.	C	-	X	-	-
Polypodiaceae (sensu lato)					
<i>Cystopteris</i>					
<i>fragilis</i> (L.) Bernh.					
var. <i>fragilis</i>	C	-	-	X	-
<i>Pellaea</i>					
<i>breweri</i> Eaton	C	-	-	X	-
<i>Woodsia</i>					
<i>oregana</i> D. C. Eat.	L	-	-	-	X
Selaginaceae					
<i>Selaginella</i>					
<i>densa</i> Rydb.					
var. <i>scopulorum</i> (Maxon) R. Tryon	D	X	-	-	-
<u>GYMNOSPERMS</u>					
Cupressaceae					
<i>Juniperus</i>					
<i>communis</i> L.					
var. <i>montana</i> Ait.	C	X	-	X	-
<i>horizontalis</i> Moench	C	X	-	X	-
<i>scopulorum</i> Sarg.	C	-	-	X	-
Pinaceae					
<i>Abies</i>					
<i>lasiocarpa</i> (Hook.) Nutt.					
var. <i>lasiocarpa</i>	C	-	-	X	-
<i>Picea</i>					
<i>engelmannii</i> Parry ex Engelm.	C	-	-	X	-
<i>Pinus</i>					
<i>albicaulis</i> Engelm.	C	-	-	-	X
<i>contorta</i> Dougl. ex Loud.					
var. <i>latifolia</i> Engelm. ex Wats.	C	-	-	X	-
<i>flexilis</i> James	C	-	-	X	X

	REF	SG	RI	MO	SA
<i>Pseudotsuga</i>					
<i>menziesii</i> (Mirb.) Franco					
var. <i>glauca</i> (Beissn.) Franco	C	-	-	X	-
<b>ANGIOSPERMS</b>					
<b>Aceraceae</b>					
<i>Acer</i>					
<i>glabrum</i> Torrey					
var. <i>glabrum</i>	C	X	-	X	-
<i>negundo</i> L.	D	X	-	-	-
<b>Alismaceae</b>					
<i>Sagittaria</i>					
<i>cuneata</i> Sheld.	D	-	X	-	-
<b>Apiaceae</b>					
<i>Angelica</i>					
<i>arguta</i> Nutt.	C	-	X	X	-
<i>pinnata</i> Wats.	D	-	X	-	-
<i>Burpleurum</i>					
<i>americanum</i> Coult. & Rose	C	X	X	X	X
<i>Circuta</i>					
<i>douglasii</i> (DC.) Coult. & Rose	C	-	X	-	-
<i>Cymopterus</i>					
<i>acaulis</i> (Pursh) Raf.	C	-	-	X	-
<i>bipinnatus</i> Wats.	C	X	-	-	-
<i>hendersonii</i> (Coult. & Rose) Cronq.	C	X	-	-	X
<i>Heracleum</i>					
<i>sphondylium</i> L.	C	X	X	X	-
<i>Ligusticum</i>					
<i>filicinum</i> Wats.	C	-	-	X	-
<i>Lomatium</i>					
<i>ambigum</i> (Nutt.) Coult. & Rose	L	X	-	-	-
<i>cous</i> (Wats.) Coult. & Rose	C	X	X	-	X
<i>foeniculaceum</i> (Nutt.) Coult. & Rose					
var. <i>foeniculaceum</i>	C	X	-	-	-
<i>macrocarpum</i> (Nutt.) Coult. & Rose	C	X	-	-	-
<i>triternatum</i> (Pursh) Coult. & Rose					
ssp. <i>platycarpum</i> (Torr.) Cronq.	C	X	-	-	-
ssp. <i>triternatum</i>					
var. <i>triternatum</i>	C	X	-	-	-
<i>Musineon</i>					
<i>divaricatum</i> (Pursh) Nutt. ex T. & G.	C	X	-	-	-
<i>Osmorhiza</i>					
<i>chilensis</i> Hook. & Arn.	L	-	-	X	-
<i>depauperata</i> Phil.	C	X	-	X	-
<i>occidentalis</i> (Nutt.) Torr.	C	X	-	X	-

	REF	SG	RI	MO	SA
<i>Perideridia</i>					
<i>gairdneri</i> (H. & A.) Mathias					
ssp. <i>borealis</i> Chuang & Const.	C	X	-	X	-
<i>Sium</i>					
<i>suave</i> Walt.	D	-	X	-	-
<i>Zizia</i>					
<i>aptera</i> (Gray) Fern.	C	X	X	-	-
Asteraceae					
<i>Achillea</i>					
<i>millefolium</i> L.					
ssp. <i>lanulosa</i> (Nutt.) Piper					
var. <i>alpicola</i> (Rydb.) Garrett	L	-	-	-	X
var. <i>lanulosa</i>	C	X	-	X	-
<i>Agoseris</i>					
<i>aurantiaca</i> (Hook.) Greene					
var. <i>aurantiaca</i>	C	X	-	X	-
<i>glauca</i> (Pursh) Raf.					
var. <i>agrestis</i> (Osterh.) Q. Jones	C	X	-	X	-
var. <i>dasycephala</i> (T. & G.) Jeps.	C	-	-	X	X
var. <i>glauca</i>	C	X	X	-	-
var. <i>lacinata</i> (D. C. Eat.) Smiley	C	X	-	-	-
<i>Anaphalis</i>					
<i>margaritacea</i> (L.) Benth. & Hook.	C	X	-	-	-
<i>Antennaria</i>					
<i>alpina</i> (L.) Gaertn.	C	-	-	X	-
<i>anaphaloides</i> Rydb.	C	X	X	-	-
<i>corymbosa</i> E. Nels.	L	-	-	X	-
<i>luzuloides</i> T. & G.	C	-	-	X	X
<i>microphylla</i> Rydb.	C	X	X	X	-
<i>racemosa</i> Hook.	C	-	-	X	-
<i>Arnica</i>					
<i>chamissonis</i> Less.					
ssp. <i>foliosa</i> (Nutt.) Maguire					
var. <i>foliosa</i>	L	-	-	X	-
<i>cordifolia</i> Hook.					
var. <i>cordifolia</i>	C	-	-	X	-
<i>latifolia</i> Bong.					
var. <i>latifolia</i>	L	-	-	-	X
<i>mollis</i> Hook.	L	-	-	X	-
<i>sororia</i> Greene	C	X	-	X	-
<i>Artemisia</i>					
<i>arbuscula</i> Nutt.					
var. <i>arbuscula</i>	C	X	-	-	-
<i>biennis</i> Willd.					
var. <i>biennis</i>	D	X	-	-	-
<i>cana</i> Pursh					
var. <i>cana</i>	C	X	-	X	-
<i>dracunculus</i> L.	C	X	-	-	-

	REF	SG	RI	MO	SA
<i>Artemisia</i>					
<i>frigida</i> Willd.	C	X	-	X	-
<i>ludoviciana</i> Nutt.					
var. <i>latiloba</i> Nutt.	C	X	-	-	-
<i>nova</i> A. Nels.	C	X	-	-	-
<i>tridentata</i> Nutt.					
var. <i>tridentata</i>	C	X	-	X	-
<i>tripartita</i> Rydb.	C	X	-	-	-
<i>Aster</i>					
<i>ascendens</i> Lindl.	C	X	-	X	-
<i>campestris</i> Nutt.					
var. <i>campestris</i>	L	-	-	X	-
<i>conspicuus</i> Lindl.	C	X	-	X	-
<i>eatonii</i> (Gray) Howell	L	-	-	X	-
<i>engelmanni</i> (Eaton) Gray	D	-	-	X	-
<i>falcatus</i> Lindl.	D	X	-	-	-
<i>foliaceus</i> Lindl. ex DC.	D	-	X	-	-
var. <i>apricus</i> Gray	L	-	-	-	X
var. <i>canbyi</i> Gray	L	-	-	X	-
var. <i>lyallii</i> (Gray) Cronq.	L	-	-	X	-
var. <i>parryi</i> (Eat.) Gray	L	-	-	X	-
<i>hesperius</i> Gray	D	-	X	-	-
<i>integrifolius</i> Nutt.	C	X	-	X	-
<i>occidentalis</i> (Nutt.) T. & G.	D	X	-	-	-
<i>perelegans</i> Nels. & Macbr.	L	-	-	X	-
<i>scopulorum</i> Gray	C	X	-	-	-
<i>subspicatus</i> Nees.	C	-	X	-	-
<i>Balsamorhiza</i>					
<i>macrophylla</i> Nutt.	C	-	-	X	-
<i>sagittata</i> (Pursh) Nutt.	C	X	-	X	-
<i>Bidens</i>					
<i>cernua</i> L.	D	-	X	-	-
<i>Chaenactis</i>					
<i>douglasii</i> (Hook.) H. & A.					
var. <i>achilleaefolia</i> (H. & A.) A. Nels.	C	X	-	-	X
<i>Chrysanthemum</i>					
<i>leucanthemum</i> L.	D	X	-	-	-
<i>Chrysothamnus</i>					
<i>nauseous</i> (Pallas ex Pursh) Britt.					
var. <i>artus</i> (A. Nels.) Cronq.	C	X	-	-	-
<i>viscidiflorus</i> (Hook.) Nutt.					
var. <i>lanceolatus</i> (Nutt.) Greene	C	X	-	-	-
<i>Cirsium</i>					
<i>arvense</i> (L.) Scop.	C	X	-	-	-
<i>canovirens</i> (Rydb.) Petr.	L	X	-	-	-
<i>scariosum</i> Nutt.	C	X	-	-	-
<i>undulatum</i> (Nutt.) Spreng.	C	X	-	-	-
<i>vulgare</i> (Savi) Tenore	C	X	-	-	-

	REF	SG	RI	MO	SA
<i>Crepis</i>					
<i>acuminata</i> Nutt.					
ssp. <i>acuminata</i>	C	X	-	X	-
<i>Dugaldia hoopesii</i> (Gray) Rydb. ( <i>Helenium hoopesii</i> )	M	X	-	-	-
<i>Erigeron</i>					
<i>caespitosus</i> Nutt.	D	-	-	-	X
<i>compositus</i> Pursh					
var. <i>glabratus</i> Macoun	C	X	-	X	X
<i>corymbosa</i> Nutt.	C	-	-	X	-
<i>glabellus</i> Nutt.					
var. <i>glabellus</i>	C	X	-	-	-
<i>gracilis</i> Rydb.	C	-	-	X	-
<i>lonchophyllus</i> Hook.					
var. <i>lonchophyllus</i>	C	X	X	-	-
<i>ochroleucus</i> Nutt.					
var. <i>ochroleucus</i>	C	-	-	X	-
var. <i>scribneri</i> (Canby) Cronq.	C	X	-	-	-
<i>peregrinus</i> (Pursh) Greene					
ssp. <i>callianthemus</i> (Greene) Cronq.					
var. <i>eucallianthemus</i> Cronq.	L	-	-	-	X
<i>rydbergii</i> Cronq.	L	-	-	-	X
<i>speciosus</i> (Lindl.) DC.					
var. <i>speciosus</i>	C	-	X	-	-
<i>tweedyi</i> Canby	C	-	-	-	X
<i>Eriophyllum</i>					
<i>lanatum</i> (Pursh) Forbes					
var. <i>integrifolium</i> (Hook.) Smiley	C	X	-	X	-
<i>Gaillardia</i>					
<i>aristata</i> Pursh	C	X	-	-	-
<i>Gnaphalium</i>					
<i>palustre</i> Nutt.	D	-	X	-	-
<i>Haplopappus</i>					
<i>macronema</i> Gray					
var. <i>linearis</i> Dorn	C	X	-	-	-
<i>Haplopappus</i> / <i>Ericameria</i>					
<i>nanus</i> (Nutt.) Eat.	M	X	-	-	-
<i>suffruticosus</i> (Nutt.) Gray	C	-	-	X	X
<i>Haplopappus</i> / <i>Pyrrocoma</i>					
<i>integrifolius</i> Porter ex Gray	C	X	-	X	-
<i>lanceolatus</i> (Hook.) T. & G.	C	-	X	-	-
<i>uniflora</i> (Hook.) T. & G.					
var. <i>uniflora</i>	C	-	X	-	-
<i>Happlopappus</i> / <i>Stenotus</i>					
<i>acaulis</i> (Nutt.) Gray	C	X	-	X	-
<i>langinosus</i> Gray					
var. <i>andersonii</i> (Rydb.) Cronq.	C	X	X	-	-

	REF	SG	RI	MO	SA
<i>Helianthella</i>					
<i>uniflora</i> (Nutt.) T. & G.					
var. <i>douglasii</i> (T. & G.) Weber	C	X	-	X	-
var. <i>uniflora</i>	L	-	-	X	-
<i>Helianthus</i>					
<i>annus</i> L.	D	X	-	-	-
<i>nuttallii</i> Torr. & Gray					
var. <i>nuttallii</i>	L	-	-	X	-
<i>Hieracium</i>					
<i>albiflorum</i> Hook.	D	-	-	X	-
<i>cynoglossoides</i> Arv.-Touv.	D	X	-	-	-
<i>gracile</i> Hook.					
var. <i>gracile</i>	L	-	-	X	X
<i>Hymenopappus</i>					
<i>filifolius</i> Hook.					
var. <i>polycephalus</i> (Osterh.) Turner	C	X	-	-	-
<i>Hymenoxys</i>					
<i>grandiflora</i> (T. & G. ex Gray) Parker	C	-	-	-	X
<i>Iva</i>					
<i>xanthifolia</i> Nutt.	D	X	-	-	-
<i>Lactuca</i>					
<i>biennis</i> (Moench) Fern.	L	X	-	-	-
<i>oblongifolia</i> Nutt.	D	X	-	-	-
<i>Machaeranthera</i>					
<i>canescens</i> (Pursh) Gray					
var. <i>canescens</i>	C	X	-	X	-
<i>Madia</i>					
<i>glomerata</i> Hook.	C	X	-	X	-
<i>Matricaria</i>					
<i>matricarioides</i> (Less.) Porter	C	X	-	-	-
<i>Microseris</i>					
<i>nutans</i> (Geyer ex Hook.) Schultz-Bip.	C	-	-	X	-
<i>Nothocalais</i>					
<i>nigrescens</i> (Henderson) Heller	D	X	-	-	-
<i>Rudbeckia</i>					
<i>occidentalis</i> Nutt.					
var. <i>occidentalis</i>	C	X	X	-	-
<i>Senecio</i>					
<i>canus</i> Hook.	C	X	-	X	-
<i>crassulus</i> Gray	L	-	-	-	X
<i>debilis</i> Nutt.	C	X	X	-	-
<i>foetidus</i> Howell					
var. <i>hydrophiloides</i>					
(Rydb.) T.M. Barkely	C	-	X	-	-
<i>fremontii</i> T. & G.					
var. <i>fremontii</i>	C	X	-	-	-
<i>hydrophilus</i> Nutt.	C	-	X	-	-
<i>indecorus</i> Greene	C	X	-	-	-

	REF	SG	RI	MO	SA
<i>Senecio</i>					
<i>integerrimus</i> Nutt.					
var. <i>exaltatus</i> (Nutt.) Cronq.	C	-	X	-	-
var. <i>integerrimus</i>	C	X	-	-	-
<i>lugens</i> Richardson	C	X	-	-	-
<i>pauperculus</i> Michx.					
var. <i>thomsoniensis</i> (Greenm.)	C	X	-	X	-
<i>pseudaureus</i> Rydb.					
var. <i>pseudaureas</i>	C	X	X	-	-
<i>serra</i> Hook.					
var. <i>serra</i>	C	X	-	X	-
<i>sphaerocephalus</i> Greene	C	X	X	-	-
<i>streptanthifolius</i> Greene					
var. <i>streptanthifolius</i>	L	X	-	X	-
<i>triangularis</i> Hook.					
var. <i>triangularis</i>	C	-	X	-	-
<i>wernerifolius</i> (Gray) Gray					
var. <i>wernerifolius</i>	C	X	-	-	-
<i>Solidago</i>					
<i>canadensis</i> L.					
var. <i>salebrosa</i> (Piper) Jones	D	-	X	-	-
<i>missouriensis</i> Nutt.					
var. <i>missouriensis</i>	C	X	-	-	-
<i>multiradiata</i> Ait.					
var. <i>scopulorum</i> Gray	C	X	-	X	X
<i>nemoralis</i> Ait.					
var. <i>longipetiolata</i> (Mack. & Bush) Palmer & Steyerem.	D	X	-	-	-
<i>spathulata</i> DC.					
var. <i>nana</i> (Gray) Cronq.	L	-	-	-	X
<i>Sonchus</i>					
<i>uliginosus</i> Bieb.	D	-	X	-	-
<i>Stephanomeria</i>					
<i>tenuifolia</i> (Torrey) Hall					
var. <i>tenuifolia</i>	D	-	-	-	X
<i>Tanacetum</i>					
<i>vulgare</i> L.	C	X	-	-	-
<i>Taraxacum</i>					
<i>laevigatum</i> (Willd.) DC.	D	X	-	-	-
<i>officinale</i> Weber	C	X	X	X	X
<i>Tetradymia</i>					
<i>canescens</i> DC.	C	X	-	-	-
<i>Townsendia</i>					
<i>alpigena</i> Piper					
var. <i>alpigena</i>	C	-	-	X	-
<i>montana</i> Jeps.					
var. <i>montana</i>	L	-	-	-	X
<i>parryi</i> Eaton	L	X	-	X	X

	REF	SG	RI	MO	SA
<i>Tragapogon</i>					
<i>dubius</i> Scop.	C	X	-	X	-
<i>pratensis</i> L.	C	X	-	X	-
<i>Viguiera</i>					
<i>multiflora</i> (Nutt.) Blake					
var. <i>multiflora</i>	L	X	-	-	-
<i>Wyethia</i>					
<i>amplexicaulis</i> Nutt.	C	X	-	X	-
<i>helianthoides</i> Nutt.	C	-	-	X	-
<b>Berberidaceae</b>					
<i>Mahonia</i>					
<i>repens</i> (Lindl.) G. Don	C	X	-	X	-
<b>Betulaceae</b>					
<i>Betula</i>					
<i>glandulosa</i> Michx.	C	X	X	-	-
<b>Boraginaceae</b>					
<i>Cryptantha</i>					
<i>fendleri</i> (Gray) Greene	C	X	-	-	-
<i>humilis</i> (Gray) Pays.					
var. <i>nana</i> (Eastw.) Higgins	C	X	-	-	-
<i>torreyana</i> (Gray) Greene	C	-	-	X	-
<i>watsonii</i> (Gray) Greene	C	X	-	-	-
<i>Cynoglossum</i>					
<i>officinale</i> L.	C	X	-	-	-
<i>Hackelia</i>					
<i>floribunda</i> (Lehm.) Johnst.	D	X	-	-	-
<i>micrantha</i> (Eastw.) J. L. Gentry	L	X	-	-	-
<i>patens</i> (Nutt.) Johnst.					
var. <i>patens</i>	C	X	-	X	-
<i>Lappula</i>					
<i>echinata</i> Gilb.	C	X	-	-	-
<i>Lithospermum</i>					
<i>incisum</i> Lehm.	C	X	-	-	-
<i>runderale</i> Dougl. ex Hook.	C	X	-	-	-
<i>Mertensia</i>					
<i>ciliata</i> (James ex Torrey) G. Don					
var. <i>ciliata</i>	C	-	-	X	X
<i>oblongifolia</i> (Nutt.) G. Don	C	X	X	X	-
<i>Myosotis</i>					
<i>alpestris</i> Schmidt	C	X	-	X	-
<i>scorpioides</i> L.	L	-	-	X	-
<i>Plagiobothrys</i>					
<i>scouleri</i> (H. & A.) Johnst.					
var. <i>penicillatus</i> (Greene) Cronq.	C	-	X	-	-

	REF	SG	RI	MO	SA
<b>Brassicaceae</b>					
<i>Alyssum</i>					
<i>desertorium</i> Stapf.	C	X	-	-	-
<i>Arabidopsis</i>					
<i>thaliana</i> (L.) Heynh.	C	-	-	X	-
<i>Arabis</i>					
<i>divaricarpa</i> A. Nels. (A. confins)	C	X	X	X	-
<i>hirsuta</i> (L.) Scop.					
var. <i>pycnocarpa</i> (Hopkins) Rollins	C	X	X	-	-
<i>holboellii</i> Hornem.					
var. <i>retrofracta</i> (Grah.) Rydb.	L	X	-	-	-
<i>lemmonii</i> Wats.					
var. <i>lemmonii</i>	C	-	-	X	-
<i>microphylla</i> Nutt.					
var. <i>microphylla</i>	C	-	-	X	-
<i>nuttallii</i> Robinson	C	X	X	X	-
<i>sparsiflora</i> Nutt.					
var. <i>subvillosa</i> (Wats.) Rollins	L	X	-	-	-
<i>Barbarea</i>					
<i>orthoceras</i> Ledeb.	C	X	-	-	-
<i>Camelina</i>					
<i>microcarpa</i> Andrz. ex DC.	C	X	-	-	-
<i>Capsella</i>					
<i>bursa-pastoris</i> (L.) Medic.	C	X	-	X	-
<i>Cardamine</i>					
<i>breweri</i> Wats.					
var. <i>breweri</i>	C	-	X	-	-
var. <i>leibergii</i> (Holz.) Hitchc.	C	-	-	X	-
<i>Descurainia</i>					
<i>incana</i>					
(Bernh. ex Fisch. & C.A. Meyer) Dorn					
var. <i>macrosperma</i> (Schultz) Dorn	C	X	-	X	-
<i>sophia</i> (L.) Webb ex Prantl.	C	X	X	-	-
<i>Draba</i>					
<i>aurea</i> Vahl. ex Hornem.					
var. <i>aurea</i>	C	-	-	-	X
<i>brewerii</i> S. Wats.					
var. <i>cana</i> (Rydb.) Rollins	C	-	-	X	-
( <i>D. cana</i> )					
<i>crassifolia</i> Grah.					
var. <i>crassifolia</i>	C	-	-	X	-
<i>lonchocarpa</i> Rydb.					
var. <i>lonchocarpa</i>	D	-	-	-	X
<i>nemorosa</i> L.	L	X	-	-	-
<i>nivalis</i> Lilj.	C	-	-	X	-
<i>oligosperma</i> Hook.					
var. <i>oligosperma</i>	C	X	-	X	-
<i>paysonii</i> Macbr.					
var. <i>treleasii</i> (Schultz) Hitchc.	C	X	-	X	-

	REF	SG	RI	MO	SA
<i>Erysimum</i>					
<i>asperum</i> (Nutt.) DC.	L	X	-	X	-
<i>cheiranthoides</i> L.	C	X	-	-	-
<i>inconspicuum</i> (Wats.) MacM. var. <i>inconspicuum</i>	C	X	-	X	-
<i>Lepidium</i>					
<i>densiflorum</i> Schrad. var. <i>macrocarpum</i> Mulligan	C	-	-	X	-
<i>montanum</i> Nutt. var. <i>montanum</i>	C	X	-	-	-
<i>perfoliatum</i> L.	C	X	-	-	-
<i>virginicum</i> L. var. <i>pubescens</i> (Greene) Hitchc.	C	X	-	-	-
<i>Lesquerella</i>					
sp. novum ( <i>L. carinata</i> Rollins)	C	-	-	-	X
<i>Nasturtium</i>					
<i>officinale</i> R. Br. ( <i>Rorippa nasturtium-aquaticum</i> )	D	-	X	-	-
<i>Physaria</i>					
<i>didymocarpa</i> (Hook.) Gray var. <i>didymocarpa</i>	C	-	-	X	-
<i>Rorippa</i>					
<i>curvisiliqua</i> (Hook.) Bessey ex Britt. var. <i>lyrata</i> (Nutt.)	D	-	X	-	-
<i>palustris</i> (L.) Besser var. <i>fernaldiana</i> Butters & Abbe	C	-	X	-	-
<i>Sisymbrium</i>					
<i>loeselii</i> L.	D	X	-	-	-
<i>Smelowskia</i>					
<i>calycina</i> (Steph. ex Willd.) Meyer	C	-	-	-	X
<i>Thelypodium</i>					
<i>paniculatum</i> A. Nels. <i>sagittatum</i> (Nutt.) Endl. ex Walpers ssp. <i>sagittatum</i>	H	X	-	-	-
	C	-	X	-	-
<i>Thlaspi</i>					
<i>arvense</i> L.	C	X	-	-	-
<i>parviflorum</i> A. Nels.	C	X	-	-	-
Cactaceae					
<i>Opuntia</i>					
<i>polyacantha</i> Haw. var. <i>polyacantha</i>	C	X	-	-	-
<i>Pediocactus</i>					
<i>simpsonii</i> (Engelm.) Britt. & Rose	C	X	-	-	-
Callitrichaceae					
<i>Callitriche</i>					
<i>hermaphroditica</i> L.	D	-	X	-	-
<i>palustris</i> L.	D	-	X	-	-

	REF	SG	RI	MO	SA
<b>Campanulaceae</b>					
<i>Campanula</i>					
<i>rotundifolia</i> L.	C	X	-	-	-
<i>Downingia</i>					
<i>laeta</i> Greene	H	X	-	-	-
<b>Caprifoliaceae</b>					
<i>Linnaea</i>					
<i>borealis</i> L.					
var. <i>longiflora</i> Torr.	C	-	-	X	-
<i>Lonicera</i>					
<i>involucrata</i> Banks ex Spreng.					
var. <i>involucrata</i>	C	X	-	X	-
<i>utahensis</i> Wats.	C	-	-	X	-
<i>Sambucus</i>					
<i>racemosa</i> L.					
ssp. <i>pubens</i> (Michx.) House					
var. <i>melanocarpa</i> (Gray) McMinn	C	X	-	X	-
<i>Symphoricarpos</i>					
<i>oreophilus</i> Gray					
var. <i>utahensis</i> (Rydb.) A. Nels.	C	X	-	X	-
<i>Viburnum</i>					
<i>edule</i> (Michx.) Raf.	D	-	X	-	-
<b>Caryophyllaceae</b>					
<i>Arenaria</i>					
<i>capillaris</i> Poir.					
var. <i>americana</i> (Maguire) Davis	L	-	-	X	X
<i>congesta</i> Nutt.					
var. <i>lithophila</i> Rydb.	C	X	-	-	-
<i>Cerastium</i>					
<i>arvense</i> L.	C	X	-	-	-
<i>berringianum</i> Cham. & Schlecht.	L	-	-	-	X
<i>fontanum</i> Baumg.	D	-	X	-	-
<i>Lychnis</i>					
<i>alba</i> Miller	C	X	-	-	-
<i>Minuartia</i>					
<i>nuttallii</i> Pax.					
var. <i>nuttallii</i>					
( <i>Arenaria nuttallii</i> )	C	-	-	X	-
<i>obtusiloba</i> (Rydb.) Fern.					
( <i>Arenaria obtusiloba</i> )	C	-	-	X	-
<i>rubella</i> (Wahlenb.) Smith					
( <i>Arenaria rubella</i> )	C	-	-	X	-
<i>Moehringia</i>					
<i>lateriflora</i> L.	C	-	-	X	-
<i>Pseudostellaria</i>					
<i>jamesiana</i> (Torr.) W.A. Weber & R. Hartm.					
( <i>Stellaria jamesiana</i> )	C	-	-	X	-

	REF	SG	RI	MO	SA
<i>Sagina</i>					
<i>occidentalis</i> Wats.	D	-	X	-	-
<i>Silene</i>					
<i>acaulis</i> (L.) Jacq.					
var. <i>subacaulescens</i>					
(F. N. Williams) Fern. & St. John.	D	-	-	X	-
<i>menziesii</i> Hook.					
var. <i>menziesii</i>	C	X	-	-	-
<i>noctiflora</i> L.	C	X	-	-	-
<i>parryi</i> (Wats.) Hitchc. & Maguire	D	-	-	X	-
<i>Stellaria</i>					
<i>crassifolia</i> Ehrh.					
var. <i>crassifolia</i>	C	-	X	-	-
<i>crispa</i> Cham. & Schlect.	C	-	-	X	-
<i>longifolia</i> Muhl. ex Willd.	C	X	X	-	-
<i>longipes</i> Goldie					
var. <i>longipes</i>	C	-	X	-	-
<i>obtusa</i> Engelm.	C	-	-	X	-
<i>simcoei</i> (Howell) Hitchc.	L	-	X	-	-
Chenopodiaceae					
<i>Atriplex</i>					
<i>truncata</i> (Torrey ex Wats.) Gray	H	X	-	-	-
<i>Chenopodium</i>					
<i>album</i> L.					
var. <i>album</i>	D	X	-	-	-
<i>capitatum</i> (L.) Asch.	C	X	-	-	-
<i>glaucum</i> L.	C	-	X	-	-
<i>rubrum</i> L.					
var. <i>rubrum</i>	D	-	-	X	-
<i>Monolepis</i>					
<i>nuttalliana</i> (Schultes) Greene	C	X	-	X	-
<i>Salicornia</i>					
<i>rubra</i> A. Nels.	C	X	-	-	-
<i>Sarcobatus</i>					
<i>vermiculatus</i> (Hook.) Torrey					
var. <i>vermiculatus</i>	C	X	X	-	-
Cornaceae					
<i>Cornus</i>					
<i>canadensis</i> L.	C	-	X	X	-
<i>stolonifera</i> Michx.	C	-	X	X	-
Crassulaceae					
<i>Sedum</i>					
<i>borschii</i> (Clausen) Clausen	C	X	-	-	-
<i>integrifolium</i> (Raf.) A. Nels.					
ssp. <i>integrifolium</i>	C	-	-	-	X

	REF	SG	RI	MO	SA
<i>Sedum</i>					
<i>lanceolatum</i> Torrey					
var. <i>lanceolatum</i>	C	X	-	X	X
<i>rhodanthum</i> Gray	C	-	-	X	-
<i>rosea</i> (L.) Scop.	L	-	-	-	X
<i>Cyperaceae</i>					
<i>Carex</i>					
<i>aquatilis</i> Wahl.					
var. <i>altior</i> (Rydb.) Fern.	C	-	X	-	-
<i>athrostachya</i> Olney	D	-	X	-	-
<i>aurea</i> Nutt.	C	-	-	-	X
<i>diandra</i> Schrank	C	-	X	-	-
<i>disperma</i> Dewey	D	-	-	X	-
<i>douglasii</i> Boott.	C	X	-	-	-
<i>filifolia</i> Nutt.	C	-	-	X	-
<i>geyerii</i> Boott.	C	X	-	X	-
<i>haydeniana</i> Olney	L	-	X	-	-
<i>hoodii</i> Boott	C	X	-	-	-
<i>idahoensis</i> Bailey					
( <i>C. parryana</i> ssp. <i>idahoensis</i> )	M	-	X	-	-
<i>interior</i> Bailey	D	-	X	-	-
<i>lanuginosa</i> Michx.	D	-	X	-	-
<i>limnophila</i> F. J. Herm.	L	-	X	-	-
<i>microptera</i> Mack.					
var. <i>microptera</i>	C	-	X	X	-
<i>multicostata</i> Mack.	H	X	-	-	-
<i>nebrascensis</i> Dewey	C	X	X	X	-
<i>pachystachya</i> Cham. & Steud.	L	X	X	-	-
<i>phaeocephala</i> Piper	C	-	X	-	-
<i>praegracilis</i> Boott.	C	X	X	-	X
<i>raynoldsii</i> Dewey	C	X	-	X	-
<i>rossii</i> Boott	D	-	-	X	-
<i>scirpoidea</i> Michx.	C	-	X	-	-
<i>simulata</i> Mack.	D	-	X	-	-
<i>utriculata</i> Boott.					
( <i>C. rostrata</i> )	C	-	X	X	-
<i>vallicola</i> Dewey					
var. <i>vallicola</i>	C	X	-	-	-
<i>xerantica</i> Bailey	C	-	X	-	-
<i>Eleocharis</i>					
<i>acicularis</i> (L.) R. & S.	D	-	X	-	-
<i>palustris</i> (L.) R. & S.	L	-	X	-	-
<i>Eriophorum</i>					
<i>polystachion</i> L.	D	-	X	-	-
<i>Kobresia</i>					
<i>simpliciuscula</i> (Wahl.) Mack.	L	X	-	-	-
<i>Scirpus</i>					
<i>acutus</i> Muhl. ex Bigel.	C	-	X	-	-

	REF	SG	RI	MO	SA
<b>Elaeagnaceae</b>					
<i>Shepherdia</i>					
<i>canadensis</i> (L.) Nutt.	C	-	X	X	-
<b>Ericaceae</b>					
<i>Arctostaphylos</i>					
<i>uva-ursi</i> (L.) Spreng.					
ssp. <i>uva-ursi</i>	C	-	-	X	-
<i>Chimaphila</i>					
<i>umbellata</i> (L.) Bart.					
var. <i>occidentalis</i> (Rydb.) Blake	D	-	-	X	-
<i>Moneses</i>					
<i>uniflora</i> (L.) Gray					
ssp. <i>uniflora</i>	C	X	-	-	-
<i>Orthilia</i>					
<i>secunda</i> (L.) House	C	-	-	X	-
<i>Pyrola</i>					
<i>asarifolia</i> Michx.					
var. <i>asarifolia</i>	L	-	-	X	-
<i>chlorantha</i> Sw.					
var. <i>chloranatha</i>	C	-	-	X	-
<i>Vaccinium</i>					
<i>globulare</i> Rydb.	C	-	-	X	-
<i>membranaceum</i> Dougl. ex Torrey	C	-	-	X	-
<i>scoparium</i> Leiberg ex Cov.	C	-	-	X	-
<b>Fabaceae</b>					
<i>Astragalus</i>					
<i>agrestis</i> Dougl. ex G. Don	L	-	-	X	-
<i>alpinus</i> L.					
var. <i>alpinus</i>	L	-	-	X	-
<i>americanus</i> (Hook.) Jones	C	-	-	X	-
<i>argophyllus</i> Nutt.					
var. <i>argophyllus</i>	C	X	X	-	-
<i>canadensis</i> L.					
var. <i>brevidens</i> (Gandg.) Barneby	C	X	-	-	-
<i>ceramicus</i> Sheld.					
var. <i>apus</i>	C	X	-	-	-
<i>cibarius</i> Sheld.	C	X	-	-	-
<i>drummondii</i> Dougl. ex Hook.	C	X	-	-	-
<i>eucosmus</i> Robins.	C	-	X	-	-
<i>flexuosus</i> (Dougl.) G. Don	C	X	-	-	-
<i>inflexus</i> Dougl. ex Hook	C	X	X	-	-
<i>kentrophyta</i> Gray					
var. <i>implexus</i> (Canby) Barneby	C	-	-	X	X
<i>lentiginosus</i> Dougl.					
var. <i>salinus</i> (Howell) Barneby	C	X	-	-	-
<i>leptaleus</i> Gray	C	X	-	-	-

	REF	SG	RI	MO	SA
<i>Astragalus</i>					
<i>miser</i> Dougl.					
var. <i>hylophilus</i> (Rydb.) Barneby	C	X	-	X	-
var. <i>praeteritus</i> Barneby	C	X	-	-	-
<i>purshii</i> Dougl. ex. Hook.	C	-	-	X	-
<i>terminalis</i> Wats.	C	X	-	-	-
<i>vexilliflexus</i> Sheld.	D	-	-	-	X
<i>Caragana</i>					
<i>arborescens</i> Lam.	C	X	-	-	-
<i>Hedysarum</i>					
<i>boreale</i> Nutt.					
var. <i>boreale</i>	C	X	-	-	-
var. <i>cinerascens</i> (Rydb.) Rollins	C	X	-	-	-
<i>sulphurescens</i> Rydb.	C	X	-	X	-
<i>Lupinus</i>					
<i>argenteus</i> Pursh					
var. <i>depressus</i> (Rydb.) Hitchc.	L	-	-	-	X
var. <i>parviflorus</i> (Nutt.) Hitchc.	L	-	-	X	-
<i>lepidus</i> Dougl. ex Lindl.					
var. <i>utahensis</i> (Wats.) Hitchc.	C	X	-	-	-
<i>leucophyllus</i> Dougl.					
var. <i>leucophyllus</i>	C	X	-	X	-
<i>polyphyllus</i> Lindl.					
var. <i>burkei</i> (Wats.) Hitchc.	C	-	-	X	-
var. <i>polyphyllus</i>	C	X	-	-	-
<i>sericeus</i> Pursh					
var. <i>sericeus</i>	C	X	-	-	-
<i>Medicago</i>					
<i>lupulina</i> L.	C	X	-	-	-
<i>sativa</i> L.	C	X	-	-	-
<i>Melilotus</i>					
<i>albus</i> Medic.	C	X	-	-	-
<i>officinalis</i> (L.) Pallas	C	X	-	-	-
<i>Oxytropis</i>					
<i>deflexa</i> (Pallas) DC.					
var. <i>foliosa</i> (Hook.) Barneby	D	X	-	-	-
<i>lagopus</i> Nutt.					
var. <i>conjugens</i> Barneby	C	X	-	X	-
<i>sericea</i> Nutt.					
var. <i>sericea</i>	C	X	-	X	-
<i>Psoralea</i>					
<i>tenuiflora</i> Pursh	C	X	-	-	-
<i>Thermopsis</i>					
<i>montana</i> Nutt.	C	X	-	-	-
<i>Trifolium</i>					
<i>hybridum</i> L.	C	X	-	-	-

	REF	SG	RI	MO	SA
<i>Trifolium</i>					
<i>longipes</i> Nutt.					
var. <i>reflexum</i> Nels.	C	-	X	-	-
<i>pratense</i> L.	C	-	-	X	-
<i>repens</i> L.	C	X	-	-	-
Fumariaceae					
<i>Corydalis</i>					
<i>aurea</i> Willd.					
var. <i>aurea</i>	C	X	-	-	-
Gentianaceae					
<i>Fraseria</i>					
<i>speciosa</i> Dougl. ex Griseb.	C	X	-	-	-
<i>Gentiana</i>					
<i>affinis</i> Griseb.	C	-	-	X	-
<i>aquatica</i> L.	M	X	X	-	-
( <i>G. prostrata</i> Haenke)					
<i>Gentianella</i>					
<i>amarella</i> (L.) Borner					
var. <i>amarella</i>	D	X	-	X	-
<i>Gentianopsis</i>					
<i>simplex</i> Gray	M	-	X	-	-
<i>Swertia</i>					
<i>perennis</i> L.	D	-	X	-	-
Geraniaceae					
<i>Geranium</i>					
<i>richardsonii</i> Fisch. & Trautv.	C	X	-	X	-
<i>visosissum</i> Fisch. & Meyer ex Meyer					
var. <i>viscosissimum</i>	C	-	-	X	-
Grossulariaceae					
<i>Ribes</i>					
<i>cereum</i> Dougl.					
var. <i>inebrians</i> (Lindl.) Hitchc.	C	-	-	-	X
<i>hudsonianum</i> Richardson					
var. <i>petiolare</i> (Dougl.) Jancz	C	-	-	X	-
<i>inerme</i> Rydb.	C	X	-	-	-
<i>lacustre</i> (Pers.) Poir.	L	-	-	X	-
<i>montigenum</i> McClatchie	C	-	-	X	X
<i>setosum</i> Lindl.	D	-	X	-	-
<i>viscosissimum</i> Pursh					
var. <i>viscosissimum</i>	L	-	-	X	-
Haloragaceae					
<i>Myriophyllum</i>					
<i>spicatum</i> L.	D	-	X	-	-

	REF	SG	RI	MO	SA
<b>Hippuridaceae</b>					
<i>Hippuris</i>					
<i>vulgaris</i> L.	D	-	X	-	-
<b>Hydrocharitaceae</b>					
<i>Elodea</i>					
<i>canadensis</i> Michx.	D	-	X	-	-
<b>Hydrophyllaceae</b>					
<i>Hesperochiron</i>					
<i>pumilus</i> (Griseb.) Porter	D	X	-	-	-
<i>Hydrophyllum</i>					
<i>capitatum</i> Dougl. ex Benth.					
var. <i>capitatum</i>	L	-	-	X	-
<i>Nemophila</i>					
<i>breviflora</i> Gray	L	X	-	-	-
<i>Phacelia</i>					
<i>franklinii</i> (R.Br.) Gray	C	X	-	-	-
<i>hastata</i> Dougl.					
var. <i>alpina</i> (Rydb.) Cronq.	L	-	-	-	X
var. <i>hastata</i>	C	X	-	X	-
var. <i>leucophylla</i> (Torr.) Cronq.	L	X	-	-	-
<i>sericea</i> (Grah.) Gray					
var. <i>ciliosa</i> Rydb.	C	X	-	-	X
<b>Iridaceae</b>					
<i>Iris</i>					
<i>missouriensis</i> Nutt.	C	X	-	-	-
<i>Sisyrinchium</i>					
<i>idahoense</i> Bickn.					
var. <i>occidentale</i>					
(Bickn.) D. Henders.	C	X	-	-	-
<b>Juncaceae</b>					
<i>Juncus</i>					
<i>balticus</i> Willd.					
var. <i>montanus</i> Engelm.	C	-	X	-	-
<i>bufonius</i> L.					
var. <i>bufonis</i>	D	-	X	-	-
<i>confusus</i> Cov.	C	-	-	X	-
<i>drummondii</i> E. Meyer					
var. <i>drummondii</i>	C	-	-	X	-
<i>effusus</i> L.	D	-	X	-	-
<i>ensifolius</i> Wikst.					
var. <i>montanus</i> (Engelm.) Hitchc.	D	-	X	-	-
<i>hallii</i> Engelm.	C	-	X	-	-
<i>longistylis</i> Torr.					
var. <i>longistylis</i>	C	-	-	-	X
<i>saximontanus</i> A. Nels.	D	-	X	-	-

	REF	SG	RI	MO	SA
<i>Luzula</i>					
<i>parviflora</i> (Ehrh.) Desv.	D	-	-	X	-
Juncaginaceae					
<i>Triglochin</i>					
<i>maritimum</i> L.					
var. <i>elatum</i> (Nutt.) Gray	C	-	X	-	-
Lamiaceae					
<i>Agastache</i>					
<i>urticifolia</i> (Benth.) Kuntze					
var. <i>urticifolia</i>	C	-	-	X	-
<i>Mentha</i>					
<i>arvensis</i> L.					
var. <i>glabrata</i> (Benth.) Fern.	L	-	X	-	-
<i>Prunella</i>					
<i>vulgaris</i> L.					
var. <i>lanceolata</i> (Barton) Fern.	C	-	-	-	X
<i>Scutellaria</i>					
<i>galericulata</i> L.	D	-	X	-	-
<i>Stachys</i>					
<i>palustris</i> L.					
ssp. <i>pilosa</i> (Nutt.) Fern.	D	-	X	-	-
Lemnaceae					
<i>Lemna</i>					
<i>minima</i> L.	D	-	X	-	-
<i>minor</i> L.	D	-	X	-	-
<i>trisolca</i> L.	D	-	X	-	-
Lentibulariaceae					
<i>Utricularia</i>					
<i>vulgaris</i> L.	D	-	X	-	-
Liliaceae					
<i>Allium</i>					
<i>acuminatum</i> Hook.	L	-	-	-	X
<i>brevistylum</i> Wats.	C	-	-	X	-
<i>cernuum</i> Roth	C	X	-	-	-
<i>geyeri</i> Wats.					
var. <i>tenerum</i> Jones	C	X	X	X	-
<i>schoenoprasum</i> L.	C	-	X	-	-
<i>textile</i> Nels. & Macbr.	C	X	X	-	-
<i>Calachortus</i>					
<i>eurycarpus</i> Wats.	C	X	-	-	-
<i>nuttallii</i> T. & G.	D	X	-	-	-

	REF	SG	RI	MO	SA
<i>Camassia</i>					
<i>quamash</i> (Pursh) Greene	D	X	-	-	-
<i>Clintonia</i>					
<i>uniflora</i> (Schult.) Kunth	L	-	-	X	-
<i>Disporum</i>					
<i>trachycarpum</i> (Wats.) Benth. & Hook.	C	-	-	X	-
<i>Erythronium</i>					
<i>grandiflorum</i> Pursh.					
var. <i>grandiflorum</i>	C	X	-	-	X
<i>Fritillaria</i>					
<i>atropurpurea</i> Nutt.	C	X	-	-	-
<i>pudica</i> (Pursh) Spreng.	C	X	-	-	-
<i>Lloydia</i>					
<i>serotina</i> (L.) Salisb. ex Reichenb.	D	-	-	-	X
<i>Maianthemum</i>					
<i>racemosum</i> (L.) Link					
var. <i>amplexicaule</i> (Nutt.) Dorn ( <i>Smilacina racemosum</i> )	C	-	-	X	-
<i>stellatum</i> (L.)					
var. <i>stellatum</i> ( <i>Smilacina stellatum</i> )	C	X	-	-	-
<i>Streptopus</i>					
<i>amplexifolius</i> (L.) DC.					
var. <i>chalazatus</i> Fassett	L	-	-	X	-
<i>Xerophyllum</i>					
<i>tenax</i> (Pursh) Nutt.	L	-	-	X	-
<i>Zigadenus</i>					
<i>elegans</i> Pursh					
var. <i>elegans</i>	C	-	-	X	-
<i>paniculatus</i> (Nutt.) Wats.	C	X	-	-	-
<i>venenosus</i> Wats.					
var. <i>gramineus</i> (Rydb.) Walsh	C	X	-	X	-
Linaceae					
<i>Linum</i>					
<i>lewisii</i> Pursh					
var. <i>lewisii</i>	C	-	X	X	-
Malvaceae					
<i>Iliama</i>					
<i>rivularis</i> (Dougl. ex Hook.) Greene					
var. <i>rivularis</i>	C	-	-	X	-
<i>Sphaeralcea</i>					
<i>munroana</i>					
(Dougl. ex Lindl.) Spach ex Gray	C	X	-	-	-

	REF	SG	RI	MO	SA
<b>Onagraceae</b>					
<i>Epilobium</i>					
<i>alpinum</i> L.					
var. <i>clavatum</i> (Trel.) Hitchc.	L	-	-	-	X
var. <i>lactiflorum</i> (Hausskn.) Hitchc.	L	-	-	X	X
<i>angustifolium</i> L.					
ssp. <i>angustifolium</i>	C	-	X	-	-
<i>cilatum</i> Raf.					
var. <i>cilatum</i>	C	-	-	X	-
<i>glaberrimum</i> Barbey					
var. <i>fastigiatum</i> (Nutt.) Trel.	C	X	-	-	-
<i>glandulosum</i> Lehm.					
var. <i>glandulosum</i>	L	-	X	-	-
<i>hornemannii</i> Reichenb.					
ssp. <i>hornemannii</i>	L	-	X	-	-
<i>palustre</i> L.					
var. <i>palustre</i>	D	-	X	-	-
<i>panicilatum</i> Nutt.					
var. <i>paniculatum</i>	L	X	-	-	-
<i>Gayophytum</i>					
<i>diffusum</i> T. & G.					
var. <i>diffusum</i>	C	-	-	X	-
<i>humile</i> Juss.	D	-	-	-	X
<i>Oenothera</i>					
<i>caespitosa</i> Nutt.					
var. <i>caespitosa</i> Nutt.	C	X	-	-	-
<i>flava</i> (A. Nels.) Garrett	C	X	X	-	X
<i>pallida</i> Lindl.					
var. <i>idahoensis</i>	C	X	-	-	-
<b>Orchidaceae</b>					
<i>Calypso</i>					
<i>bulbosa</i> (L.) Oakes	C	-	-	X	-
<i>Corallorhiza</i>					
<i>maculata</i> (Raf.) Raf.	C	-	-	X	-
<i>mertensiana</i> Bong.	C	-	-	X	-
<i>Goodyera</i>					
<i>oblongifolia</i> Raf.	D	-	-	X	-
<i>Listera</i>					
<i>borealis</i> Morong	D	-	-	X	-
<i>Piperia</i>					
<i>unalascensis</i> (Spreng.) Wats. ( <i>Habenaria unalascensis</i> )	C	-	-	X	-
<i>Plancheria</i>					
<i>hyperborea</i> (L.) R. Br. ( <i>Habenaria hyperborea</i> )	C	-	X	X	-
<i>saccata</i> Greene ( <i>Habenaria saccata</i> )	C	-	X	X	-

	REF	SG	RI	MO	SA
<b>Orobanchaceae</b>					
<i>Orobanche</i>					
<i>corymbosa</i> (Rydb.) Ferris	C	X	-	-	-
<i>fasciculata</i> Nutt.	C	X	-	-	-
<i>ludoviciana</i> Nutt.					
var. <i>ludoviciana</i>	C	X	-	-	-
<b>Plantaginaceae</b>					
<i>Plantago</i>					
<i>major</i> L.	C	X	-	-	-
<i>tweedyi</i> Gray	L	-	X	-	-
<b>Poaceae</b>					
<i>Agropyron</i>					
<i>cristatum</i> (L.) Gaertn.					
var. <i>cristatum</i>	C	X	-	-	-
<i>dasystachyum</i> (Hook.) Scribn.	C	X	X	X	-
( <i>Elymus lanceolatus</i> (Scrib. & Sm.) Gould)					
<i>elongatum</i> Host.	C	X	-	-	-
( <i>Thinopyrum ponticum</i> (Podp.) Bark. & Dewey)					
<i>repens</i> (L.) Beauv.	C	-	X	-	-
( <i>Elytrigia repens</i> (L.) Nevski)					
<i>smithii</i> Rydb.	C	X	-	-	-
( <i>Pascopyrum smithii</i> (Rydb.) Love)					
<i>trachycaulum</i> (Link) Malte	C	X	-	-	-
( <i>Elymus trachycaulus</i> (Link) Gould)					
<i>spicatum</i> (Pursh) Scribner & Smith	C	X	X	-	-
( <i>Pseudoroegneria spicata</i> (Pursh) Love)					
<i>Agrostis</i>					
<i>diegoensis</i> Vasey	D	-	X	-	-
<i>exarata</i> Trin.	D	-	X	-	-
<i>scabra</i> Willd.					
var. <i>scabra</i>	C	X	-	-	-
<i>stolonifera</i> L.					
var. <i>stolonifera</i>	C	-	-	X	-
<i>Alopecurus</i>					
<i>aequalis</i> Sobol.					
var. <i>aequalis</i>	C	X	X	-	-
<i>alpinus</i> J. E. Smith					
var. <i>alpinus</i>	L	-	X	-	-
<i>geniculatus</i> L.	C	X	-	-	-
<i>Beckmannia</i>					
<i>syzigachne</i> (Steudel.) Fernald	C	-	X	-	-
<i>Bromus</i>					
<i>anomalus</i> Rupr.	C	X	-	-	X
<i>carinatus</i> Hooker & Arnott	C	X	-	X	-

	REF	SG	RI	MO	SA
<i>Bromus</i>					
<i>commutatus</i> Schrader	C	X	-	-	-
<i>inermis</i> Leys					
ssp. <i>inermis</i>					
var. <i>inermis</i>	C	X	X	X	X
<i>tectorum</i> L.	C	X	-	-	-
<i>Calamagrostis</i>					
<i>canadensis</i> (Michx.) Beauv.	D	-	-	X	-
<i>montanensis</i> (Scribner) Scribner	C	-	-	-	X
<i>rubescens</i> Buckley	C	-	X	-	-
<i>stricta</i> (Timm) Koeler	C	X	X	X	-
<i>Catabrosa</i>					
<i>aquatica</i> (L.) Beauv.	C	X	X	-	-
<i>Cinna</i>					
<i>latifolia</i> (Trevir. ex Goeppl.) Griseb.	D	-	-	X	-
<i>Dactylis</i>					
<i>glomerata</i> L.	C	X	-	X	-
<i>Danthonia</i>					
<i>intermedia</i> Vasey	C	X	-	X	X
<i>Deschampsia</i>					
<i>cespitosa</i> (L.) Beauv.					
var. <i>cespitosa</i>	C	X	X	-	-
<i>elongata</i> (Hooker) Munro.	C	-	X	-	-
<i>Distichlis</i>					
<i>stricta</i> (Torrey) Rydberg	C	-	X	-	-
<i>Elymus</i>					
<i>cinerus</i> Scribner & Merrill.					
var. <i>cinerus</i>	C	-	X	-	-
( <i>Leymus cinerus</i> (Scrib. & Merrill) Love)					
<i>flavescens</i> Scribner & J.G. Smith	C	X	-	-	-
( <i>Leymus flavescens</i> (Scrib. & J.G. Sm.))					
<i>glaucus</i> Buckley					
var. <i>glaucus</i>	C	-	-	-	X
<i>Festuca</i>					
<i>brachyphylla</i> J.A. & J.H. Schultes					
ssp. <i>colaradense</i> Frederiksen	C	-	-	-	X
( <i>F. ovina</i> var. <i>brevifolia</i> )					
<i>idahoensis</i> Elmer					
var. <i>idahoensis</i>	C	X	-	-	-
<i>pratensis</i> Hudson	C	X	-	-	-
<i>rubra</i> L.					
var. <i>rubra</i>	C	-	-	X	-
<i>saximontana</i> Rydb.					
var. <i>saximontana</i>	C	X	-	-	-
( <i>F. ovina</i> var. <i>rydbergii</i> )					
<i>Glyceria</i>					
<i>borealis</i> (Nash) Batchelder	D	-	X	-	-
<i>elata</i> (Nash) Jones	D	-	-	X	-
<i>grandis</i> S. Watson	D	-	X	-	-

	REF	SG	RI	MO	SA
<i>Glyceria</i>					
<i>striata</i> (Lamark) A. S. Hitchcock	D	-	X	-	-
<i>Hierochloa</i>					
<i>odorata</i> (L.) Beauv.	C	X	-	-	-
<i>Hordeum</i>					
<i>brachyantherum</i> Nevski	C	X	X	X	-
<i>jubatum</i> L.					
var. <i>jubatum</i>	C	X	X	X	-
<i>Koeleria</i>					
<i>nitida</i> Nutt.	C	X	-	-	-
( <i>K. macrantha</i> )					
<i>Melica</i>					
<i>spectabilis</i> Scribner	C	X	-	X	-
<i>Muhlenbergia</i>					
<i>filiformis</i> (Thurber) Rydberg					
var. <i>filiformis</i>	C	X	X	-	-
<i>racemosa</i> (Michx.) B. S. P.	D	-	X	-	-
<i>Oryzopsis</i>					
<i>hymenoides</i> (R. & S.) Ricker	C	X	-	-	-
<i>Phalaris</i>					
<i>arundinacea</i> L.					
var. <i>arundinacea</i>	C	-	X	-	-
<i>Phleum</i>					
<i>alpinum</i> L.					
var. <i>alpinum</i>	C	-	-	X	X
<i>pratense</i> L.					
var. <i>pratense</i>	C	X	-	-	-
<i>Poa</i>					
<i>annua</i> L.					
var. <i>annua</i>	C	-	-	X	-
<i>bulbosa</i> L.	C	X	-	-	-
<i>compressa</i> L.	D	X	-	-	-
<i>cusickii</i> Vasey					
var. <i>cusickii</i>	C	X	-	X	X
var. <i>epilis</i> (Scribn.) Hitchc.	C	X	-	X	X
( <i>P. epilis</i> )					
<i>gracillima</i> Vasey					
var. <i>gracillima</i>	C	-	-	X	-
<i>incurva</i> Scribn. & Will	L	-	-	-	X
<i>interior</i> Rydb.	L	-	-	-	X
<i>juncifolia</i> Scribn.					
var. <i>juncifolia</i>	C	X	X	X	X
<i>nervosa</i> (Hooker) Vasey	D	-	-	X	-
<i>palustris</i> L.	D	-	-	X	-
<i>pratensis</i> L.					
ssp. <i>pratensis</i>	C	X	-	-	-
<i>secunda</i> Presl.					
var. <i>secunda</i>	C	X	X	X	-

	REF	SG	RI	MO	SA
<i>Puccinellia</i>					
<i>distans</i> (L.) Parl.	C	-	X	-	-
<i>nuttalliana</i> (Schult.) Hitchc.	L	X	-	-	-
<i>Sitanion</i>					
<i>hystrix</i> (Nutt.) Smith					
var. <i>hystrix</i>	L	X	-	-	-
<i>Spartina</i>					
<i>gracilis</i> Trin.	C	-	X	-	-
<i>Stipa</i>					
<i>columbiana</i> Macoun.					
var. <i>columbiana</i>	C	-	-	X	-
<i>comata</i> Trin. & Rupr.					
var. <i>comata</i>	C	X	-	-	-
<i>lettermanii</i> Vasey	L	X	-	-	X
<i>williamsii</i> Scribner	C	X	-	X	-
<i>Trisetum</i>					
<i>spicatum</i> (L.) Richt.					
var. <i>spicatum</i>	C	-	-	X	-
Polemoniaceae					
<i>Collomia</i>					
<i>linearis</i> Nutt.	C	X	-	-	X
<i>Ipomopsis</i>					
<i>congesta</i> (Hook.) Grant					
ssp. <i>crebifolia</i> (Nutt.) Dorn	C	X	-	-	-
<i>Leptodactylon</i>					
<i>pungens</i> (Torrey) Torrey ex Milliken	C	X	-	-	-
<i>Phlox</i>					
<i>hoodii</i> Richardson	C	X	-	-	-
<i>kelseyi</i> Britt.					
var. <i>kelseyi</i>	C	X	-	X	-
<i>longifolia</i> Nutt.					
var. <i>longifolia</i>	C	X	-	-	-
<i>Polemonium</i>					
<i>occidentale</i> Greene					
var. <i>occidentale</i>	C	X	-	X	-
<i>pulcherrimum</i> Hook.					
var. <i>pulcherrimum</i>	C	-	-	-	X
<i>viscosum</i> Nutt.	C	-	-	X	-
Polygonaceae					
<i>Eriogonum</i>					
<i>heracleoides</i> Nutt.					
var. <i>heracleoides</i>	L	X	-	-	X
<i>mancum</i> Rydb.	C	X	-	-	-

	REF	SG	RI	MO	SA
<i>Eriogonum</i>					
<i>ovalifolium</i> Nutt.					
var. <i>depressum</i> Blank	L	-	-	-	X
var. <i>nevadense</i> Gand.	C	X	-	-	-
var. <i>nivale</i> (Canby) Jones	C	X	-	-	-
var. <i>ovalifolium</i>	C	X	-	X	-
<i>umbellatum</i> Torr.					
var. <i>subalpinum</i> (Greene) Jones	C	X	-	-	-
<i>Oxyria</i>					
<i>digyna</i> (L.) Hill	C	-	-	X	X
<i>Polygonum</i>					
<i>amphibium</i> L.	D	-	X	-	-
<i>aviculare</i> L.					
var. <i>aviculare</i>	C	X	-	-	-
<i>bistortoides</i> Pursh	C	-	-	X	-
<i>douglasii</i> Greene					
var. <i>douglasii</i>	L	-	-	X	X
<i>lapathifloium</i> L.	D	-	X	-	-
<i>Rumex</i>					
<i>crispus</i> L.	C	X	-	-	-
<i>maritimus</i> L.	D	-	X	-	-
<i>occidentalis</i> Wats.	D	-	X	-	-
<i>pauciflorus</i> Nutt.					
ssp. <i>paucifolius</i>	C	X	-	X	-
<i>salicifolius</i> Weinm.					
ssp. <i>triangulivalvis</i> Danser					
var. <i>monigenitus</i> Jeps.	C	X	X	-	-
Portulacaceae					
<i>Claytonia</i>					
<i>lanceolata</i> Pursh					
var. <i>lanceolata</i>	C	X	-	-	-
<i>Lewisia</i>					
<i>pygmaea</i> (Gray) Robins.					
var. <i>pygmaea</i>	C	-	-	X	-
<i>rediviva</i> Pursh					
var. <i>rediviva</i>	C	X	-	-	-
<i>Montia</i>					
<i>chamissoi</i> (Lebeb.) Robins. & Fern.	C	X	X	-	-
Potamogetonaceae					
<i>Potamogeton</i>					
<i>filiformis</i> Pers.					
var. <i>occidentalis</i>					
(J. W. Robins.) Morong	D	-	X	-	-
<i>friesii</i> Rupr.	D	-	X	-	-
<i>pectinatus</i> L.	D	-	X	-	-
<i>praelongus</i> Wulf.	D	-	X	-	-

	REF	SG	RI	MO	SA
<i>Potamogeton</i>					
<i>pusillus</i> L.					
var. <i>tenuissimus</i> Mert. & Koch	D	-	X	-	-
<i>robbinsii</i> Oakes	D	-	X	-	-
<i>zosteriformis</i> Fern.	D	-	X	-	-
Primulaceae					
<i>Androsace</i>					
<i>filiformis</i> Retz	C	-	-	X	X
<i>septentrionalis</i> L.					
var. <i>puberulenta</i> (Rydb.) Knuth	C	X	-	-	-
<i>Dodecathon</i>					
<i>conjugens</i> Greene					
var. <i>conjugens</i>	C	X	X	-	-
<i>pulchellum</i> (Raf.) Merrill					
var. <i>pulchellum</i>	C	-	X	-	-
<i>Douglasia</i>					
<i>montana</i> Gray					
var. <i>montana</i>	C	-	-	X	-
<i>Primula</i>					
<i>alcalina</i> Cholewa & Henderson	H	-	X	-	-
<i>incana</i> Jones	C	X	-	-	-
Ranunculaceae					
<i>Aconitum</i>					
<i>columbianum</i> Nutt.					
var. <i>columbianum</i>	D	X	-	-	-
<i>Actaea</i>					
<i>ruba</i> (Ait.) Willd.	C	-	-	X	-
<i>Anemone</i>					
<i>lithophila</i> Rydb.	D	-	-	X	-
<i>multifida</i> Poir.					
var. <i>multifida</i>	C	X	X	-	-
<i>patens</i> L.	C	X	-	-	-
( <i>Pulsatilla patens</i> )					
<i>Aquilegia</i>					
<i>flavescens</i> Wats.					
var. <i>flavescens</i>	C	-	-	X	-
<i>formosa</i> Fisch. ex DC.	D	-	-	X	-
<i>Clematis</i>					
<i>columbiana</i> (Nutt.) T. & G.					
var. <i>columbiana</i>	C	-	-	X	-
<i>hirsutissima</i> Pursh					
var. <i>hirsutissima</i>	C	X	-	-	-
<i>occidentalis</i> (Hornem.) DC.	C	X	-	-	-
<i>Delphinium</i>					
<i>bicolor</i> Nutt.	L	X	-	-	-
<i>glaucum</i> Wats.	C	-	X	-	-

	REF	SG	RI	MO	SA
<i>Delphinium</i>					
<i>nuttallianum</i> Pritz. ex Walpers					
var. <i>fulvium</i> Hitchc.	C	-	-	X	-
var. <i>nuttallianum</i>	C	-	X	-	-
<i>occidentale</i> (Wats.) Wats.	C	-	-	X	-
<i>Myosurus</i>					
<i>minimus</i> L.					
var. <i>minimus</i>	C	-	X	-	-
<i>Ranunculus</i>					
<i>acriiformis</i> Gray					
var. <i>montanensis</i> (Rydb.) Benson	C	X	X	X	-
<i>alismaefolius</i> Geyer ex Benth.					
var. <i>hartwegii</i> (Greene) Jeps.	C	X	-	-	-
<i>aquatilis</i> L.					
var. <i>capillaceus</i> (Thuill.) DC.	D	-	X	-	-
<i>cymbalaria</i> Pursh					
var. <i>cymbalaria</i>	C	X	-	-	-
<i>eschscholtzii</i> Schlecht.					
var. <i>alpinus</i> (Wats.) Hitchc.	C	-	-	X	X
var. <i>suksdorfii</i> (Gray) Benson	L	-	-	X	-
<i>glaberrimus</i> Hook.					
var. <i>ellipticus</i> Greene	C	X	-	-	-
var. <i>glaberrimus</i>	C	X	-	-	-
<i>gmelinii</i> DC.	D	-	X	-	-
<i>inamoenus</i> Greene					
var. <i>inamoenus</i>	L	X	-	-	-
<i>jovis</i> A. Nels.	D	-	-	X	X
<i>natans</i> Meyer					
var. <i>intertextus</i> (Greene) Benson	D	-	X	-	-
<i>sceleratus</i> L.					
var. <i>multifidus</i> Nutt.	D	-	X	-	-
<i>testiculatis</i> Crantz.	C	X	-	-	-
( <i>Ceraocephala testiculatis</i> )					
<i>uncinatus</i> D. Don					
var. <i>uncinatus</i>	L	-	-	X	-
<i>Thalictrum</i>					
<i>alpinum</i> L.	C	X	-	-	-
<i>occidentale</i> Gray	C	X	-	-	-
<i>sparsiflorum</i> Turcz.					
var. <i>saximontanum</i> Boiv.	C	-	X	-	-
<i>venulosum</i> Trel.	D	-	-	X	-
<i>Trollius</i>					
<i>laxus</i> Salisb.					
var. <i>albiflorus</i> Gray	L	-	X	-	-
Rhamnaceae					
<i>Ceanothus</i>					
<i>velutinus</i> Dougl. ex Hook.					
var. <i>velutinus</i>	C	X	-	-	-

	REF	SG	RI	MO	SA
<i>Rhamnus</i>					
<i>alnifolia</i>	D	-	X	-	-
Rosaceae					
<i>Amelanchier</i>					
<i>alnifolia</i> Nutt.					
var. <i>pumila</i> (Nutt.) Nels.	C	X	-	X	-
<i>Cerocarpus</i>					
<i>ledifolius</i> Nutt.					
var. <i>intercedens</i> Schneid.	L	X	-	-	-
<i>Fragaria</i>					
<i>vesca</i> L.					
var. <i>bracteata</i> (Heller) Davis	C	X	-	X	-
<i>virginiana</i> Duchesne					
var. <i>glauca</i> Wats.	C	X	-	-	-
<i>Geum</i>					
<i>canadense</i> Jacq.					
var. <i>camporum</i> (Rydb.) Fern. & Weath.	D	X	-	-	-
<i>Geum</i>					
<i>macrophyllum</i> Willd.					
var. <i>macrophyllum</i>	C	X	-	-	-
var. <i>perincisum</i> (Rydb.) Raup.	C	-	-	X	-
<i>triflorum</i> Pursh					
var. <i>triflorum</i>	C	X	X	-	-
<i>Ivesia</i>					
<i>gordonii</i> (Hook.) T. & G.	L	-	-	X	X
<i>Kelseya</i>					
<i>uniflora</i> (Wats.) Rydb.	C	-	-	X	X
<i>Pentaphylloides</i>					
<i>floribunda</i> (Pursh) Love	C	X	-	-	-
( <i>Potentilla fruticosa</i> )					
<i>Petrophytum</i>					
<i>caespitosum</i> (Nutt.) Rydb.	C	-	-	X	X
<i>Potentilla</i>					
<i>anserina</i> L.					
var. <i>anserina</i>	C	X	X	-	-
<i>arguta</i> Pursh					
var. <i>arguta</i>	C	X	-	X	-
<i>diversifolia</i> Lehm.					
var. <i>diversifolia</i>	C	X	-	-	X
var. <i>perdissecta</i> (Rydb.) Hitchc.	C	X	-	X	X
<i>flabellifolia</i> Hook.	L	X	-	-	X
<i>glandulosa</i> Lindl.					
var. <i>pseudorupestris</i> (Rydb.) Breit.	L	X	-	-	-
<i>gracilis</i> Dougl.					
var. <i>brunnescens</i> (Rydb.) Hitchc.	C	X	X	-	-
var. <i>flabelliformis</i> (Lehm.) Nutt.	C	-	X	X	-
var. <i>glabrata</i> (Lehm.) Hitchc.	C	X	X	-	-

	REF	SG	RI	MO	SA
<i>Potentilla</i>					
<i>ovina</i> Macoun					
var. <i>ovina</i>	C	X	-	X	X
<i>pensylvanica</i> L.	L	X	-	-	-
<i>plattensis</i> Nutt.	D	X	-	-	-
<i>Prunus</i>					
<i>virginiana</i> L.					
var. <i>melanocarpa</i> (Nels.) Sarg.	C	X	-	-	-
<i>Rosa</i>					
<i>arkansana</i> Porter	C	X	-	-	-
<i>woodsii</i> Lindl.					
var. <i>ultramontana</i> (Wats.) Jeps.	C	-	-	X	-
<i>Rubus</i>					
<i>acaulis</i> Michx.	D	-	X	-	-
<i>idaeus</i> L.					
var. <i>gracilipes</i> Jones	C	X	-	X	-
<i>parviflorus</i> Nutt.					
var. <i>parviflorus</i>	C	-	-	X	-
<i>Sibbaldia</i>					
<i>procumbens</i> L.	C	-	-	X	X
<i>Sorbus</i>					
<i>scopulina</i> Greene					
var. <i>scopulina</i>	C	-	-	X	-
<i>Spiraea</i>					
<i>betulifolia</i> Pall.					
var. <i>lucida</i> (Dougl.) Hitchc.	C	-	-	X	X
Rubiaceae					
<i>Galium</i>					
<i>boreale</i> L.	C	X	-	-	-
<i>trifidum</i> L.					
var. <i>trifidum</i>	C	-	X	-	-
<i>triflorum</i> Michx.	D	-	-	X	-
Salicaceae					
<i>Populus</i>					
<i>acuminata</i> Rydb.	C	X	X	-	-
<i>angustifolia</i> James	C	X	-	-	-
<i>balsamifera</i> L.					
var. <i>balsamifera</i>	D	-	X	-	-
<i>tremuloides</i> Michx.	C	X	-	X	-
<i>Salix</i>					
<i>bebbiana</i> Sarg.					
var. <i>bebbiana</i>	C	X	X	-	-
<i>boothii</i> Dorn	C	X	X	X	-
<i>candida</i> Flugge ex Willd.	D	-	X	-	-
<i>drummondiana</i> Barratt ex Hook.	C	X	X	-	-

	REF	SG	RI	MO	SA
<i>Salix</i>					
<i>exigua</i> Nutt.					
ssp. <i>exigua</i>					
var. <i>exigua</i>	C	X	X	-	-
<i>fragilis</i> L.	C	X	-	-	-
<i>geyeriana</i> Anderss.					
var. <i>geyeriana</i>	C	-	-	X	-
<i>glauca</i> L.	L	-	-	X	X
<i>lasiandra</i> Benth.	C	X	X	-	-
<i>lutea</i> Nutt.	D	-	X	-	-
<i>monochroma</i> Ball	D	-	X	-	-
( <i>S. rigida</i> var. <i>mackenzieana</i> )					
<i>planifolia</i> Pursh					
var. <i>planifolia</i>	C	X	X	-	-
<i>pseudomonticola</i> Ball	D	-	X	-	-
<i>rigida</i> MuGl.					
var. <i>watsonii</i> (Bebb) Cronq.	D	-	-	X	-
<i>scouleriana</i> Barr ex Hook.	C	-	-	X	-
<i>wolfii</i> Bebb.					
var. <i>idahoensis</i> Ball	D	-	X	-	-
Santalaceae					
<i>Comandra</i>					
<i>umbellata</i> (L.) Nutt.					
var. <i>pallida</i> (D. C.) Jones	C	X	-	X	-
Saxifragaceae					
<i>Heuchera</i>					
<i>cylindrica</i> Dougl.					
var. <i>alpina</i> Wats.	L	-	-	-	X
var. <i>cylindrica</i>	C	X	-	X	-
<i>parvifolia</i> Nutt.					
var. <i>dissecta</i> Jones	C	X	-	X	-
<i>Lithophragma</i>					
<i>bulbifera</i> Rydb.	L	X	-	-	-
<i>parviflorum</i> (Hook.) Nutt. ex T. & G.	D	X	-	-	-
<i>Mitella</i>					
<i>breweri</i> Gray	C	-	-	X	-
<i>pentandra</i> Hook.	C	X	-	X	-
<i>stauropetala</i> Piper					
var. <i>stenopetala</i> (Piper) Rosend.	C	-	-	X	-
<i>Parnassia</i>					
<i>fimbriata</i> Konig.					
var. <i>fimbriata</i>	L	-	-	X	-
<i>parviflora</i> DC.	D	-	X	-	-
<i>Saxifraga</i>					
<i>bronchialis</i> L.					
var. <i>austromontana</i> (Wieg.) Jones	C	-	-	X	-

	REF	SG	RI	MO	SA
<i>Saxifraga</i>					
<i>odontolma</i> Piper	C	-	-	X	-
<i>rhomboidea</i> Greene					
var. <i>rhomboidea</i>	C	X	-	X	-
Scrophulariaceae					
<i>Besseya</i>					
<i>wyomingensis</i> (A. Nels.) Rydb.	C	X	X	X	-
<i>Castilleja</i>					
<i>chromosa</i> A. Nels.	C	-	-	X	-
<i>cusickii</i> Greenm.	C	-	X	-	-
<i>flava</i> Wats.	L	-	X	-	-
<i>gracillima</i> Rydb.	L	-	X	-	-
<i>lonispica</i> A. Nels.	C	X	-	-	-
<i>miniata</i> Dougl.					
var. <i>miniata</i>	C	-	X	X	-
<i>pallescens</i> (Gray) Greenm.	C	X	-	X	-
<i>pulchella</i> Rydb.	C	-	-	-	X
<i>rustica</i> Piper	C	X	-	-	-
<i>Collinsia</i>					
<i>parviflora</i> Lindl.	L	X	-	-	-
<i>Cordylanthus</i>					
<i>ramosus</i> Nutt. ex Benth.	C	X	-	-	-
<i>Limosella</i>					
<i>aquatica</i> L.	D	-	X	-	-
<i>Linaria</i>					
<i>vulgaris</i> Miller	D	X	-	-	-
<i>Mimulus</i>					
<i>guttatus</i> DC.					
var. <i>guttatus</i>	C	-	X	-	-
<i>lewisii</i> Pursh	C	-	-	X	X
<i>moschatus</i> Dougl.					
var. <i>moschatus</i>	C	-	-	X	-
<i>Orthocarpus</i>					
<i>luteus</i> Nutt.	C	-	X	-	-
<i>Pedicularis</i>					
<i>bracteosa</i> Benth.					
var. <i>paysoniana</i> (Pennell) Cronq.	L	-	-	X	-
<i>groenlandica</i> Retz.	C	X	X	-	-
<i>parryi</i> Gray					
var. <i>purpurea</i> Parry	C	-	-	X	X
<i>racemosa</i> Dougl.					
var. <i>alba</i> (Pennell) Cronq.	C	X	-	-	-
<i>Penstemon</i>					
<i>aridus</i> Rydb.	C	X	-	-	-
<i>attenuatus</i> Dougl. ex Lindl.					
var. <i>pseudoprocerus</i> (Rydb.) Cronq	C	X	-	X	X
<i>cyaneus</i> Pennell	C	X	-	-	-

	REF	SG	RI	MO	SA
<i>Penstemon</i>					
<i>deustus</i> Dougl. ex Lindl.					
var. <i>deustus</i>	C	-	-	X	-
<i>eriantherus</i> Pursh					
var. <i>redactus</i> Pennel & Keck	C	X	-	X	-
<i>fruticosa</i> (Pursh) Greene					
var. <i>fruticosa</i>	C	X	-	X	-
<i>montanus</i> Greene					
var. <i>montanus</i>	C	-	-	X	X
<i>procerus</i> Dougl.					
var. <i>procerus</i>	L	-	X	-	X
<i>radicosus</i> A. Nels.	C	X	-	-	-
<i>rydbergii</i> A. Nels.					
var. <i>varians</i> (A. Nels.) Cronq.	L	X	-	-	X
<i>whippleanus</i> Gray	C	-	-	X	-
<i>Scrophularia</i>					
<i>lanceolata</i> Pursh.	C	X	-	-	-
<i>Verbascum</i>					
<i>thapsus</i> L.	C	X	-	-	-
<i>Veronica</i>					
<i>americana</i> Schwein. ex Benth.	C	-	X	-	-
<i>biloba</i> L.	C	-	X	-	-
<i>serpyllifolia</i> L.					
var. <i>serpyllifolia</i>	C	X	-	-	-
<i>wormskjoldii</i> Roem. & Schult.	C	X	-	-	X
Solanaceae					
<i>Hyoscyamus</i>					
<i>niger</i> L.	C	X	-	-	-
Sparganiaceae					
<i>Sparganium</i>					
<i>emersum</i> Rehm.					
var. <i>multipedunculatum</i> (Morong) Reveal	D	-	X	-	-
Typhaceae					
<i>Typha</i>					
<i>latifolia</i> L.	D	-	X	-	-
Urticaceae					
<i>Urtica</i>					
<i>dioica</i> L.					
ssp. <i>gracilis</i> (Ait.) Seland.	C	-	X	-	-

	REF	SG	RI	MO	SA
<b>Valerianaceae</b>					
<i>Valeriana</i>					
<i>acutiloba</i> Rydb.					
var. <i>pubicarpa</i> (Rydb.) Cronq.	C	-	-	X	X
<i>dioica</i> L.					
var. <i>sylvatica</i> (Rich.) Wats.	C	X	-	-	-
<i>edulis</i> Nutt. ex T. & G.					
var. <i>edulis</i>	C	X	X	-	-
<i>occidentalis</i> Heller	C	X	-	X	-
<b>Violaceae</b>					
<i>Viola</i>					
<i>adunca</i> Smith					
var. <i>bellidifolia</i> (Greene) Harr.	C	X	-	X	-
<i>nephrophylla</i> Greene	D	-	X	-	-
<i>nuttallii</i> Pursh					
var. <i>major</i> Hook.	C	X	X	-	-
<i>purpurea</i> Kell.					
var. <i>venosa</i> (Wats.) Brain.	L	X	-	-	-
<i>vallicola</i> A. Nels.	C	X	-	-	-

APPENDIX B-ENTIRE TAXA DATA SET

Entire data set of 3217 taxa by 11 floras. Abbreviations: CR-Centennial Region; YE-Headwaters of the Yellowstone; BH-Black Hills; SA-Southeastern Absarokas; NC-Northwestern Colorado; WR-Wind Rivers; WA-Wallowa Mountains; SP-Sonora Pass; CN-Central Nevada Ranges; SR-Santa Rosa Range; RR-Raft River Range.

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
<b>Aceraceae</b>											
<b>Acer</b>											
glabrum											
var. glabrum	X	X	-	X	X	X	X	-	X	-	X
var. torreyi	-	-	-	-	-	-	-	X	-	-	-
negundo	-	-	X	-	X	-	-	-	X	-	-
<b>Adoxaceae</b>											
<b>Adoxa</b>											
moschatellina	-	-	-	-	X	-	-	-	-	-	-
<b>Agavaceae</b>											
<b>Yucca</b>											
glauca											
var. glauca	-	-	X	-	X	-	-	-	-	-	-
harrimaniae	-	-	-	-	X	-	-	-	-	-	-
<b>Alismataceae</b>											
<b>Alisma</b>											
gramineum	-	-	X	-	-	-	-	-	-	-	-
plantago-aquatica	-	-	X	-	-	-	-	-	-	-	-
<b>Sagittaria</b>											
cuneata	X	X	X	X	X	X	-	-	-	-	-
<b>Amaranthaceae</b>											
<b>Amaranthus</b>											
albus	-	-	X	-	-	-	-	-	X	-	-
arenicola	-	-	X	-	-	-	-	-	-	-	-
blitoides	-	-	X	-	X	-	-	X	-	-	-
graecizans	-	-	-	-	-	-	-	-	X	-	-
hybrides	-	-	-	-	-	-	-	-	X	-	-
powellii	-	X	-	-	-	-	-	-	-	-	-
retroflexus	-	-	X	-	-	-	X	-	X	-	-
<b>Anacardiaceae</b>											
<b>Rhus</b>											
glabra	-	-	X	-	-	-	-	-	-	-	-
trilobata											
var. trilobata	-	X	X	X	X	-	-	-	-	-	X
<b>Toxicodendron</b>											
rydbergii	-	-	X	-	-	-	-	-	-	-	-
<b>Apiaceae</b>											
<b>Angelica</b>											
ampla	-	-	-	-	X	-	-	-	-	-	-
arguta	X	-	-	-	-	-	X	X	-	X	-
breweri	-	-	-	-	-	-	-	X	-	-	-
grayi	-	-	-	-	X	-	-	-	-	-	-
kingii	-	-	-	-	-	-	-	-	X	-	-
lineariloba	-	-	-	-	-	-	-	X	-	-	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
pinnata	X	X	-	X	X	X	-	-	-	-	-
roseana	-	X	-	X	-	-	-	-	-	-	-
Berula											
erecta	-	-	-	-	-	-	-	-	X	-	-
Burpleurum											
americanum	X	X	-	X	-	X	-	-	-	-	-
Carum											
carvi	-	-	-	X	-	-	-	-	-	-	-
Circuta											
douglasii	X	-	X	-	-	-	-	-	X	X	-
maculata											
var. angustifolia	-	-	-	-	X	X	-	-	-	-	-
Conioselinum											
scopulorum	-	-	-	-	X	-	X	-	-	-	-
Conium											
maculatum	-	-	X	-	-	-	-	X	X	-	-
Cymopterus											
acaulis	X	-	X	X	X	-	-	-	-	-	-
alpinus	-	-	-	-	X	-	-	-	-	-	-
bipinnatus	X	-	-	X	-	-	-	-	-	-	-
cinerarius	-	-	-	-	-	-	-	X	-	-	-
corrugatus	-	-	-	-	-	-	-	-	X	-	-
evertii	-	-	-	X	-	-	-	-	-	-	-
globosus	-	-	-	-	-	-	-	-	X	-	-
goodrichii	-	-	-	-	-	-	-	-	X	-	-
hendersonii	X	-	-	-	-	-	-	-	-	-	-
humboldtensis	-	-	-	-	-	-	-	-	X	-	-
ibapensis	-	-	-	-	-	-	-	-	X	X	X
lemmonii	-	-	-	-	X	-	-	-	-	-	-
longilobus	-	-	-	-	X	X	-	-	-	-	-
longipes	-	-	-	-	-	X	-	-	-	-	-
montanus	-	-	X	-	-	-	-	-	-	-	-
planosus	-	-	-	-	X	-	-	-	-	-	-
purpurascens	-	-	-	-	-	-	-	-	X	-	-
purpureus	-	-	-	X	X	-	-	-	-	-	-
ripleyi	-	-	-	-	-	-	-	-	X	-	-
terebinthinus											
var. albiflorus	-	X	-	-	X	X	-	-	-	-	-
var. calcareus	-	-	-	X	-	-	-	-	-	-	-
Daucus											
carota	-	-	X	-	-	-	-	-	-	-	-
Heraclium											
sphondylium	X	X	X	X	X	X	X	X	-	X	X
Ligusticum											
canbyi	-	X	-	-	-	-	X	-	-	-	-
filicinum	X	X	-	X	-	X	X	-	-	-	-
grayi	-	-	-	-	-	-	X	X	-	X	-
porteri											
var. porteri	-	-	-	-	X	-	-	-	-	-	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
<i>Lomatium</i>											
ambigum	X	X	-	-	-	-	-	-	-	-	-
cous	X	X	-	X	-	X	X	-	-	-	-
cusickii	-	-	-	-	-	-	X	-	-	-	-
dissectum											
var. multifidum	-	X	X	X	X	X	-	X	X	X	-
foeniculaceum											
var. fimbriatum	-	-	-	-	-	-	-	-	X	-	-
var. foeniculaceum	X	-	X	X	-	X	-	-	-	X	-
var. macdougalii	-	-	-	-	-	-	-	-	X	-	-
grayi											
var. grayi	-	-	-	-	X	-	X	-	-	-	-
greenmanii	-	-	-	-	-	-	X	-	-	-	-
macrocarpum	X	-	-	-	X	X	X	-	X	X	-
nevadense											
var. nevadense	-	-	-	-	-	-	-	X	X	-	-
var. parishii	-	-	-	-	-	-	-	X	-	-	-
nudicaule	-	-	-	-	-	-	-	-	X	X	-
nuttallii	-	-	-	-	-	-	-	-	-	X	-
oreganum	-	-	-	-	-	-	X	-	-	-	-
orientale	-	X	X	X	X	X	-	-	-	-	-
ravenii	-	-	-	-	-	-	-	-	X	-	-
simplex	-	-	-	-	-	-	-	-	-	-	X
triternatum											
ssp. platycarpum	X	X	-	X	X	X	-	-	-	-	-
ssp. triternatum											
var. triternatum	X	X	-	-	-	-	X	-	-	X	-
vaginatum	-	-	-	-	-	-	-	-	-	X	-
<i>Músiueon</i>											
divaricatum	X	-	X	X	-	-	-	-	-	-	-
tenuifolium	-	-	X	-	-	-	-	-	-	-	-
<i>Orogenia</i>											
linearifolia	-	-	-	-	-	X	X	-	-	-	-
<i>Osmorhiza</i>											
chilensis	X	X	X	-	X	X	X	X	-	X	X
depauperata	X	X	-	X	X	X	X	-	-	X	-
longistylus	-	-	X	-	-	-	-	-	-	-	-
occidentalis	X	-	-	-	X	-	X	X	X	X	X
<i>Oxypolis</i>											
fendleri	-	-	-	-	X	-	-	-	-	-	-
<i>Perideridia</i>											
bolanderi											
ssp. bolanderi	-	X	-	-	-	-	X	X	X	X	X
gairdneri											
ssp. borealis	X	X	X	X	X	-	X	-	-	X	-
lemmonii	-	-	-	-	-	-	-	X	-	-	-
montana	-	-	-	-	-	X	-	-	-	-	-
parishii											
ssp. latifolia	-	-	-	-	-	-	-	X	-	-	-





	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
<i>Anthemis</i>											
<i>arvensis</i>	-	-	-	-	-	-	X	-	-	-	-
<i>cotula</i>	-	-	-	-	-	-	X	-	-	-	-
<i>tinctoria</i>	-	-	-	-	-	-	X	-	-	-	-
<i>Arctium</i>											
<i>minus</i>	-	-	X	-	X	-	-	-	-	-	-
<i>Arnica</i>											
<i>amplexicaulis</i>											
<i>ssp. amplexicaulis</i>	-	-	-	-	-	X	X	-	X	-	-
<i>chamissonis</i>											
<i>ssp. foliosa</i>											
<i>var. andina</i>	-	-	-	-	-	-	-	X	-	-	-
<i>var. foliosa</i>	X	X	-	X	X	X	-	-	X	X	X
<i>var. incana</i>	-	-	-	-	-	-	-	X	-	-	-
<i>cordifolia</i>											
<i>var. cordifolia</i>	X	X	X	X	X	X	X	X	-	X	X
<i>diversifolia</i>	-	-	-	-	-	-	X	X	-	-	-
<i>fulgens</i>	-	X	X	X	-	X	-	-	-	-	X
<i>gracilis</i>											
( <i>A. latifolia</i> <i>var. gracilis</i> )	-	-	-	X	-	X	-	-	-	-	-
<i>latifolia</i>											
<i>var. latifolia</i>	X	X	-	X	X	X	X	-	-	-	-
<i>longifolia</i>	-	X	-	X	-	X	X	X	-	-	-
<i>mollis</i>	X	X	-	X	X	X	X	X	X	X	X
<i>nevadensis</i>	-	-	-	-	-	-	-	X	-	-	-
<i>ovata</i>	-	-	-	-	-	X	-	-	-	-	-
<i>parryi</i>											
<i>var. parryi</i>	-	X	-	X	X	X	X	X	-	-	-
<i>rydbergii</i>	-	X	-	X	X	X	X	-	-	-	-
<i>sororia</i>	X	X	X	X	-	X	X	X	-	-	-
<i>umbrinella</i>	-	-	-	-	-	X	-	-	-	-	-
<i>Artemisia</i>											
<i>absinthium</i>											
<i>absinthium</i>	-	-	-	-	-	-	X	-	-	-	-
<i>arbuscula</i>											
<i>var. arbuscula</i>	X	-	-	-	-	X	-	X	X	-	-
<i>var. longiloba</i>	-	-	-	-	-	X	-	X	-	X	X
<i>biennis</i>											
<i>var. biennis</i>	X	-	X	-	-	X	-	-	X	-	-
<i>campestris</i>											
<i>ssp. borealis</i>											
<i>var. scouleriana</i>	-	-	X	X	-	X	-	-	-	-	-
<i>ssp. caudata</i>	-	-	X	-	-	-	-	-	-	-	-
<i>cana</i>											
<i>var. cana</i>	X	X	X	-	-	-	-	X	X	X	-
<i>var. viscidula</i>	-	-	-	X	X	X	-	-	-	-	-
<i>douglasiana</i>	-	-	-	-	-	-	-	X	-	-	-
<i>dracuncululus</i>	X	X	X	X	X	X	X	X	X	X	-
<i>filifolia</i>	-	-	X	-	-	-	-	-	-	-	-
<i>frigida</i>	X	X	X	X	X	X	-	-	X	-	X

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
ludoviciana											
var. incompta	-	X	X	X	-	X	-	X	X	-	-
var. latiloba	X	X	-	X	-	X	-	-	X	-	-
var. ludoviciana	X	-	X	X	X	X	X	X	X	-	X
michauxiana	-	X	-	X	X	X	X	-	X	X	-
norvegica											
var. saxatilis	-	-	-	X	X	X	-	X	-	-	-
nova	X	X	-	X	-	-	-	-	X	X	X
pedatifida	-	-	-	X	-	-	-	-	-	-	-
rigida	-	-	-	-	-	-	X	-	-	-	-
rothrockii	-	-	-	-	-	-	-	X	X	-	-
scopulorum	-	X	-	X	X	X	-	-	-	-	-
spinescens	-	-	-	-	-	-	-	-	X	-	X
tilesii	-	-	-	-	-	-	X	-	-	-	-
tridentata											
var. tridentata	X	X	-	-	X	X	X	X	X	X	X
var. vaseyana	-	X	-	X	X	X	-	X	X	-	-
var. wyomingensis	-	-	X	X	-	-	-	-	X	-	-
tripartita	X	-	-	X	-	-	-	-	-	-	X
vulgaris	-	-	-	-	-	-	X	-	-	-	-
Aster											
alpigenus											
ssp. andersonii	-	-	-	-	-	-	-	X	-	-	-
var. haydenii	-	X	-	X	-	X	X	-	-	-	-
brachyactis	-	-	-	-	X	-	-	-	-	-	-
bracteolatus	-	X	-	-	-	X	-	-	-	-	-
breweri	-	-	-	-	-	-	-	X	-	-	-
campestris											
var. bloomeri	-	-	-	-	-	-	-	X	-	-	-
var. campestris	X	X	-	X	-	X	X	-	X	-	-
chilensis											
ssp. adscendens											
(A. adscendens)	X	-	-	X	X	X	-	X	X	X	X
ciliolatus	-	-	X	-	-	-	-	-	-	-	-
conspicuus	X	-	X	-	-	X	X	-	-	-	-
eatonii	X	-	-	X	-	-	X	X	X	-	-
engelmanni	-	X	-	X	X	X	-	-	-	-	-
falcatus											
ssp. falcatus	X	-	X	-	-	-	-	-	-	-	-
falcatus											
ssp. commutatus											
var. commutatus	-	-	X	-	-	-	-	-	-	-	-
foliaceus											
(varieties unknown)	-	-	-	-	-	-	X	-	-	X	X
var. apricus	X	X	-	X	X	X	-	-	-	-	-
var. canbyi	X	-	X	-	-	-	-	-	-	-	-
var. parryi	X	X	-	X	X	X	-	-	-	-	-
frondosus	-	-	-	-	-	-	-	-	X	-	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
glaucodes											
ssp. glaucodes											
var. glaucodes	-	X	-	X	X	X	-	-	-	-	-
hesperius	X	-	X	-	-	-	-	-	-	-	-
integrifolius	X	X	-	-	-	X	X	X	-	X	-
junciformis	-	X	-	X	-	-	-	-	-	-	-
laevis											
var. geyeri	-	-	X	-	-	-	-	-	-	X	-
lanceolatus											
ssp. hesperius	-	-	-	-	-	X	-	-	-	-	-
modestus	-	-	-	-	-	-	X	-	-	-	-
novae-angliae	-	-	X	-	-	-	-	-	-	-	-
oblongifolius	-	-	X	-	-	-	-	-	-	-	-
occidentalis	X	X	-	-	X	X	X	X	X	X	-
perelegans	X	X	-	X	-	X	X	-	-	X	-
scopulorum	X	-	-	-	-	-	-	-	X	X	-
sibericus											
var. meritus	-	-	X	X	-	X	-	-	-	-	-
var. sibiricus	-	-	-	X	-	-	-	-	-	-	-
subspicatus	X	-	-	-	-	-	X	-	-	-	-
Bahia											
dissecta	-	-	-	-	X	-	-	-	-	-	-
Baileyi											
pleniradiata	-	-	-	-	-	-	-	-	X	-	-
Balsamorhiza											
hookeri	-	-	-	-	-	-	-	-	-	X	X
incana	-	-	-	X	-	X	-	-	-	-	-
macrophylla	X	-	-	-	-	-	-	-	-	-	-
sagittata	X	X	X	X	X	X	X	X	X	X	X
Bidens											
cernua	X	-	X	-	X	-	-	-	X	-	-
frondosa	-	-	X	-	-	-	-	-	-	-	-
vulgata	-	-	X	-	-	-	-	-	-	-	-
Blepharipappus											
scater	-	-	-	-	-	-	-	-	-	X	-
Brickellia											
californica	-	-	-	-	X	-	-	-	X	-	-
grandiflora											
var. grandiflora	-	-	-	-	X	X	X	-	-	-	-
var. petiolaris	-	-	-	-	-	-	-	X	-	-	-
oblongifolia	-	-	-	-	-	-	X	-	X	-	-
Carduus											
nutans	-	X	X	-	X	X	-	-	X	-	-
Centaurea											
diffusa	-	-	-	-	-	-	X	-	-	-	-
maculosa	-	-	X	-	-	-	-	-	-	-	-
repens	-	-	-	-	X	-	-	-	X	-	-
Chaenactis											
alpina	-	X	-	X	-	X	-	X	-	-	-



	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
eatonii	-	X	-	-	X	X	-	X	-	-	-
edule	-	-	-	-	-	-	-	-	-	-	X
flodmanii	-	-	X	-	-	-	-	-	-	-	-
hookerianum	-	X	-	-	-	-	-	-	-	-	-
mohavense	-	-	-	-	-	-	-	-	X	-	-
neomexicanum	-	-	-	-	-	-	-	X	-	X	-
pastoris	-	-	-	-	-	-	-	X	-	-	-
pulcherrimum	-	-	-	X	-	-	-	-	-	-	-
scariosum	X	X	-	X	-	X	-	-	-	-	-
subniveum	-	X	-	X	-	X	-	-	-	-	-
tioganum	-	-	-	-	-	-	-	X	X	-	-
tweedyi	-	-	-	X	-	-	-	-	-	-	-
undulatum	X	-	X	-	X	-	-	-	-	X	-
utahense	-	-	-	-	-	-	-	X	X	-	-
vulgare	X	X	X	-	X	X	X	X	X	-	X
<i>Conyza</i>											
canadensis	-	X	X	-	X	-	X	X	X	-	-
<i>Crepis</i>											
acuminata											
ssp. acuminata	X	X	X	X	X	X	X	X	X	X	X
ssp. atrabarba	-	-	X	-	-	-	-	-	-	-	-
atribarba											
ssp. atribarba	-	X	-	X	-	X	-	-	X	-	-
elegans	-	X	-	X	-	X	-	-	-	-	-
intermedia	-	X	-	-	X	-	-	X	X	-	-
modocensis											
ssp. modocensis	-	X	X	X	X	X	-	-	X	X	-
ssp. subacaulis	-	-	-	-	-	-	-	X	-	-	-
nana											
ssp. nana	-	-	-	X	-	X	X	X	X	-	-
ssp. ramosa	-	-	-	-	-	-	-	X	-	-	-
occidentalis											
ssp. conjuncta	-	-	-	-	-	-	-	X	-	-	-
ssp. occidentalis	-	-	X	-	X	-	X	X	X	-	X
ssp. pumila	-	-	-	-	-	-	-	X	-	-	-
var. costata	-	X	X	-	X	-	-	-	-	-	-
runcinata											
var. runcinata	-	X	X	X	-	X	-	-	X	-	-
tectorum	-	X	-	-	-	X	-	-	-	-	-
<i>Dimeresia</i>											
howellii	-	-	-	-	-	-	-	-	-	X	-
<i>Dugaldia/Helenium</i>											
hoopesii	X	X	-	-	X	X	-	X	-	-	X
<i>Dyssodia</i>											
papposa	-	-	X	-	-	-	-	-	-	-	-
<i>Eatonella</i>											
nivea	-	-	-	-	-	-	-	X	X	-	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
Echinacea											
pallida											
var. angustifolia	-	-	X	-	-	-	-	-	-	-	-
Encelia											
frutescens	-	-	-	-	-	-	-	-	X	-	-
Enceliopsis											
nudicaulis	-	-	-	-	-	-	-	-	X	-	-
Erigeron											
acris											
var. asteroides	-	X	-	X	-	-	-	-	-	-	-
var. debilis	-	-	-	X	-	X	-	-	-	-	-
var. kamtschaticus	-	-	-	-	-	X	-	-	-	-	-
algidus	-	-	-	-	-	-	-	X	-	-	-
aphanactis											
var. aphanactis	-	-	-	-	-	-	-	X	X	X	-
argentatus	-	-	-	-	-	-	-	-	X	X	-
barbellulatus	-	-	-	-	-	-	-	X	-	-	-
bloomeri	-	-	-	-	-	-	X	-	X	X	-
breweri											
var. breweri	-	-	-	-	-	-	-	X	X	-	-
var. porphyreticus	-	-	-	-	-	-	-	X	-	-	-
caespitosus	X	X	-	X	-	-	-	-	-	-	-
canus	-	-	X	-	X	-	-	-	-	-	-
chrysopsidis	-	-	-	-	-	-	X	-	-	X	-
clokeyi	-	-	-	-	-	-	-	X	X	-	-
compactus	-	-	-	-	-	-	-	-	X	-	-
compositus											
var. compositus	X	X	X	X	-	-	X	X	X	-	-
var. discoideus	-	-	-	-	X	X	-	-	X	-	-
concinus	-	-	-	-	-	-	-	-	X	-	-
corymbosa	X	X	-	X	-	X	-	-	-	-	-
coulteri	-	-	-	-	X	-	X	X	-	-	-
divergens											
var. divergens	-	-	X	-	X	X	-	X	X	-	-
eatonii											
var. eatonii	-	X	-	X	X	X	X	-	-	-	-
var. plantagineus	-	-	-	-	-	-	-	X	X	-	-
elator	-	-	-	-	X	-	-	-	-	-	-
engelmannii											
var. engelmannii	-	X	-	-	X	X	-	-	-	-	-
eximius Greene	-	X	-	-	X	-	-	-	-	-	-
filifolius	-	-	-	-	-	-	-	-	-	X	-
flabellifolius	-	X	-	X	-	-	-	-	-	-	-
flagellaris	-	X	X	-	X	-	-	-	-	-	-
foliosus											
var. confinis	-	-	-	-	-	-	-	-	X	-	-
formosissimus											
var. formosissimus	-	X	X	-	X	X	-	-	-	-	-
var. viscidus	-	-	-	X	-	-	-	-	-	-	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
glabellus											
var. glabellus	X	X	X	X	X	X	-	-	-	-	-
gracilis	X	X	-	X	-	X	-	-	-	-	-
humilis	-	-	-	X	-	X	-	-	-	-	-
lanatus	-	-	-	-	-	X	-	-	-	-	-
leiomerus	-	X	-	X	X	X	-	-	-	-	-
linearis	-	-	-	-	-	X	X	X	-	X	-
lonchophyllus											
var. lonchophyllus	X	X	-	X	-	X	-	X	X	-	-
melanocephalus	-	-	-	-	X	-	-	-	-	-	-
nevadincola	-	-	-	-	-	-	-	X	X	-	-
ochroleucus											
var. ochroleucus	X	X	X	-	-	X	-	-	-	-	-
var. scribneri	X	X	X	X	-	-	-	-	-	-	-
peregrinus											
ssp. callianthemus											
var. eucallianthemus	X	X	-	X	X	X	X	-	-	X	-
var. scapose	-	-	-	X	-	-	-	-	-	-	-
var. angustifolius	-	-	-	-	-	-	-	X	-	-	-
var. hirsutus	-	-	-	-	-	-	-	X	-	-	-
petiolaris	-	-	-	-	-	-	-	X	-	-	-
philadelphicus	X	-	X	-	-	-	X	-	-	-	-
pinnatisectus	-	-	-	-	X	-	-	-	-	-	-
pulcherrimus											
var. wyomingia	-	-	-	X	X	-	-	-	-	-	-
pumilis											
ssp. pumilis											
var. gracilior	-	X	X	-	-	-	X	-	X	-	-
var. concinnus	-	-	-	-	X	X	-	-	-	-	-
pygmaeus	-	-	-	-	-	-	-	X	-	-	-
radicatus	-	-	-	-	-	X	-	-	-	-	-
rydbergii	X	X	-	X	-	-	-	-	-	-	-
simplex	-	X	-	X	X	X	X	-	-	-	-
speciosus											
var. macranthus	-	-	-	X	-	-	-	-	-	-	-
var. speciosus	X	X	-	X	X	X	X	-	-	-	-
strigosus											
var. septentrionalis	-	-	X	-	-	-	-	-	-	-	-
var. strigosus	-	-	X	-	-	-	-	-	-	-	-
subtrinervis											
var. subtrinervis	-	-	X	-	X	X	-	-	-	-	-
tener	-	-	-	-	-	-	X	-	-	X	X
tweedyi	X	-	-	X	-	-	-	-	-	-	-
ursinus	-	X	-	X	X	X	X	-	-	-	-
vagus	-	-	-	-	-	-	-	X	X	-	-
Eriophyllum											
lanatum											
var. integrifolium	X	X	-	X	-	X	X	X	X	X	-
pringlei	-	-	-	-	-	-	-	-	X	-	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
<i>Eupatorium</i>											
<i>maculatum</i>											
var. <i>bruneri</i>	-	-	X	-	-	-	-	-	-	-	-
<i>occidentale</i>	-	-	-	-	-	-	-	X	X	-	-
<i>Franseria</i>											
<i>acanthicarpa</i>	-	-	-	-	-	-	-	-	X	-	-
<i>Gaillardia</i>											
<i>aristata</i>	X	X	X	X	X	-	-	-	-	-	-
<i>Glyptoleura</i>											
<i>marginata</i>	-	-	-	-	-	-	-	-	X	-	-
<i>Gnaphalium</i>											
<i>microcephalum</i>	-	-	-	-	-	-	X	-	-	-	-
<i>palustre</i>	X	-	X	-	-	X	X	X	X	-	X
<i>stramineum</i>	-	-	-	-	-	-	X	-	-	-	-
<i>uliginosum</i>	-	-	X	-	-	-	-	-	-	-	-
<i>viscosum</i>	-	X	X	-	-	-	-	-	-	-	-
<i>Grindelia</i>											
<i>nana</i>	-	-	-	-	-	-	X	-	-	-	-
<i>squarrosa</i>											
var. <i>quasiperennis</i>	-	-	X	X	X	-	-	-	-	-	-
var. <i>serrulata</i>	-	X	-	-	X	-	-	-	-	-	-
var. <i>squarrosa</i>	X	-	-	-	-	X	-	-	X	-	X
<i>Gutierrezia</i>											
<i>sarothrae</i>	-	-	X	-	X	-	-	-	-	-	X
<i>Haplopappus</i>											
<i>alpinus</i>	-	-	-	-	-	-	-	-	X	-	-
<i>armerioides</i>	-	-	-	X	X	-	-	-	-	-	-
<i>lyallii</i>	-	X	-	X	-	X	-	-	-	-	-
<i>macronema</i>											
var. <i>linearis</i>	X	X	-	-	-	X	-	X	X	-	-
<i>multicaulis</i>	-	-	X	-	-	-	-	-	-	-	-
<i>nuttallii</i>	-	X	X	-	X	-	-	-	-	-	-
<i>Haplopappus/Ericameria</i>											
<i>bloomeri</i>	-	-	-	-	-	-	-	X	-	-	-
<i>discoidea</i>	-	-	-	-	-	-	-	X	X	X	-
<i>greenei</i>	-	-	-	-	-	-	X	-	-	-	-
<i>nanus</i>	X	-	-	-	-	-	-	-	X	-	-
<i>suffruticosus</i>	X	-	-	-	-	-	X	X	X	-	-
<i>Haplopappus/Pyrrocoma</i>											
<i>apargioides</i>	-	-	-	-	-	-	-	X	X	-	-
<i>carthamoides</i>	-	-	-	-	-	-	X	-	-	X	-
<i>hirta</i>	-	-	-	-	-	-	X	-	-	-	-
<i>integrifolius</i>	X	-	-	-	-	-	-	-	-	-	-
<i>lanceolatus</i>	X	-	-	X	-	-	-	X	X	-	-
<i>racemosa</i>											
var. <i>sessiliflorus</i>	-	-	-	-	-	-	-	-	X	-	-
<i>uniflora</i>											
var. <i>uniflora</i>	X	-	-	X	-	X	-	X	X	-	-
<i>watsonii</i>	-	-	-	-	-	-	-	-	X	-	-





	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
<i>Lygodesmia</i>											
<i>juncea</i>	-	-	X	-	-	-	-	-	-	-	-
<i>spinosa</i>	-	-	-	-	-	-	-	-	X	-	-
<i>Machaeranthera</i>											
<i>canescens</i>											
var. <i>canescens</i>	X	X	X	X	-	X	X	X	X	X	-
var. <i>glabra</i>	-	X	-	-	X	-	-	-	-	-	-
var. <i>monticola</i>	-	X	-	-	-	-	-	-	-	-	-
<i>grindelioides</i>											
var. <i>grindelioides</i>	-	-	-	X	-	-	-	-	-	-	-
<i>laetevirens</i>	-	-	-	-	-	-	-	-	X	-	-
<i>leucanthemifolia</i>	-	-	-	-	-	-	-	-	X	-	-
<i>linearis</i>	-	-	X	-	-	-	-	-	-	-	-
<i>pinnatifida</i>	-	-	X	-	-	-	-	-	-	-	-
<i>shastensis</i>											
var. <i>gossophylla</i>	-	-	-	-	-	-	-	X	-	-	-
var. <i>montana</i>	-	-	-	-	-	-	-	X	-	-	-
<i>Madia</i>											
<i>exigua</i>	-	-	-	-	-	-	X	-	-	-	-
<i>glomerata</i>	X	X	X	-	X	X	X	X	-	-	-
<i>gracilis</i>	-	-	-	-	-	-	X	-	X	X	-
<i>minima</i>	-	-	-	-	-	-	X	-	-	-	-
<i>Malacothrix</i>											
<i>torreyi</i>	-	-	-	-	-	-	-	-	X	-	-
<i>Matricaria</i>											
<i>maritima</i>											
ssp. <i>maritima</i>	-	-	-	-	-	X	-	-	-	-	-
<i>matricarioides</i>	X	X	X	X	X	X	-	-	-	-	-
<i>Microseris</i>											
<i>nutans</i>	X	X	X	X	X	X	X	-	-	X	-
<i>Nothocalais</i>											
<i>cuspidata</i>	-	-	X	-	-	-	-	-	-	-	-
<i>nigrescens</i>	X	-	-	X	-	X	-	-	-	-	-
<i>troximoides</i>	-	-	-	-	-	-	-	-	-	X	-
<i>Onopordum</i>											
<i>acanthium</i>	-	-	X	-	-	-	-	-	-	-	-
<i>Pericome</i>											
<i>caudata</i>	-	-	-	-	-	-	-	-	X	-	-
<i>Petradoria</i>											
<i>pumila</i>	-	-	-	-	-	-	-	-	X	-	-
<i>Platyschkuhria</i>											
<i>integrifolia</i>											
var. <i>integrifolia</i>	-	X	-	X	-	-	-	-	-	-	-
<i>Prenanthes</i>											
<i>racemosa</i>											
ssp. <i>multiflora</i>	-	-	X	-	-	-	-	-	-	-	-
<i>Psathyrotes</i>											
<i>annua</i>	-	-	-	-	-	-	-	-	X	-	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
<i>Raillardella</i>											
<i>argentea</i>	-	-	-	-	-	-	-	X	-	-	-
<i>scaposa</i>	-	-	-	-	-	-	-	X	-	-	-
<i>Ratibida</i>											
<i>columnifera</i>	-	-	X	-	-	-	-	-	-	-	-
<i>tagetes</i>	-	-	X	-	-	-	-	-	-	-	-
<i>Rigiopappus</i>											
<i>leptocladus</i>	-	-	-	-	-	-	-	-	-	X	-
<i>Rudbeckia</i>											
<i>hirta</i>											
var. <i>pulcherrima</i>	-	-	X	-	X	-	-	-	-	-	-
<i>laciniata</i>											
var. <i>ampla</i>	-	-	X	-	X	-	-	-	-	-	-
<i>occidentalis</i>											
var. <i>montana</i>	-	-	-	-	X	-	-	-	-	-	-
var. <i>occidentalis</i>	X	X	-	-	-	X	X	-	-	X	X
<i>Saussurea</i>											
<i>americana</i>	-	-	-	-	-	-	X	-	-	-	-
<i>weberi</i>	-	-	-	-	-	X	-	-	-	-	-
<i>Senecio</i>											
<i>amplectans</i>											
var. <i>holmii</i>	-	X	-	X	X	X	-	-	-	-	-
<i>atratus</i>	-	-	-	-	X	-	-	-	-	-	-
<i>aureus</i>	-	-	-	-	-	-	-	-	-	-	X
<i>bigelovii</i>											
var. <i>hallii</i>	-	-	-	-	X	-	-	-	-	-	-
<i>canus</i>	X	X	X	X	X	X	X	X	X	X	X
<i>crassulus</i>	X	X	-	X	X	X	-	-	-	-	-
<i>cymbalarioides</i>	-	X	-	X	-	X	X	X	-	-	-
<i>debilis</i>	X	X	-	-	-	X	-	-	-	-	-
<i>dimorphophyllus</i>											
var. <i>dimorphophyllus</i>	-	-	-	X	X	-	-	-	-	-	-
var. <i>paysonii</i>	-	X	-	X	-	X	-	-	-	-	-
<i>eremophilus</i>											
var. <i>eremophilus</i>	-	-	-	-	-	X	-	-	-	-	-
var. <i>kingii</i>	-	-	-	-	X	-	-	-	-	-	-
<i>fendleri</i>	-	-	-	-	-	-	-	-	-	-	X
<i>foetidus</i>											
var. <i>hydrophiloides</i>	X	-	-	-	-	-	-	-	-	-	-
<i>fremontii</i>											
var. <i>blitoides</i>	-	-	-	X	X	-	-	-	-	-	-
var. <i>fremontii</i>	X	X	-	-	-	X	X	-	-	-	-
var. <i>occidentalis</i>	-	-	-	-	-	-	-	X	-	-	-
<i>fuscatus</i>	-	X	-	X	-	-	-	-	-	-	-
<i>hydrophilus</i>	X	X	-	-	-	X	-	X	X	-	-
<i>indecorus</i>	X	-	-	-	-	-	-	-	-	-	-
<i>integerrimus</i>											
var. <i>exaltatus</i>	X	X	X	X	X	X	-	X	-	-	-
var. <i>integerrimus</i>	X	-	X	-	-	-	X	-	X	X	X

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
lugens	X	X	-	X	-	X	-	-	-	-	-
multilobatus	-	-	-	-	X	X	-	X	X	-	X
pattersonianus	-	-	-	-	-	-	-	X	-	-	-
pauciflorus	-	-	-	-	-	X	X	-	-	-	-
pauperculus	X	-	X	X	-	X	X	-	-	-	-
plattensis	-	-	X	-	-	-	-	-	-	-	-
porteri	-	-	-	-	-	-	X	-	-	-	-
pseudaureus											
var. flavulus	-	-	-	-	X	-	-	-	-	-	-
var. pseudaureas	X	X	X	X	-	-	X	-	-	-	-
pudicus	-	-	-	-	X	-	-	-	-	-	-
rapifolius	-	-	X	-	-	-	-	-	-	-	-
riddellii	-	-	X	-	-	-	-	-	-	-	-
scorzonella	-	-	-	-	-	-	-	X	-	-	-
serra											
var. admirabilis	-	-	-	X	X	-	-	-	-	-	-
var. serra	X	X	-	X	-	X	X	X	X	X	X
spartiodes											
var. spartioides	-	-	-	-	X	-	-	X	-	-	-
sphaerocephalus	X	X	-	X	-	X	X	-	-	-	-
streptanthifolius											
var. borealis	-	-	-	-	-	X	-	-	-	-	-
var. oodes	-	-	-	-	-	X	-	-	-	-	-
var. rubricaulis	-	-	-	-	-	X	-	-	-	-	-
var. streptanthifolius	X	X	-	X	-	X	X	X	X	-	-
toiyabensis	-	-	-	-	-	-	-	-	X	-	-
triangularus											
var. triangularis	X	X	-	X	X	X	X	X	-	-	-
tridenticulatus	-	-	X	-	-	-	-	-	-	-	-
vulgaris	-	-	X	-	-	-	-	-	-	-	-
wernerifolius											
var. alpinus	-	-	-	-	X	-	-	-	-	-	-
var. wernerifolius	X	-	-	X	X	-	-	X	X	-	-
Solidago											
canadensis											
var. gilvocanescens	-	-	X	X	-	-	-	-	-	-	-
var. salebrosa	X	X	X	X	-	X	X	X	X	-	-
var. scabra	-	-	X	-	-	-	-	-	-	-	-
gigantea											
var. serotina	-	-	X	-	-	-	-	-	-	-	-
missouriensis											
var. fasciculata	-	X	X	-	-	-	-	-	-	-	-
var. missouriensis	X	X	X	X	-	X	X	-	X	-	-
mollis											
var. mollis	-	-	X	-	-	-	-	-	-	-	-
multiradiata											
var. longipetiolata	-	X	-	-	-	-	-	-	-	-	-
var. scopulorum	X	-	-	X	X	X	X	X	X	-	-
nana	-	X	-	-	-	X	-	-	-	-	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
nemoralis											
var. longipetiolata	X	-	X	-	-	-	-	-	-	-	-
parryi	-	-	-	-	X	-	-	-	-	-	-
ptarmicoides	-	-	X	-	-	-	-	-	-	-	-
rigida											
var. humulis	-	-	X	-	-	-	-	-	-	-	-
simplex	-	-	-	-	-	X	-	-	-	-	-
sparsiflora	-	X	X	-	X	X	-	-	-	-	-
spathulata											
var. nana	X	-	-	X	X	-	-	-	-	-	-
var. neomexicana	-	-	X	X	-	-	-	-	-	-	-
speciosa											
var. rigidiuscula	-	-	X	-	-	-	-	-	-	-	-
Sonchus											
asper	-	-	X	-	X	-	-	X	X	X	-
uliginosus	X	-	-	-	-	X	-	-	-	-	-
Sphaeromeria											
argentina	-	-	-	-	-	-	-	-	X	-	-
cana	-	-	-	-	-	-	-	X	X	X	-
potentilloides											
var. nitrophila	-	-	-	-	-	-	-	-	X	-	-
Stephanomeria											
exigua											
ssp. coronaria	-	-	-	-	-	-	-	X	-	-	-
ssp. exigua	-	-	-	-	-	-	-	X	X	-	-
runcinata	-	-	-	X	X	-	-	-	-	-	-
spinosa	-	-	-	-	-	-	-	X	X	X	X
tenuifolia											
var. tenuifolia	X	X	-	X	-	X	-	-	-	-	-
Tanacetum											
vulgare	X	X	X	-	-	X	-	-	-	-	-
Taraxacum											
ceratophorum	-	-	-	X	-	X	-	-	-	-	-
eriphorum	-	X	-	-	-	-	-	-	-	-	-
laevigatum	X	X	X	X	X	X	-	-	-	-	-
lyratum	-	-	-	X	-	-	-	-	-	-	-
officinale	X	X	X	X	X	X	X	X	X	X	X
scopulorum	-	-	-	-	-	X	-	-	-	-	-
Tetradymia											
axillaris	-	-	-	-	-	-	-	-	X	-	-
canescens	X	X	-	-	X	X	-	X	X	X	X
glabrata	-	-	-	-	-	-	-	X	X	X	-
spinosa	-	-	-	-	-	-	-	-	X	X	-
tetrameres	-	-	-	-	-	-	-	-	X	-	-
Thelesperma											
marginatum	-	-	-	X	-	-	-	-	-	-	-
Tonestus											
alpinus	-	-	-	-	-	-	-	-	X	-	-
lyallii	-	-	-	-	-	-	X	-	-	-	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
<i>Townsendia</i>											
<i>alpigena</i>											
var. <i>alpigena</i>	X	X	-	X	-	X	X	-	-	-	-
<i>condensata</i>	-	X	-	X	-	-	-	-	-	-	-
<i>exscapa</i>	-	-	X	-	-	-	-	-	-	-	-
<i>florifer</i>	-	-	-	-	-	-	-	-	X	-	-
<i>hookeri</i>	-	X	X	X	X	-	-	-	-	-	-
<i>incana</i>	-	-	-	-	X	-	-	-	-	-	-
<i>leptotes</i>	-	-	-	-	-	X	-	-	X	-	-
<i>mensana</i>											
var. <i>jonesii</i>	-	-	-	-	-	-	-	-	X	-	-
<i>montana</i>											
var. <i>montana</i>	X	-	-	-	-	-	-	-	-	-	-
<i>nuttallii</i>	-	-	-	X	-	X	-	-	-	-	-
<i>parryi</i>	X	X	-	X	-	X	X	-	-	-	-
<i>scapigera</i>	-	-	-	-	-	-	X	X	X	X	-
<i>spathulata</i>	-	-	-	X	-	-	-	-	-	-	-
<i>Tragapogon</i>											
<i>dubius</i>	X	X	X	X	X	X	X	X	X	X	-
<i>miscellus</i>	-	X	-	-	-	-	-	-	-	-	-
<i>porrifolius</i>	-	-	-	-	-	-	-	-	-	-	X
<i>pratensis</i>	X	-	-	-	X	X	-	-	-	-	-
<i>Trimorpha</i>											
<i>acris</i>	-	-	-	-	-	-	X	-	-	-	-
<i>lonchophylla</i>	-	-	-	-	-	-	X	X	X	-	-
<i>Verbesina</i>											
<i>encelioides</i>											
var. <i>exauriculata</i>	-	-	X	-	-	-	-	-	-	-	-
<i>Viguiera</i>											
<i>multiflora</i>											
var. <i>multiflora</i>	X	X	-	-	X	X	-	-	-	-	-
<i>Wyethia</i>											
<i>amplexicaulis</i>	X	-	-	-	X	-	-	-	X	X	X
<i>arizonica</i>	-	-	-	-	X	-	-	-	-	-	-
<i>helianthoides</i>	X	X	-	-	-	-	X	-	-	-	-
<i>mollis</i>	-	-	-	-	-	-	-	X	X	-	-
<i>Xanthium</i>											
<i>microcephala</i>	-	-	-	-	-	-	-	-	X	-	-
<i>strumarium</i>	-	-	X	-	-	-	-	-	-	-	-
<i>Xylorhiza</i>											
<i>glabriuscula</i>											
var. <i>glabriuscula</i>	-	X	-	X	-	-	-	-	-	-	-
Berberidaceae											
<i>Berberis</i>											
<i>thunbergii</i>	-	-	X	-	-	-	-	-	-	-	-
<i>Mahonia</i>											
<i>incana</i>	-	-	-	-	-	-	X	X	-	-	X
<i>repens</i>	X	X	X	X	X	X	X	-	X	-	X

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
<b>Betulaceae</b>											
<b>Alnus</b>											
incana											
ssp. tenuifolia	-	-	-	X	-	-	-	X	-	-	-
var. occidentalis	-	X	-	-	X	-	-	-	-	-	-
viridis											
ssp. sinuata	-	-	-	X	-	-	-	-	-	-	-
var. crispa	-	X	-	-	-	-	-	-	-	-	-
(varieties unknown)	-	-	-	-	-	-	X	-	-	-	-
<b>Betula</b>											
glandulosa	X	X	-	X	X	X	-	-	-	-	-
nana	-	-	-	-	-	-	X	-	-	-	-
occidentalis	-	X	X	X	X	X	X	-	X	-	X
papyrifera	-	-	X	-	-	-	-	-	-	-	-
<b>Corylus</b>											
cornuta											
var. cornuta	-	-	X	-	-	-	-	-	-	-	-
<b>Ostrya</b>											
virginiana	-	-	X	-	-	-	-	-	-	-	-
<b>Boraginaceae</b>											
<b>Amsinckia</b>											
intermedia	-	-	-	-	-	-	X	-	X	-	-
lycopsoides	-	-	-	-	-	-	X	-	-	-	-
menziesii	X	-	-	-	-	-	-	-	-	X	-
tessellata	-	-	-	-	-	-	-	-	X	X	-
<b>Anchusa</b>											
officinalis	-	-	X	-	-	-	-	-	-	-	-
<b>Asperugo</b>											
procumbens	-	X	-	X	-	-	X	-	X	-	-
<b>Buglossoides</b>											
arvensis	-	-	-	-	-	-	X	-	-	-	-
<b>Cryptantha</b>											
affinis	-	-	X	-	-	X	X	X	-	-	-
ambigua	-	X	-	X	-	X	-	-	-	-	X
barbigera	-	-	-	-	-	-	-	-	X	-	-
celosioides	-	X	X	X	-	-	X	-	-	-	-
cinerea											
var. abortiva	-	-	-	-	-	-	-	-	X	-	-
circumscissa											
var. circumscissa	-	-	-	-	-	-	-	X	X	-	-
var. hispida	-	-	-	-	-	-	-	X	-	-	-
confertiflora	-	-	-	-	-	-	-	-	X	-	-
echinella	-	-	-	-	-	-	-	X	X	-	-
fendleri	X	X	-	-	-	X	-	-	-	-	-
flavoculata	-	-	-	-	X	X	-	X	X	-	-
glomeriflora	-	-	-	-	-	-	-	X	-	-	-
gracilis	-	-	-	-	X	-	-	-	X	-	-
humilus											
var. commixta	-	-	-	-	-	-	-	-	X	-	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
var. humilus	-	-	-	-	-	-	-	X	X	-	X
var. nana	X	-	-	-	X	-	-	-	-	-	-
var. ovina	-	-	-	-	-	-	-	-	X	-	-
kelseyana	-	-	X	-	-	X	-	-	-	-	-
micrantha	-	-	-	-	-	-	-	-	X	-	-
minima (c.f.)	-	X	-	-	-	-	-	-	-	-	-
nevadensis	-	-	-	-	-	-	-	-	X	-	-
nubigena	-	-	-	-	-	-	X	X	-	X	-
pterocarya											
var. pterocarya	-	-	-	-	-	-	-	X	X	-	-
recurvata	-	-	-	-	-	-	-	-	X	-	-
sericea	-	-	-	-	X	-	-	-	-	-	-
simulans	-	-	-	-	-	-	X	-	-	-	-
torreyana	X	X	X	-	X	X	X	X	-	X	-
virginensis	-	-	-	-	-	-	-	-	X	-	-
watsonii	X	-	-	X	X	-	-	X	X	-	-
Cynoglossum											
officinale	X	X	X	-	X	-	X	-	-	-	X
Eritrichium											
nanum											
var. elongatum	-	X	-	X	-	X	X	-	-	-	X
Hackelia											
deflexa											
var. americana	-	X	X	-	-	-	-	-	-	-	-
floribunda	X	-	X	X	X	X	X	-	X	X	X
micrantha	X	X	-	-	X	X	X	X	-	X	-
patens											
var. patens	X	X	-	X	-	X	-	-	X	X	X
sharsmithii	-	-	-	-	-	-	-	-	X	-	-
Heliotropium											
curassavicum											
var. oculatum	-	-	-	-	-	-	-	-	X	-	-
Lappula											
echinata	X	-	-	X	-	-	-	-	-	-	-
occidentalis	-	-	-	-	-	-	X	X	X	-	X
redowskii	-	X	X	X	X	X	-	X	X	-	-
squarrosa	-	X	X	-	X	X	X	-	-	-	-
texana	-	-	-	X	X	-	-	-	-	-	-
Lithospermum											
incisum	X	X	X	X	X	X	-	-	-	-	-
ruderales	X	X	-	X	X	X	X	-	X	X	X
Mertensia											
alpina	-	X	-	X	-	X	-	-	-	-	-
arizonica	-	-	-	-	-	-	-	-	X	-	-
brevistyla	-	-	-	-	X	-	-	-	-	-	-
ciliata											
var. ciliata	X	X	-	X	X	X	X	X	X	X	X
cusickii	-	-	-	-	-	-	-	-	X	-	-
franciscana	-	-	-	-	X	-	-	-	-	-	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
<i>fusiformis</i>	-	-	-	-	X	X	-	-	-	-	-
<i>lanceolata</i>											
var. <i>lanceolata</i>	-	-	X	X	X	-	-	-	-	-	-
<i>longiflora</i>	-	-	-	-	-	-	X	-	-	-	-
<i>oblongifolia</i>											
var. <i>oblongifolia</i>	X	-	-	X	-	-	X	-	X	X	X
var. <i>nevadensis</i>	-	-	-	-	-	-	-	X	-	-	-
<i>paniculata</i>	-	-	-	-	-	-	X	-	-	-	-
<i>viridis</i>	-	X	-	X	X	X	-	-	-	-	-
<i>Myosotis</i>											
<i>alpestris</i>	X	X	-	X	X	X	-	-	-	-	-
<i>arvensis</i>	-	X	-	-	-	-	-	-	-	-	-
<i>micrantha</i>	-	-	-	-	-	-	X	-	-	-	-
<i>scorpioides</i>	X	-	X	-	-	-	-	-	-	-	-
<i>verna</i>	-	-	X	-	-	-	-	-	-	-	-
<i>Onosmodium</i>											
<i>molle</i>											
var. <i>occidentale</i>	-	-	X	-	-	-	-	-	-	-	-
<i>Pectocarya</i>											
<i>penicillata</i>	-	-	-	-	-	X	-	-	-	-	-
<i>setosa</i>	-	-	-	-	-	-	-	-	X	-	-
<i>Plagiobothrys</i>											
<i>hispidus</i>	-	-	-	-	-	-	-	X	-	-	-
<i>kingii</i>											
var. <i>harknessii</i>	-	-	-	-	-	-	-	X	X	-	-
var. <i>kingii</i>	-	-	-	-	-	-	-	-	X	-	-
<i>leptocladus</i>	-	-	-	-	-	X	-	-	X	-	-
<i>salsus</i>	-	-	-	-	-	-	-	-	X	-	-
<i>scouleri</i>											
var. <i>penicillatus</i>	X	-	X	X	-	-	-	-	X	-	-
var. <i>cusickii</i>	-	-	-	-	-	-	-	-	X	-	-
var. <i>hispidulus</i>	-	X	-	-	X	X	-	-	-	-	-
var. <i>scouleri</i>	-	-	-	-	-	-	X	X	-	X	X
<i>Tiquilia</i>											
<i>nuttallii</i>	-	-	-	-	-	-	-	-	X	-	-
<i>plicata</i>	-	-	-	-	-	-	-	-	X	-	-
<i>Brassicaceae</i>											
<i>Alyssum</i>											
<i>alyssoides</i>	-	X	X	X	X	-	X	-	X	-	-
<i>desertorium</i>	X	X	X	X	X	X	-	-	X	-	-
<i>eurycarpa</i>	-	-	-	-	-	-	-	X	-	-	-
<i>minus</i>	-	-	-	-	X	-	-	-	-	-	-
<i>Anelsonia</i>											
<i>eurycarpa</i>	-	-	-	-	-	-	-	X	-	-	-
<i>Arabidopsis</i>											
<i>thaliana</i>	X	-	-	-	-	-	-	-	-	-	-
<i>Arabis</i>											
<i>bodiensis</i>	-	-	-	-	-	-	-	X	-	-	-
<i> davidsonii</i>	-	-	-	-	-	-	-	X	-	X	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
demissa											
var. demissa	-	-	-	-	X	-	-	-	-	-	-
var. languida	-	-	-	-	-	X	-	-	-	-	-
divaricarpa (A. confins)	X	X	X	X	X	X	-	X	X	-	X
drummondii											
var. drummondii	-	X	X	X	X	X	X	X	X	X	X
fernaldiana	-	-	-	-	-	-	-	-	X	-	-
glabra											
var. glabra	-	X	X	X	X	X	X	X	X	-	-
hirsuta											
var. glabrata	-	X	-	-	-	-	-	X	-	-	-
var. pycnocarpa	X	X	X	X	X	X	-	-	X	-	-
holboellii											
var. collinsii	-	X	X	-	-	X	-	-	-	-	-
var. pendulocarpa	-	X	X	X	-	-	-	X	X	-	-
var. pinetorum	-	X	X	-	X	X	-	X	X	-	-
var. retrofracta	X	-	X	X	-	-	-	X	X	-	-
var. secunda	-	X	-	-	X	X	-	-	-	-	-
inyoensis	-	-	-	-	-	-	-	X	-	-	-
lemmonii											
var. drepanoloba	-	X	-	X	-	-	-	-	X	-	-
var. lemmonii	X	X	-	X	-	X	X	X	X	-	-
lignifera	-	-	-	-	X	-	-	-	X	X	-
lyallii											
var. lyallii	-	X	-	X	-	X	X	X	-	-	-
microphylla											
var. macounii	-	X	-	-	-	-	-	-	-	-	-
var. microphylla	X	-	-	X	-	X	X	-	X	X	-
var. saximontana	X	-	-	-	-	-	-	-	-	-	-
nuttallii	X	-	-	X	-	X	-	-	-	-	-
ophira	-	-	-	-	-	-	-	-	X	-	-
oxylobula	-	-	-	-	X	-	-	-	-	-	-
pendulina											
var. russeola	-	-	-	-	-	X	-	-	X	-	-
pendulocarpa	-	-	-	-	X	X	-	-	-	-	-
playtsperma											
var. howellii	-	-	-	-	-	-	-	X	-	-	-
var. platysperma	-	-	-	-	-	-	-	X	-	-	-
puberula	-	-	-	-	-	-	-	X	X	X	X
pulchra											
var. munciensis	-	-	-	-	-	-	-	-	X	-	-
var. pulchra	-	-	-	-	-	-	-	X	-	-	-
pusilla	-	-	-	-	-	X	-	-	-	-	-
schistacea	-	-	-	-	-	-	-	-	X	-	-
selbyi	-	-	-	-	X	-	-	-	-	-	-
sparsiflora											
var. sparsiflora	-	-	-	X	-	-	X	X	X	X	-
var. subvillosa	X	-	-	X	-	X	-	X	-	-	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
<i>williamsii</i>											
var. <i>williamsii</i>	-	X	-	X	-	X	-	-	-	-	-
(A. <i>pendulocarpa</i> var. <i>saximontana</i> )											
<i>Armoracia</i>											
<i>lapathifolia</i>	-	-	X	-	-	-	-	-	-	-	-
<i>Barbarea</i>											
<i>orthoceras</i>											
var. <i>dolichocarpa</i>	-	-	-	-	-	-	-	X	-	-	-
var. <i>orthoceras</i>	X	-	-	-	X	X	-	X	X	-	X
<i>vulgaris</i>	-	-	X	-	X	-	-	-	-	-	-
<i>Berteroa</i>											
<i>incana</i>	-	-	-	-	-	X	-	-	-	-	-
<i>Brassica</i>											
<i>elongata</i>	-	-	-	-	-	-	-	-	X	-	-
<i>kaber</i>	-	X	-	-	-	-	-	-	-	-	-
<i>nigra</i>	-	-	-	-	-	-	-	-	-	X	X
<i>rapa</i>	-	-	-	-	-	-	X	-	-	-	-
<i>Camelina</i>											
<i>microcarpa</i>	X	X	X	X	X	X	X	-	X	-	X
<i>Capsella</i>											
<i>bursa-pastoris</i>	X	X	X	X	X	X	X	X	X	-	X
<i>Cardamine</i>											
<i>breweri</i>											
var. <i>breweri</i>	X	X	-	-	-	X	-	X	X	-	-
var. <i>leibergii</i>	X	-	-	-	-	-	-	-	-	-	-
<i>cordifolia</i>											
var. <i>cordifolia</i>	-	-	-	-	X	-	X	-	-	-	-
<i>oligosperma</i>	-	X	-	X	-	X	X	-	-	-	-
<i>pennsylvanica</i>	-	X	X	X	-	X	-	-	-	-	X
<i>Cardaria</i>											
<i>chalepensis</i>	-	-	-	-	X	-	-	-	-	-	-
<i>draba</i>	-	X	X	-	-	-	-	-	X	-	-
<i>pubescens</i>	-	X	-	-	X	-	-	-	X	-	-
<i>Caulanthus</i>											
<i>crassicaulis</i>	-	-	-	-	-	-	-	-	X	X	X
<i>major</i>	-	-	-	-	-	-	-	-	-	X	-
<i>pilosus</i>	-	-	-	-	-	-	-	-	X	-	-
<i>Chlorocrambe</i>											
<i>hastata</i>	-	-	-	-	-	-	X	-	-	-	-
<i>Chorispora</i>											
<i>tenella</i>	-	X	X	-	X	X	-	-	X	-	-
<i>Conringia</i>											
<i>orientalis</i>	-	-	X	-	-	-	-	-	-	-	-
<i>Descurainia</i>											
<i>californica</i>	-	-	-	-	-	-	-	X	X	-	-
<i>incana</i>											
var. <i>incana</i>	-	X	-	X	X	X	X	X	X	X	-
var. <i>macrosperma</i>	X	X	-	X	X	X	-	-	-	-	-
var. <i>major</i>	-	-	-	-	-	X	-	-	-	-	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
var. sonnei	-	-	-	X	-	-	-	-	-	-	-
var. viscosa	-	X	-	X	-	X	-	X	-	-	-
pinnata											
var. brachycarpa	-	X	X	-	X	-	-	-	-	-	-
var. filipes	-	X	X	-	X	-	-	X	-	-	-
var. halictorum	-	-	X	X	-	-	-	-	-	-	-
var. intermedia	-	-	X	X	X	-	-	-	-	-	-
var. menziesii	-	-	-	-	-	-	-	X	-	-	-
var. nelsonii	-	-	-	X	-	X	-	-	-	-	-
var. osmiarum	-	-	-	-	X	-	-	-	-	-	-
varieties unknown	-	-	-	-	-	-	X	-	X	-	-
sophia	X	X	X	X	X	X	-	X	-	X	-
torulosa	-	X	-	X	-	-	-	-	-	-	-
Diplotaxis											
muralis	-	-	-	-	X	-	-	-	-	-	-
Draba											
albertina	-	X	-	X	X	X	-	X	X	-	X
apiculata	-	-	-	-	-	X	-	-	-	-	-
arida	-	-	-	-	-	-	-	-	X	-	-
aurea											
var. aurea	X	-	-	X	X	X	-	-	-	-	-
borealis	-	X	-	-	-	X	-	-	-	-	-
brewerii											
var. cana (D. cana)	X	X	-	X	X	X	X	X	-	-	-
crassa	-	-	-	X	-	X	-	-	-	-	-
crassifolia											
var. crassifolia	X	X	-	X	X	X	-	-	X	-	-
densifolia Nutt.	-	-	-	-	-	X	X	X	X	-	-
Draba											
douglasii	-	-	-	-	-	-	-	-	X	-	-
fladnizensis	-	-	-	X	-	-	-	-	X	-	-
incerta	-	X	-	X	-	X	-	-	-	-	-
lemmonii											
var. lemmonii	-	-	-	-	-	-	X	X	-	-	-
lonchocarpa											
var. lonchocarpa	-	X	-	X	-	X	X	-	-	-	-
nemorosa	X	X	X	X	X	X	X	-	X	-	X
nivalis	X	-	-	X	-	-	-	-	-	-	-
oligosperma											
var. oligosperma	X	X	-	X	-	X	X	X	X	-	X
var. pectinipila	-	X	-	-	-	-	-	-	-	-	-
var. subsessilis	-	-	-	-	-	-	-	X	-	-	-
oreibata	-	-	-	-	-	-	-	-	X	-	-
paysonii											
var. paysonii	-	-	-	-	-	X	X	X	-	-	-
var. treleasii	X	-	-	-	-	-	-	-	-	-	-
porsildii	-	-	-	-	-	X	-	-	-	-	-
praealta	-	-	-	X	-	X	X	-	X	-	-
reptans	-	-	X	-	X	-	-	-	-	-	-



	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
carinata											
var. carinata	X	-	-	-	-	-	-	-	-	-	-
cordiformis	-	-	-	-	-	-	-	-	X	-	-
kingii											
var. kingii	-	-	-	-	-	-	X	X	X	-	-
ludoviciana	-	-	-	X	-	-	-	-	-	-	-
paysonii	-	-	-	-	-	X	-	-	-	-	-
Malcolmia											
africana	-	-	-	-	X	-	-	-	X	-	-
Nasturtium/Rorippa											
officinale	X	X	X	-	X	-	-	X	X	-	X
(R. nasturtium-aquaticum)											
Parrya											
nudicaulis	-	-	-	-	-	X	-	-	-	-	-
Phoenicaulis											
cheiranthoides	-	-	-	-	-	-	X	X	X	X	-
Physaria											
acutifolia											
var. acutifolia	-	-	-	-	X	X	-	-	-	-	-
brassicoides	-	-	X	-	-	-	-	-	-	-	-
chambersii	-	-	-	-	-	-	-	-	X	-	-
didymocarpa											
var. didymocarpa	X	X	-	X	-	-	-	-	-	-	-
floribunda	-	-	-	-	X	-	-	-	-	-	-
integrifolia											
var. integrifolia	-	-	-	-	-	X	-	-	-	-	-
Rorippa											
curvipes											
var. alpina	-	-	-	X	X	X	-	-	-	-	X
var. curvipes	-	X	X	-	X	X	-	-	X	-	-
var. integra	-	-	-	-	-	X	-	-	-	-	-
curvisiliqua											
var. curvisiliqua	-	X	-	-	-	-	X	X	-	-	-
var. lyrata	X	-	-	-	-	-	-	-	-	-	-
palustris											
ssp. fernaldiana	-	-	-	X	-	X	-	-	-	-	-
ssp. glabra											
var. fernaldiana	X	X	X	X	-	-	-	-	-	-	-
var. hispida	-	-	-	-	-	X	-	-	-	-	-
sinuata	-	-	X	-	-	-	-	-	-	-	-
sphaerocarpa	-	-	-	-	-	-	-	-	X	-	-
tenerrima	-	-	X	-	-	-	-	-	-	-	-
teres	-	-	-	-	-	-	X	X	-	-	-
Schoenocrambe											
linifolia	-	X	-	X	X	X	-	-	-	-	X
Sinapis											
arvensis	-	-	X	-	-	-	-	-	-	-	-
Sisymbrium											
altissimum	-	X	X	-	X	X	X	X	X	-	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
loeselii	X	-	X	-	-	X	-	-	X	-	-
Smelowskia											
calycina											
var. americana	X	X	-	X	X	X	X	-	-	-	-
holmgrenii	-	-	-	-	-	-	-	-	X	-	-
Stanleya											
pinnata											
var. pinnata	-	-	X	-	X	-	-	-	X	-	-
viridiflora	-	-	-	-	-	-	-	-	X	-	-
Streptanthella											
longirostris	-	-	-	-	-	-	-	-	X	-	-
Streptanthus											
cordatus	-	-	-	-	X	-	-	X	X	-	-
oliganthus	-	-	-	-	-	-	-	X	-	-	-
tortuosus											
var. orbiculatus	-	-	-	-	-	-	-	X	-	-	-
Subularia											
aquatica	-	-	-	-	-	X	-	-	-	-	-
Thelypodopsis											
elegans	-	-	-	-	X	-	-	-	-	-	-
Thelypodium											
crispum	-	-	-	-	-	-	-	X	-	-	-
flexuosum	-	-	-	-	-	-	-	-	X	-	-
integrifolium	-	-	X	-	-	-	-	-	X	-	-
laciniatum	-	-	-	-	-	-	-	-	-	X	-
laxiflorum	-	-	-	-	X	-	-	-	-	-	-
milleflorum	-	-	-	-	-	-	-	-	X	-	-
paniculatum	X	-	-	-	-	X	-	-	-	-	-
sagittatum											
ssp. sagittatum	X	-	-	-	-	-	-	-	-	-	-
Thlaspi											
arvense	X	X	X	X	X	X	X	-	X	X	-
montanum											
var. montanum	-	-	-	-	X	-	X	-	X	-	X
parviflorum	X	-	-	X	-	X	-	-	-	-	-
Cactaceae											
Coryphantha											
missouriensis											
var. missouriensis	-	-	X	-	-	-	-	-	-	-	-
vivipara											
var. vivipara	-	-	X	-	-	-	-	-	X	-	-
Echinocereus											
engelmannii	-	-	-	-	-	-	-	-	X	-	-
triglochidatus											
var. triglochidatus	-	-	-	-	-	-	-	-	X	-	-
var. melanocanthus	-	-	-	-	X	-	-	-	X	-	-
Opuntia											
echinocarpa	-	-	-	-	-	-	-	-	X	-	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
erinacea											
var. utahensis	-	-	-	-	-	-	-	X	X	-	X
fragilis											
var. fragilis	-	-	X	-	-	-	-	-	-	-	-
polyacantha											
var. polyacantha	X	X	X	X	X	X	-	-	-	-	X
var. rufispina	-	-	-	-	-	-	-	X	-	-	-
pulchella	-	-	-	-	-	-	-	-	X	-	-
Pediocactus											
simpsonii											
var. simpsonii	-	-	-	-	X	X	-	-	X	-	X
Sclerocactus											
polyancistrus	-	-	-	-	-	-	-	-	X	-	-
whipplei	-	-	-	-	-	-	-	-	X	-	-
Callitrichaceae											
Callitriche											
hermaphroditica	X	-	X	-	-	X	-	-	-	-	-
heterophylla	-	-	X	-	-	X	X	-	-	-	-
palustris	X	-	-	-	X	X	-	-	-	-	-
verna	-	-	X	X	-	-	X	X	-	X	-
Campanulaceae											
Campanula											
aparinoides	-	-	X	-	-	-	-	-	-	-	-
rapunculoides	-	-	-	-	-	-	X	-	-	-	-
rotundifolia	X	X	X	X	X	X	X	-	-	-	-
scabrella	-	-	-	-	-	-	X	-	-	-	-
uniflora	-	-	-	X	-	X	-	-	-	-	-
Downingia											
laeta	X	-	-	-	-	-	-	-	X	-	-
Porterella											
carnosula	-	-	-	-	-	-	-	X	-	-	-
Triodanis											
leptocarpa	-	-	X	-	-	-	-	-	-	-	-
perfoliata											
var. perfoliata	-	-	X	-	-	-	-	-	-	-	-
Cannabaceae											
Humulus											
lupulus	-	-	X	-	X	-	-	-	-	-	-
Capparaceae											
Cleome											
lutea	-	-	-	-	-	-	-	-	X	-	-
parviflora	-	-	-	-	-	-	-	-	X	-	-
platycarpa	-	-	-	-	-	-	-	-	X	-	-
serrulata	-	X	X	-	-	-	-	-	X	-	-
sparsifolia	-	-	-	-	-	-	-	-	X	-	-
Cleomella											
brevipes	-	-	-	-	-	-	-	-	X	-	-
macbrideana	-	-	-	-	-	-	-	-	X	-	-
obtusifolia	-	-	-	-	-	-	-	-	X	-	-







	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
monantha	-	X	-	X	X	X	-	-	-	-	-
obtusa	X	X	-	-	X	X	X	-	-	-	-
simcoei	X	-	-	-	-	-	-	-	-	-	-
umbellata	-	X	-	X	X	X	X	X	X	-	-
Vaccaria											
pyramidata	-	-	X	-	-	-	-	-	-	-	-
Celastraceae											
Celastrus											
scandens	-	-	X	-	-	-	-	-	-	-	-
Glossopetalon											
nevadense	-	-	-	-	-	-	-	-	X	-	-
Paxistima											
myrsinites	-	-	-	-	X	X	X	-	-	-	X
Ceratophyllaceae											
Ceratophyllum											
demersum	-	-	-	-	-	-	X	-	-	-	-
Chenopodiaceae											
Allenrolfea											
occidentalis	-	-	-	-	-	-	-	-	X	-	-
Atriplex											
argentea											
ssp. argentea	-	X	X	-	-	-	-	-	X	-	-
canescens											
ssp. aptera	-	-	X	-	-	-	-	-	-	-	-
var. canescens	-	-	-	-	X	-	-	-	X	-	-
confertifolia	-	-	-	X	-	-	-	-	X	-	X
falcata	-	-	-	-	-	-	-	-	X	-	-
gardneri	-	-	X	X	-	-	-	-	-	-	-
heterosperma	-	-	X	-	X	-	-	-	-	-	-
hortensis	-	-	X	-	-	-	-	-	-	-	-
patula											
var. hastata	-	-	X	-	-	-	-	-	-	-	-
var. patula	-	-	X	-	-	-	-	-	-	-	-
phyllostegia	-	-	-	-	-	-	-	-	X	-	-
powellii	-	-	X	-	-	-	-	-	-	-	-
rosea	-	-	-	-	X	-	-	-	-	-	-
suckleyi	-	-	X	-	-	-	-	-	-	-	-
torreyi	-	-	-	-	-	-	-	-	X	-	-
truncata	X	-	-	-	-	-	-	-	X	-	-
Bassia											
hyssopifolia	-	-	-	-	X	-	-	-	X	-	-
Chenopodium											
album											
var. album	X	X	X	-	X	X	X	X	X	X	-
atrovirens	-	X	-	X	X	X	-	X	X	-	-
berlanderi											
var. zschachei	-	X	X	X	-	-	-	-	-	-	-
botrys	-	-	-	-	-	-	-	-	X	-	-
capitatum	X	X	X	-	-	-	X	-	X	X	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
chenopodioides	-	-	-	-	-	-	-	-	X	-	-
desiccatum											
var. desiccatum	-	-	-	-	-	-	-	X	-	-	-
var. leptophylloides	-	-	-	-	-	-	-	X	-	-	-
foliosum	-	-	-	-	-	-	-	X	-	-	-
fremontii	-	X	X	X	X	-	-	-	X	-	-
glaucum	X	-	X	-	X	-	-	-	X	-	-
hybridum	-	-	X	-	-	-	-	-	-	-	-
incanum	-	-	-	-	-	-	-	-	X	-	-
leptophyllum	-	-	-	-	-	X	-	-	X	-	-
nevadense	-	-	-	-	-	-	-	-	X	-	-
overi	-	X	-	X	X	X	-	X	-	-	-
pratericola	-	X	X	-	X	X	-	-	-	-	-
pumilo										X	-
rubrum											
var. glomeratum	-	X	-	-	-	-	-	-	-	-	-
var. rubrum	X	X	X	-	-	-	X	-	-	-	-
strictum											
var. glaucophyllum	-	-	X	-	-	-	-	-	-	-	-
Grayia											
spinosa	-	-	-	-	-	-	-	X	X	X	-
Halogeton											
glomeratus	-	-	-	-	X	-	-	-	X	-	X
Kochia											
americana	-	-	-	-	-	-	-	-	X	-	X
scoparia	-	-	X	-	X	X	-	-	-	-	-
Krasheninnikovia											
lanata	-	X	X	X	X	X	-	X	X	-	-
(Ceratoides lanata)											
Monolepis											
nuttalliana	X	X	X	X	X	X	X	X	X	X	-
pusilla	-	-	-	-	-	-	-	-	X	-	-
Nitrophila											
occidentalis	-	-	-	-	-	-	-	-	X	-	-
Salicornia											
rubra	X	-	-	-	X	-	-	-	X	-	-
Salsola											
australis	-	X	-	-	X	X	X	X	X	-	-
iberica	-	-	-	-	-	-	-	X	-	-	-
kali											
var. tenuifolia	-	-	X	-	-	-	-	-	X	-	-
Sarcobatus											
vermiculatus											
var. baileyi	-	-	-	-	-	-	-	-	X	-	-
var. vermiculatus	X	X	X	X	X	X	-	-	X	-	X
Sueda											
calceoliformis	-	-	X	-	X	-	-	-	-	-	-
depressa	-	-	-	-	-	-	-	-	X	-	-
nigra	-	-	-	-	-	-	-	-	X	-	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
<i>occidentalis</i>	-	-	-	-	-	-	-	-	X	-	-
<i>torreyana</i>	-	-	-	-	-	-	-	-	X	-	-
Cistaceae											
<i>Helianthemum</i>											
<i>bicknellii</i>	-	-	X	-	-	-	-	-	-	-	-
Commelinaceae											
<i>Tradescantia</i>											
<i>bracteata</i>	-	-	X	-	-	-	-	-	-	-	-
<i>occidentalis</i>											
var. <i>occidentalis</i>	-	-	X	-	-	-	-	-	-	-	-
Convolvulaceae											
<i>Calystegia</i>											
<i>polymorpha</i>	-	-	-	-	-	-	-	X	-	-	-
<i>sepium</i>											
ssp. <i>americana</i>	-	-	X	-	-	-	-	-	-	-	-
<i>Convolvulus</i>											
<i>arvensis</i>	-	X	X	-	X	-	-	-	X	-	-
<i>Evolvulus</i>											
<i>nuttallianus</i>	-	-	X	-	-	-	-	-	-	-	-
Cornaceae											
<i>Cornus</i>											
<i>canadensis</i>	X	-	X	-	-	-	-	-	-	-	-
<i>sericea</i>											
ssp. <i>sericea</i>	-	X	-	-	X	X	X	X	X	X	X
<i>stolonifera</i>	X	-	X	X	-	-	-	-	X	-	-
Crassulaceae											
<i>Sedum</i>											
<i>borschii</i>	X	-	-	-	-	-	-	-	-	-	-
<i>debile</i>	-	-	-	-	-	-	-	-	X	X	X
<i>integrifolium</i>											
ssp. <i>integrifolium</i>	X	X	-	-	X	X	X	X	-	-	X
<i>lanceolatum</i>											
var. <i>lanceolatum</i>	X	X	X	X	X	X	X	X	X	X	-
<i>obtusatum</i>	-	-	-	-	-	-	-	X	-	-	-
<i>rhodanthum</i>	X	X	-	X	X	X	-	-	-	-	-
<i>rosea</i>	-	-	-	X	-	-	-	-	-	-	-
<i>stenopetalum</i>	-	-	-	-	-	-	X	-	-	-	-
Crossosomataceae											
<i>Glossopetalon</i>											
<i>spinescens</i>	-	-	-	-	-	-	-	-	X	-	-
Cucurbitaceae											
<i>Echinocystis</i>											
<i>lobata</i>	-	-	X	-	-	-	-	-	-	-	-
Cupressaceae											
<i>Juniperus</i>											
<i>communis</i>	X	X	X	X	X	X	X	X	-	-	X
<i>horizontalis</i>	X	-	X	X	-	-	-	-	-	-	-
<i>occidentalis</i>											
ssp. <i>australis</i>	-	-	-	-	-	-	-	X	-	-	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
osteosperma	-	-	-	-	X	-	-	-	X	-	X
scopulorum	X	X	X	X	X	X	X	-	X	-	X
Cyperaceae											
Carex											
abrupta	-	-	-	-	-	-	X	X	-	-	-
albonigra	-	X	-	X	X	X	-	-	-	-	-
alopecoidea	-	-	X	-	-	-	-	-	-	-	-
angustata	-	-	-	-	-	-	X	-	X	-	-
aquatilis											
var. altior	X	-	-	X	-	-	-	-	-	-	-
var. aquatilis	-	X	X	X	X	X	X	X	X	-	-
arctogena	-	-	-	X	-	-	-	-	-	-	-
atherodes	-	-	X	-	-	-	-	-	-	-	-
athrostachya	X	-	-	X	-	X	X	X	X	X	-
atrata											
var. chalciolepis	-	-	-	-	X	X	-	-	-	-	-
var. erecta	-	X	-	X	-	X	-	-	X	-	-
aurea	X	X	X	X	-	X	X	X	X	-	-
backii	-	-	X	-	-	-	-	-	-	-	-
bebbii	-	-	X	-	-	-	-	-	-	-	-
bella	-	-	-	-	X	-	-	-	-	-	-
bipartita											
var. bipartita	-	X	-	X	-	X	-	-	-	-	-
blanda	-	-	X	-	-	-	-	-	-	-	-
brevior	-	-	X	-	-	-	-	-	X	-	-
brevipes	-	-	X	X	-	-	-	-	-	-	-
breweri											
var. padoensis	-	X	-	-	-	X	-	-	X	-	-
brunnescens											
ssp. brunnescens	-	-	-	-	-	X	X	-	-	-	-
canescens											
ssp. canescens											
var. canescens	-	X	-	X	-	X	X	X	-	-	-
capillaris	-	-	-	-	-	X	X	-	-	-	-
capitata	-	X	-	X	-	X	-	X	-	-	-
concinna	-	-	-	-	-	X	X	-	-	-	-
concinoides	-	-	-	-	-	-	X	-	-	-	-
congdonii	-	-	-	-	-	-	-	X	-	-	-
deweyana	-	-	X	-	X	-	-	-	-	-	X
diandra	X	-	-	-	-	-	-	-	-	-	-
disperma	X	X	X	X	-	X	X	X	X	-	-
douglasii	X	-	-	-	-	X	-	X	X	X	-
ebenea	-	X	-	-	X	X	-	-	-	-	-
eburnea	-	-	X	-	-	-	-	-	-	-	-
egglestonii	-	-	-	-	X	-	-	-	-	-	-
eleocharis	-	-	X	X	-	-	-	-	-	-	-
elynooides	-	X	-	X	X	X	-	-	-	-	X
engelmannii	-	-	-	X	-	-	-	-	-	-	-
exserta	-	-	-	-	-	-	-	X	-	-	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
festivella	-	-	-	-	-	-	-	X	-	-	-
filifolia	X	X	X	X	-	X	X	-	-	-	-
foena	-	-	X	-	X	-	-	-	-	-	-
foetida											
var. vernacula	-	X	-	-	-	X	-	-	-	-	-
geyerii	X	X	-	-	X	X	X	-	-	-	-
granularis	-	-	X	-	-	-	-	-	-	-	-
gravida											
var. gravida	-	-	X	-	-	-	-	-	-	-	-
gynocrates	-	-	-	-	-	X	X	-	-	-	-
haydeniana	X	X	-	X	X	X	X	X	X	-	-
heliophila	-	-	X	-	-	-	-	-	-	-	-
helleri	-	-	-	-	-	-	-	X	X	-	-
heteroneura											
var. chalcirolepis	-	-	-	X	-	-	-	-	-	-	-
var. epapillosa	-	-	-	X	-	-	-	-	-	-	-
var. heteroneura	-	-	-	X	-	-	-	X	X	X	-
hoodii	X	X	X	X	X	X	X	X	X	X	X
hystericina	-	-	X	-	-	-	-	-	-	-	-
idaho	X	-	-	-	-	-	-	-	-	-	-
(C. parryana ssp. idaho)											
illota	-	X	-	X	X	X	X	-	-	-	-
incurviformis											
var. danaenis	-	-	-	X	-	-	-	-	-	-	-
interior	X	-	X	-	-	X	-	-	X	-	-
intumescens	-	-	X	-	-	-	-	-	-	-	-
jepsonii	-	-	-	-	-	-	-	X	-	-	-
jonesii	-	X	-	-	-	X	X	X	-	-	-
laeviculmis	-	-	-	-	-	-	X	-	-	-	-
lanuginosa	X	X	X	X	X	X	X	X	X	X	-
lenticularis	-	X	-	-	-	X	X	-	-	-	-
leporinella	-	X	-	X	X	X	X	X	-	-	-
limnophila	X	-	-	X	-	-	-	-	-	-	-
limosa	-	-	-	-	-	X	-	-	-	-	-
luzulaefolia	-	-	-	-	-	-	-	X	-	-	-
luzulina											
var. atropurpurea	-	-	-	-	-	X	X	-	-	-	-
macloviana	-	X	-	X	X	X	-	-	-	X	-
microptera											
var. limnophila	-	X	-	-	-	X	-	-	-	-	-
var. microptera	X	X	X	X	X	X	X	X	X	X	X
multicosta Mack.	X	-	-	-	-	-	X	-	-	-	-
nardina											
var. hepburnii	-	-	-	X	X	X	X	-	-	-	-
nebrascensis	X	X	X	X	X	X	-	X	X	X	X
neurophora	-	-	-	-	-	X	X	-	-	-	-
nigricans	-	-	-	-	-	X	X	X	-	-	-
norvegica											
ssp. stevenii	-	-	-	X	X	X	X	-	X	-	-





	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
<i>commutata</i>	-	X	-	X	-	X	-	-	-	-	-
Shepherdia											
<i>argentea</i>	-	X	X	-	-	-	-	-	X	X	-
<i>canadensis</i>	X	X	X	X	X	X	X	-	-	-	X
Elatinaceae											
Elatine											
<i>triandra</i>	-	-	X	-	-	X	-	-	-	-	-
Ephedraceae											
Ephedra											
<i>nevadensis</i>	-	-	-	-	-	-	-	-	X	-	X
<i>viridis</i>											
var. <i>viridis</i>	-	-	-	-	X	-	-	X	X	-	-
Equisetaceae											
Equisetum											
X <i>ferrussuu</i>	-	-	-	-	X	-	-	-	-	-	-
<i>arvense</i>	X	X	X	X	X	X	X	X	X	-	-
<i>fluviatlile</i>	X	-	-	-	-	-	-	-	-	-	-
<i>hyemale</i>											
var. <i>affine</i>	X	X	X	X	X	X	X	X	-	-	X
<i>laevigatum</i>	X	X	X	X	X	X	X	X	X	-	X
<i>palustre</i>	X	-	-	-	-	-	-	-	-	-	-
<i>scirpoides</i>	-	-	X	-	-	-	-	-	-	-	-
<i>sylvaticum</i>	-	-	X	-	-	-	-	-	-	-	-
<i>variegatum</i>											
var. <i>variegatum</i>	-	X	-	X	-	X	X	-	-	-	-
Ericaceae											
Arctostaphylos											
<i>nevadensis</i>	-	-	-	-	-	-	-	X	-	-	-
<i>patula</i>	-	-	-	-	X	-	-	-	-	-	-
<i>uva-ursi</i>											
ssp. <i>stipitata</i>	-	-	-	X	X	X	-	-	-	-	-
var. <i>uva-ursi</i>	X	X	X	X	-	X	X	-	X	-	-
var. <i>adenotricha</i>	-	-	X	X	-	-	-	-	-	-	-
Cassiope											
<i>mertensiana</i>	-	-	-	-	-	-	X	X	-	-	-
Chimaphila											
<i>menziesii</i>	-	-	-	-	-	-	X	-	-	-	-
<i>umbellata</i>											
var. <i>occidentalis</i>	X	-	X	-	X	-	X	-	-	-	-
Gaultheria											
<i>humifusa</i>	-	-	-	-	-	X	X	-	-	-	-
Kalmia											
<i>microphylla</i>											
var. <i>microphylla</i>	-	-	-	-	-	X	X	X	-	-	-
Ledum											
<i>glandulosum</i>											
var. <i>californicum</i>	-	-	-	-	-	-	-	X	-	-	-
var. <i>glandulosum</i>	-	X	-	-	-	-	X	-	-	-	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
Moneses											
uniflora											
ssp. uniflora	X	X	-	X	X	X	X	-	-	-	-
Monotropa											
hypopithys	-	-	-	-	-	-	X	-	-	-	-
Orthilia											
secunda	X	-	X	X	X	X	X	X	-	-	-
Phyllodoce											
breweri	-	-	-	-	-	-	-	X	-	-	-
empetriformis	-	X	-	X	-	X	X	-	-	-	-
glanduliflora	-	X	-	X	-	-	X	-	-	-	-
Pterospora											
andromedea	-	-	X	-	-	X	X	X	-	-	-
Pyrola											
asarifolia											
var. asarifolia	X	X	X	X	X	X	X	-	X	-	-
californica	-	-	-	-	-	-	-	X	-	-	-
chlorantha											
var. chloranatha	X	X	X	X	X	X	X	-	-	-	-
dentata											
var. dentata	-	-	-	-	-	-	-	X	-	-	-
elliptica	-	-	X	-	-	-	-	-	-	-	-
minor	-	X	-	X	X	X	-	X	X	-	X
picta											
var. picta	-	-	-	-	X	-	X	X	-	-	-
Sarcodes											
sanguinea	-	-	-	-	-	-	-	X	-	-	-
Vaccinium											
cespitosum	-	-	-	-	X	-	X	X	-	-	-
globulare	X	X	-	-	-	-	-	-	-	-	-
membranaceum	X	X	-	-	-	-	X	-	-	-	-
myrtilus											
var. oreophilum	-	-	-	-	X	-	-	-	-	-	-
occidentale	-	-	-	-	-	X	-	-	-	-	-
scoparium	X	X	X	X	X	X	X	-	-	-	-
uliginosum											
ssp. occidentale	-	-	-	-	-	-	-	X	-	-	-
Euphorbiaceae											
Chamaesyce											
fendleri	-	-	-	-	-	-	-	X	-	-	-
serpyllifolia	-	-	-	-	-	-	X	-	-	-	-
Croton											
texensis	-	-	X	-	-	-	-	-	-	-	-
Euphorbia											
albomarginata	-	-	-	-	-	-	-	-	X	-	-
brachycera											
var. robusta	-	-	-	-	X	-	-	-	-	-	-
dentata	-	-	X	-	-	-	-	-	-	-	-
esula	-	-	X	-	X	-	-	-	-	-	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
fendleri	-	-	X	-	-	-	-	-	X	-	-
glyptosperma	-	X	X	-	-	-	-	-	-	-	-
robusta	-	-	X	X	-	-	-	-	-	-	-
serpyllifolia	-	-	X	-	-	-	-	-	-	-	-
spathulata	-	-	X	-	-	-	-	-	-	-	-
Fabaceae											
Amorpha											
canescens	-	-	X	-	-	-	-	-	-	-	-
fruticosa											
var. angustifolia	-	-	X	-	-	-	-	-	-	-	-
Astragalus											
adsurgens											
var. robustior	-	X	X	X	-	-	-	-	-	-	-
agrestis	X	X	X	X	-	X	-	-	-	X	X
alpinus											
var. alpinus	X	X	X	X	X	X	X	-	-	-	-
americanus	X	-	-	X	-	-	-	-	-	-	-
amphioxys											
var. vespertinus	-	-	-	-	X	-	-	-	-	-	-
argophyllus											
var. argophyllus	X	-	-	-	-	X	-	-	X	-	-
atratus											
var. atratus	-	-	-	-	-	-	-	-	X	-	-
australis											
var. glabriusculus (A. aboriginorum)	-	X	X	X	-	X	X	-	-	-	-
beckwithii											
var. purpureus	-	-	-	-	-	-	-	-	X	-	X
bisulcatus											
var. bisulcatus	-	-	X	X	-	X	-	-	-	-	-
var. haydenianus	-	-	-	-	X	-	-	-	-	-	-
var. major	-	-	-	-	X	-	-	-	-	-	-
var. nevadensis	-	-	-	-	-	-	-	-	X	-	-
bodinii	-	-	-	-	-	X	-	-	-	-	-
callithrix	-	-	-	-	-	-	-	-	X	-	-
calycosus											
var. calycosus	-	-	-	-	-	-	-	-	X	-	X
canadensis											
var. brevidens	X	-	-	X	-	X	-	X	X	-	-
var. canadensis	-	-	X	-	-	-	X	-	X	-	-
casei	-	-	-	-	-	-	-	-	X	-	-
ceramicus											
var. apus	X	-	-	-	-	-	-	-	-	-	-
chamaeleuce	-	-	-	X	X	-	-	-	-	-	-
cibarius	X	-	-	-	X	X	-	-	-	X	X
cicer	X	X	-	-	-	-	-	-	-	-	-
collinus	-	-	-	-	-	-	X	-	-	-	-
convallarius											
var. convallarius	-	-	-	-	X	-	-	-	-	-	X



	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
platytropis	-	-	-	-	-	-	-	X	X	-	-
pseudioanthus	-	-	-	-	-	-	-	-	X	-	-
purshii											
var. lectulus	-	-	-	-	-	-	-	X	-	-	-
var. purshii	X	-	X	X	X	X	X	-	X	X	X
var. tinctus	-	-	-	-	-	-	-	X	-	-	-
robbinsii	-	-	-	-	-	-	X	-	-	-	-
scopulorum	-	-	-	-	X	-	-	-	-	-	-
serenoi											
var. serenoi	-	-	-	-	-	-	-	-	X	-	-
var. sordescens	-	-	-	-	-	-	-	-	X	-	-
shultziorum	-	-	-	-	-	X	-	-	-	-	-
(A. molybdenus)											
spathulatus	-	-	X	X	X	X	-	-	-	-	-
tenellus	-	X	X	-	-	X	-	-	X	-	-
tephrodes	-	-	-	-	-	-	-	-	X	-	-
terminalis	X	-	-	-	-	-	-	-	-	-	-
tetrapterus	-	-	-	-	-	-	-	-	X	-	-
toanus	-	-	-	-	-	-	-	-	X	-	-
toquimanus	-	-	-	-	-	-	-	-	X	-	-
utahensis	-	-	-	-	-	-	-	-	X	-	X
vexilliflexus	X	-	-	X	-	-	-	-	-	-	-
wetherillii	-	-	-	-	X	-	-	-	-	-	-
whitneyi											
var. whitneyi	-	-	-	-	-	-	X	X	-	X	-
Caragana											
arborescens	X	-	-	-	X	X	-	-	-	-	-
Coronilla											
varia	-	-	-	-	-	X	-	-	-	-	-
Dalea											
enneandra	-	-	X	-	-	-	-	-	-	-	-
searlsiae	-	-	-	-	-	-	-	-	X	-	-
Glycyrrhiza											
lepidota											
var. glutinosa	-	X	-	-	-	-	-	-	-	-	-
var. lepidota	-	X	X	-	X	-	-	-	-	-	X
Hedysarum											
alpinum											
var. americanum	-	X	X	X	-	X	-	-	-	-	-
boreale											
var. boreale	X	X	X	X	-	-	X	-	X	X	-
var. cinerascens	X	-	-	-	-	-	-	-	-	-	-
var. pabulare	-	-	-	-	X	-	-	-	-	-	-
occidentale											
var. occidentale	-	X	-	X	-	X	-	-	-	-	-
sulphurescens	X	-	-	X	-	-	-	-	-	-	-
Lathyrus											
lanszwertii											
var. leucanthus	-	-	-	-	X	-	-	-	-	-	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
nevadensis	-	-	-	-	-	-	X	-	-	-	-
ochroleucus	-	-	X	-	-	-	-	-	-	-	-
pauciflorus	-	-	-	-	-	-	X	-	-	-	-
polymorphus											
ssp. incanus	-	-	X	-	-	-	-	-	-	-	-
rigidus	-	-	-	-	-	-	X	-	-	-	-
Lotus											
corniculatus	-	-	-	-	X	-	-	-	-	-	-
purshianus											
var. purshianus	-	-	X	-	-	-	-	-	-	-	-
Lupinus											
andersonii	-	-	-	-	-	-	-	X	-	-	-
arbustus											
ssp. calcaratus	-	-	-	-	-	-	-	X	-	X	-
argenteus											
var. argenteus	-	X	X	X	-	X	X	-	X	-	-
var. argophyllus	-	-	-	-	X	X	-	X	X	X	-
(L. caudatus var. caudatus)											
var. depressus	X	X	-	X	-	X	-	-	-	-	-
var. laxiflorus	-	-	-	-	-	X	-	-	-	-	-
var. parviflorus	X	-	-	-	-	-	-	-	-	-	-
var. rubricaulis	-	X	-	-	X	X	-	-	-	-	-
bakeri											
ssp. amplus	-	-	-	-	X	-	-	-	-	-	-
brevicaulis	-	-	-	-	X	-	-	-	X	-	-
breweri	-	-	-	-	-	-	-	X	-	-	-
burkei	-	-	-	-	-	-	X	-	-	-	-
caespitosus	-	-	-	X	-	-	-	-	-	-	X
caudatus											
ssp. montigenus	-	-	-	-	-	-	-	X	-	-	-
confertus	-	-	-	-	-	-	-	X	-	-	-
culbertsonii	-	-	-	-	-	-	-	X	-	-	-
flavoculatus	-	-	-	-	-	-	-	-	X	-	-
hypolasius	-	-	-	-	-	-	-	X	-	-	-
X inyoensis	-	-	-	-	-	-	-	X	-	-	-
lepidus											
var. aridus	-	-	-	-	-	-	-	-	X	-	-
var. cusickii	-	-	-	-	-	-	-	-	X	-	-
var. utahensis	X	X	-	-	-	X	X	-	-	X	-
(L. lepidus ssp. caespitosus)											
leucophyllus											
var. leucophyllus	X	-	-	-	-	-	X	-	-	-	-
lyallii											
var. danäus	-	-	-	-	-	-	-	X	-	-	-
var. lyallii	-	-	-	-	-	-	-	X	-	-	-
meionanthus	-	-	-	-	-	-	-	X	-	-	-
nevadensis	-	-	-	-	-	-	-	X	-	-	-
palmeri	-	-	-	-	-	-	-	-	X	-	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
polyphyllus											
ssp.  superbus	-	-	-	-	-	-	-	X	-	-	-
var.  burkei	X	-	-	-	-	-	-	-	-	-	-
polyphyllus											
var.  humicola	-	X	X	X	-	X	-	-	-	-	-
(L.  wyethii)											
var.  polyphyllus	X	X	-	-	-	-	-	-	-	-	-
var.  prunophilus	-	-	-	-	X	-	-	-	-	-	X
saxosus	-	-	-	-	-	-	-	-	-	X	-
sellulus											
var.  lobbii	-	-	-	-	-	-	-	X	-	-	-
var.  sellulus	-	-	-	-	-	-	-	X	-	-	-
sericeus											
var.  sericeus	X	X	X	X	X	X	X	-	X	-	-
tegeticulatus	-	-	-	-	-	-	-	X	-	-	-
uncialis	-	-	-	-	-	-	-	-	X	-	-
Medicago											
falcata	-	-	X	-	-	-	-	-	-	-	-
lupulina	X	X	X	X	X	X	X	X	X	-	-
sativa	X	X	X	-	X	X	-	X	X	-	-
Meliolotus											
albus	X	X	X	-	X	X	-	X	X	-	-
officinalis	X	X	X	X	X	X	X	X	X	-	-
Onobrychis											
viciifolia	-	-	X	-	-	X	-	-	X	-	-
Oxytropis											
besseyi											
var.  besseyi	-	-	X	X	-	-	-	-	-	-	-
var.  ventosa	-	X	-	X	-	-	-	-	-	-	-
campestris											
var.  cusickii	-	X	-	X	-	X	-	-	-	-	-
var.  gracilis	-	-	X	X	-	X	-	-	-	-	-
varieties unknown	-	-	-	-	-	-	X	-	-	-	-
deflexa											
var.  deflexa	-	-	-	-	X	-	-	-	-	-	-
var.  foliosa	X	X	-	-	-	X	-	-	-	-	-
var.  sericea	-	X	-	X	-	X	-	-	-	-	-
lagopus											
var.  atropurpurea	-	-	-	X	-	X	-	-	-	-	-
var.  conjugens	X	-	-	-	-	-	-	-	-	-	-
var.  lagopus	-	-	-	X	-	-	-	-	-	-	-
lambertii											
var.  lambertii	-	-	X	-	X	-	-	-	-	-	-
oreophila	-	-	-	-	-	-	-	-	X	-	-
parryi	-	-	-	-	X	X	-	X	X	-	-
podocarpa	-	X	-	X	-	X	-	-	-	-	-
sericea											
var.  sericea	X	-	X	X	X	-	-	-	-	-	-
var.  spicata	-	X	-	X	-	X	-	-	-	-	-



	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
<b>Fagaceae</b>											
<i>Castanopsis</i>											
<i>sempervirens</i>	-	-	-	-	-	-	-	X	-	-	-
<i>Quercus</i>											
<i>gambelii</i>	-	-	-	-	X	-	-	-	-	-	-
<i>macrocarpa</i>	-	-	X	-	-	-	-	-	-	-	-
<b>Fumariaceae</b>											
<i>Corydalis</i>											
<i>aurea</i>											
var. <i>aurea</i>	X	X	X	X	X	X	X	-	X	-	-
var. <i>occidentalis</i>	-	-	X	-	X	-	-	X	-	-	-
<i>caseana</i>	-	-	-	-	-	-	X	-	-	-	-
<i>Dicentra</i>											
<i>cucullaria</i>	-	-	-	-	-	-	X	-	-	-	-
<i>uniflora</i>	-	-	-	-	-	-	X	X	-	X	-
<b>Gentianeae</b>											
<i>Centaurium</i>											
<i>exaltatum</i>	-	-	-	-	-	-	-	-	X	-	-
<i>Fraseria</i>											
<i>albicaulis</i>	-	-	-	-	-	-	X	-	-	-	-
<i>pahutensis</i>	-	-	-	-	-	-	-	-	X	-	-
<i>puberulenta</i>	-	-	-	-	-	-	-	-	X	-	-
<i>speciosa</i>	X	X	X	X	X	X	-	X	X	-	X
<i>Gentiana</i>											
<i>affinis</i>	X	X	-	X	-	X	X	-	X	-	-
<i>algida</i>	-	-	-	-	X	X	-	-	-	-	-
<i>aquatica</i>	X	-	-	-	-	X	-	-	-	-	-
<i>calycosa</i>	-	X	-	-	-	X	X	-	-	-	-
<i>newberryi</i>	-	-	-	-	-	-	-	X	-	-	-
<i>parryi</i>	-	-	-	-	X	-	-	-	-	-	-
<i>prostrata</i>	X	-	-	X	X	X	-	-	-	-	-
<i>Gentianella</i>											
<i>amarella</i>											
var. <i>amarella</i>	X	X	X	X	X	X	X	-	X	-	-
var. <i>heterosepala</i>	-	X	-	-	-	-	-	-	-	-	-
<i>propinqua</i>	-	-	-	-	-	-	X	-	-	-	-
<i>tenella</i>	-	-	-	X	-	X	-	-	-	-	-
<i>Gentianopsis</i>											
<i>barbellata</i>	-	-	-	X	X	X	-	-	-	-	-
<i>detonsa</i>											
var. <i>elegans</i>	-	X	-	X	X	X	-	-	-	-	-
<i>holopetala</i>	-	-	-	-	-	-	-	X	-	-	-
<i>simplex</i>	X	-	-	-	-	-	X	-	-	-	-
<i>Halenia</i>											
<i>deflexa</i>											
var. <i>deflexa</i>	-	-	X	-	-	-	-	-	-	-	-
<i>Swertia</i>											
<i>perennis</i>	X	-	-	X	X	X	X	-	-	-	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
<b>Geraniaceae</b>											
Erodium											
cicutarium	-	X	-	-	X	-	X	X	X	X	-
Geranium											
bicknellii											
var. longipes	-	-	X	-	-	-	-	-	-	-	-
caespitosum	-	-	-	-	-	-	-	-	X	X	X
carolinianum	-	-	X	-	-	-	-	-	-	-	-
nervosum	-	-	-	-	-	-	-	-	X	-	-
pusillum	-	-	X	-	-	-	-	-	-	-	-
richardsonii	X	X	X	X	X	X	-	X	-	-	X
toquimense	-	-	-	-	-	-	-	-	X	-	-
visosissum											
var. nervosum	-	X	X	X	X	X	-	-	-	-	-
var. viscosissimum	X	X	-	-	-	X	X	-	X	X	-
<b>Grossulariaceae</b>											
Ribes											
americanum	-	-	X	-	-	-	-	-	-	-	-
aureum											
var. aureum	-	-	X	-	X	-	-	X	X	X	X
cereum											
var. inebrians	X	-	X	X	-	-	-	X	X	-	-
var. pedicellare	-	X	-	-	X	X	-	X	X	-	-
coloradense	-	-	-	-	X	-	-	-	-	-	-
hendersonii	-	-	-	-	-	-	-	-	X	-	-
hudsonianum											
var. petiolare	X	-	-	-	-	X	X	-	-	X	X
inermis	X	-	-	X	X	X	X	X	X	-	X
lacustre	X	X	X	X	X	X	X	-	-	-	-
leptanthum	-	-	-	-	X	-	-	-	-	-	-
montigenum	X	X	-	X	X	X	X	X	X	X	X
nigrum	-	-	-	-	-	-	X	-	-	-	-
niveum	-	-	-	-	-	-	-	-	X	-	-
oxyacanthoides											
var. oxyacanthoides	-	X	X	-	-	-	X	-	X	-	-
var. setosum	-	X	X	X	-	X	-	-	-	-	-
setosum	X	-	-	-	-	-	-	-	-	-	-
velutinum											
var. gooddingii	-	-	-	-	-	-	-	-	X	-	-
var. velutinum	-	-	-	-	-	-	-	X	X	-	-
viscosissimum											
var. viscosissimum	X	X	-	X	-	X	X	-	-	-	X
wolfii	-	-	-	-	X	-	-	-	-	-	-
<b>Haloragaceae</b>											
Myriophyllum											
exalbescens	-	-	-	X	-	-	-	-	-	-	-
sibiricum	-	X	-	-	X	X	-	-	-	-	-
spicatum											
var. exalbescens	X	-	X	-	-	-	X	-	-	-	-



	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
heterophylla	-	X	-	-	X	-	X	X	-	X	-
humilis											
var. humilis	-	-	-	-	-	-	-	X	-	X	-
ivesiana	-	-	-	-	-	-	-	-	X	-	-
lemmonii	-	-	-	-	-	-	-	-	X	-	-
linearis	-	-	X	-	-	-	X	-	-	-	-
lutea	-	-	-	-	-	-	-	-	X	-	-
ramosissima											
var. ramosissima	-	-	-	-	-	-	X	X	X	-	-
sericea											
var. ciliosa	X	X	-	X	-	X	-	-	-	-	-
var. sericea	-	X	-	X	X	X	X	-	X	X	-
tetramera	-	-	-	-	-	-	-	-	X	-	-
Tricardia											
watsonii	-	-	-	-	-	-	-	-	X	-	-
Hypericaceae											
Hypericum											
anagalloides	-	-	-	-	-	-	X	-	-	-	-
formosum	-	-	-	-	X	X	-	X	-	-	-
perforatum	-	-	X	-	-	-	X	-	-	-	-
scouleri	-	-	-	-	-	-	X	X	X	-	X
Iridaceae											
Iris											
germanica	-	-	X	-	-	-	-	-	-	-	-
missouriensis	X	-	X	X	X	X	X	X	X	X	X
Sisyrinchium											
douglasii	-	-	-	-	-	-	X	-	-	X	-
halophilum	-	-	-	-	-	-	-	X	X	-	-
idahoense											
var. occidentale	X	X	-	-	-	X	X	X	-	-	X
montanum	-	-	X	X	X	-	-	-	-	-	-
Isoetaceae											
Isoetes											
bolanderi											
var. bolanderi	-	-	-	X	X	X	X	X	-	X	-
howellii	-	-	-	-	-	-	X	-	-	-	-
Juncaceae											
Juncus											
alpinoarticulatus	-	-	-	-	-	X	-	-	-	-	-
balticus											
var. montanus	X	X	X	X	X	X	X	X	X	X	X
var. vallicola	-	-	-	-	-	X	-	-	-	-	-
biglumis	-	-	-	X	-	-	-	-	-	-	-
brachyphyllus	-	-	-	-	-	-	X	-	-	-	-
bryoides	-	-	-	-	-	-	-	X	-	-	-
bufonius											
var. bufonis	X	-	X	X	-	X	X	X	X	-	-
var. halophilus	-	-	X	-	-	-	-	-	-	-	-
var. occidentalis	-	-	-	-	-	-	-	X	-	-	-





	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
<i>Scutellaria</i>											
<i>antirrhinoides</i>	-	-	-	-	-	-	-	-	-	X	-
<i>brittonii</i>	-	-	-	-	X	-	-	-	-	-	-
<i>galericulata</i>	X	-	X	-	X	-	-	-	X	-	-
<i>nana</i>	-	-	-	-	-	-	-	-	X	-	-
<i>Stachys</i>											
<i>palustris</i>											
ssp. <i>pilosa</i>	X	-	X	-	-	X	-	-	X	-	-
Lemnaceae											
<i>Lemna</i>											
<i>gibba</i>	-	-	-	-	-	-	-	X	-	-	-
<i>minima</i>	X	-	-	-	-	-	-	-	-	-	-
<i>minor</i>	X	X	-	-	X	X	-	-	X	-	-
<i>trisulca</i>	X	X	X	X	X	-	-	X	X	-	-
<i>turionifera</i>	-	-	X	X	-	-	-	-	-	-	-
<i>valdiviana</i>	-	-	-	-	-	-	-	-	X	-	-
<i>Spirodela</i>											
<i>polyrhiza</i>	-	X	-	-	X	-	-	-	-	-	-
<i>Pinguicula</i>											
<i>vulgaris</i>	-	-	-	-	-	-	X	-	-	-	-
Lentibulariaceae											
<i>Utricularia</i>											
<i>macrorhiza</i>	-	-	-	-	-	-	X	-	X	-	-
<i>vulgaris</i>	X	-	-	-	-	X	-	X	X	-	-
Liliaceae											
<i>Allium</i>											
<i>acuminatum</i>	X	X	-	-	X	X	X	-	-	X	X
<i>anceps</i>	-	-	-	-	-	-	-	-	X	-	-
<i>atrorubens</i>	-	-	-	-	-	-	-	-	X	-	-
<i>bisceptrum</i>	-	-	-	-	-	-	-	X	X	X	-
<i>brandegei</i>	-	X	-	-	X	X	-	-	-	-	-
<i>brevistylum</i>	X	X	-	X	-	X	-	-	-	-	-
<i>campanulatum</i>	-	-	-	-	-	-	-	X	-	-	-
<i>cernuum</i>	X	-	X	X	X	-	X	-	-	-	-
<i>fibrillum</i>	-	-	-	-	-	-	X	-	-	-	-
<i>geyeri</i>											
var. <i>tenerum</i>	X	X	-	X	-	X	-	-	-	-	-
<i>lemmonii</i>	-	-	-	-	-	-	-	X	X	-	-
<i>madidum</i>	-	-	-	-	-	-	X	-	-	-	-
<i>parvum</i>	-	-	-	-	-	-	-	-	X	-	-
<i>schoenoprasum</i>	X	X	-	X	-	X	-	-	-	-	-
<i>textile</i>	X	X	X	X	X	X	-	-	-	-	-
<i>tolmiei</i>	-	-	-	-	-	-	X	-	X	X	-
<i>validum</i>	-	-	-	-	-	-	X	X	X	-	-
<i>Asparagus</i>											
<i>officinalis</i>	-	-	X	-	X	-	-	-	-	-	-
<i>Calachortus</i>											
<i>bruneaunis</i>	-	-	-	-	-	-	-	X	X	-	-
<i>eurycarpus</i>	X	X	-	-	-	-	X	-	-	-	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
gunnisonii	-	-	X	X	X	-	-	-	-	-	-
leichtlinii	-	-	-	-	-	-	-	X	-	-	-
macrocarpus	-	-	-	-	-	-	X	-	-	-	-
nuttallii	X	-	X	X	X	X	-	-	X	X	X
Camassia											
cusickii	-	-	-	-	-	-	X	-	-	-	-
quamash	X	X	-	-	-	-	X	-	-	X	X
Clintonia											
uniflora	X	-	-	-	-	-	X	-	-	-	-
Disporum											
trachycarpum	X	X	X	X	X	-	X	-	-	-	X
Erythronium											
grandiflorum											
var. grandiflorum	X	X	-	-	X	-	X	-	-	-	-
Fritillaria											
atropurpurea	X	X	X	X	X	X	X	-	X	-	X
pinetorum	-	-	-	-	-	-	-	X	-	-	-
pudica	X	-	-	-	-	X	X	-	-	-	X
Leucocrinum											
montanum	-	-	X	-	X	-	-	-	X	-	-
Lilium											
parvum	-	-	-	-	-	-	-	X	-	-	-
philadelphicum											
var. andinum	-	-	X	-	-	-	-	-	-	-	-
Lloydia											
serotina	X	X	-	-	-	X	-	-	-	-	-
Maianthemum/Smilacina											
canadense											
var. interius	-	-	X	-	-	-	-	-	-	-	-
racemosum											
var. amplexicaule	X	X	-	X	X	X	X	-	-	-	X
stellatum											
var. stellatum	X	X	X	X	X	X	X	X	X	X	X
Muilla											
transmontana	-	-	-	-	-	-	-	X	-	-	-
Smilax											
herbacea											
var. lasioneuron	-	-	X	-	-	-	-	-	-	-	-
Streptopus											
amplexifolius											
var. chalazatus	X	X	-	-	X	X	X	-	-	-	-
Trillium											
petiolatum	-	-	-	-	-	-	X	-	-	-	-
Triteleia											
grandiflora	-	-	-	-	-	-	X	-	-	-	-
ixioides											
ssp. analina	-	-	-	-	-	-	-	X	-	-	-



	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
<i>Iliama</i>											
<i>rivularis</i>											
var. <i>rivularis</i>	X	X	-	-	-	X	X	-	-	X	-
<i>Malva</i>											
<i>neglecta</i>	-	-	X	-	X	X	-	X	-	-	-
<i>rotundifolia</i>	-	-	X	-	-	-	-	-	-	-	-
<i>Sidalcea</i>											
<i>candida</i>	-	-	-	-	X	-	-	-	-	-	-
<i>glaucescens</i>	-	-	-	-	-	-	-	X	X	-	-
<i>multifida</i>	-	-	-	-	-	-	-	X	-	-	-
<i>neomexicana</i>	-	-	-	-	-	-	-	-	X	X	X
ssp. <i>spicata</i>	-	-	-	-	-	-	X	X	X	X	-
<i>Sphaeralcea</i>											
<i>ambigua</i>	-	-	-	-	-	-	-	-	X	-	-
<i>coccinea</i>	-	X	X	X	X	X	-	-	-	-	X
<i>grossulariifolia</i>	-	-	-	-	-	-	-	-	X	-	-
<i>munroana</i>	X	-	-	-	-	-	-	-	X	X	X
<i>parvifolia</i>	-	-	-	-	-	-	-	-	X	-	-
Marsileaceae											
<i>Marsilea</i>											
<i>oligospora</i>	-	-	-	-	-	X	-	-	-	-	-
<i>vestita</i>	-	-	-	-	-	-	-	X	-	-	-
Menyanthaceae											
<i>Menyanthes</i>											
<i>trifoliata</i>	-	-	-	-	X	X	X	-	-	-	-
Molluginaceae											
<i>Mollugo</i>											
<i>verticillata</i>	-	-	-	-	-	-	X	-	-	-	-
Najadaceae											
<i>Najas</i>											
<i>guadalupensis</i>	-	-	-	-	-	X	-	-	-	-	-
Nyctaginaceae											
<i>Abronia</i>											
<i>elliptica</i>	-	-	X	-	-	-	-	-	X	-	-
<i>fragrans</i>	-	-	X	-	X	-	-	-	-	-	-
<i>turbinata</i>	-	-	-	-	-	-	-	-	X	-	-
<i>Hermidium</i>											
<i>alipes</i>	-	-	-	-	-	-	-	-	X	-	-
<i>Mirabilis</i>											
<i>bigelovii</i>	-	-	-	-	-	-	-	-	X	-	-
<i>hirsuta</i>	-	-	X	-	-	-	-	-	-	-	-
<i>lanceolata</i>	-	-	X	-	-	-	-	-	-	-	-
<i>linearis</i>	-	X	X	-	X	X	-	-	-	-	-
<i>nyctaginea</i>	-	-	X	-	-	-	-	-	-	-	-
<i>Oxypappus</i>											
<i>pumilus</i>	-	-	-	-	-	-	-	-	X	-	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
<b>Nymphaceae</b>											
Nuphar											
luteum											
ssp. polysepalum	-	-	-	-	-	-	-	X	-	-	-
polysepalum	-	X	-	-	X	X	X	-	-	-	-
<b>Oleaceae</b>											
Fraxinus											
pennsylvanica	-	-	X	-	-	-	-	-	-	-	-
Menodora											
spinescens	-	-	-	-	-	-	-	-	X	-	-
Syringa											
amurensis	-	-	X	-	-	-	-	-	-	-	-
<b>Onagraceae</b>											
Boisduvalia											
densiflora	-	-	-	-	-	-	X	X	-	X	-
glabella	-	-	X	-	-	-	-	-	-	-	-
stricta	-	-	-	-	-	-	-	-	-	X	-
Calylophus											
serrulatus	-	-	X	-	-	-	-	-	-	-	-
Camissonia											
andina	-	-	-	-	-	-	X	-	-	-	-
boothii											
ssp. alyssoides	-	-	-	-	-	-	-	-	X	-	-
ssp. intermedia	-	-	-	-	-	-	-	-	X	-	-
breviflora	-	-	-	X	-	X	-	-	-	-	-
claviformis											
ssp. integrrior	-	-	-	-	-	-	-	-	X	-	-
contorta	-	-	-	-	-	-	-	-	X	-	-
heterochroma	-	-	-	-	-	-	-	-	X	X	-
minor	-	-	-	-	-	-	-	-	X	-	-
parvula	-	-	-	-	-	-	-	-	X	-	-
pterosperma	-	-	-	-	-	-	-	-	X	-	-
pubens	-	-	-	-	-	-	-	X	X	X	-
pusilla	-	-	-	-	-	-	-	-	X	-	-
subacaulis	-	-	-	X	-	X	X	X	-	-	-
Circaea											
alpina											
var. alpina	-	-	X	-	-	-	X	-	-	-	X
var. pacifica	-	-	X	-	-	-	-	X	-	-	-
lutetiana											
ssp. canadensis	-	-	X	-	-	-	-	-	-	-	-
Clarkia											
pulchella	-	-	-	-	-	-	X	-	-	-	-
rhomboidea	-	-	-	-	-	-	X	-	X	-	-
Epilobium											
alpinum											
var. clavatum	X	-	-	-	-	-	-	-	-	-	-
var. lactiflorum	X	-	-	-	-	-	-	-	-	-	-
anagallidifolium	-	X	-	X	-	X	X	X	-	X	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
angustifolium											
ssp. angustifolium	X	X	-	X	X	X	-	X	X	X	X
var. canescens	-	X	-	-	X	X	-	-	-	-	-
var. circumvagnum	-	-	X	X	-	-	-	-	-	-	-
brachycarpum	-	X	X	-	X	X	X	X	X	-	X
cilatium											
var. cilatum	X	X	X	X	X	X	X	X	-	-	-
var. glandulosum	-	-	X	-	X	-	-	-	X	-	-
clavatum	-	X	-	X	X	X	X	-	-	-	-
glaberrimum											
var. fastigiatum	X	-	-	-	-	-	X	X	X	X	-
glandulosum											
var. glandulosum	X	-	-	-	-	-	-	-	-	-	-
halleanum	-	X	X	X	X	X	X	-	-	-	-
hornemannii											
ssp. hornemannii	X	X	-	X	X	X	X	-	X	-	X
lactiflorum	-	X	-	X	-	X	X	X	X	-	X
latifolium	-	X	-	X	-	X	X	X	-	-	-
minutum	-	-	-	-	-	-	-	-	X	-	-
obcordatum											
ssp. obcordatum	-	-	-	-	-	-	-	X	X	X	-
oregonense	-	-	-	-	-	-	X	X	-	-	-
palustre											
var. palustre	X	-	-	-	-	X	-	-	-	-	-
paniculatum											
var. paniculatum	X	-	-	X	-	-	-	-	-	-	-
saximontanum	-	X	-	X	X	X	-	-	X	-	-
suffruticosum	-	X	-	X	-	X	-	-	-	-	-
Gaura											
coccinea	-	X	X	X	-	-	-	-	-	-	-
parviflora	-	-	X	-	-	-	-	-	-	-	-
Gayophytum											
decipiens	-	-	-	-	-	X	-	X	X	-	-
diffusum											
ssp. parviflorum	-	-	X	X	-	-	X	X	X	-	-
var. diffusum	X	X	-	-	-	-	-	-	-	-	-
var. strictipes	-	X	-	-	X	X	-	-	-	-	-
heterozygum	-	-	-	-	-	-	X	X	-	-	-
humile	X	X	-	-	-	-	X	-	-	-	-
racemosum	-	-	X	X	X	X	-	-	X	X	-
ramosissimum	-	X	-	-	X	X	X	X	X	-	-
Oenothera											
albicaulis	-	-	X	-	X	-	-	-	-	-	-
avita	-	-	-	-	-	-	-	-	X	-	-
biennis	-	-	-	-	-	-	X	-	-	-	-
caespitosa											
var. caespitosa	X	X	X	X	X	X	-	-	-	X	X
var. crinita	-	-	-	-	-	-	-	-	X	-	-
var. macroglottis	-	-	-	-	X	-	-	-	-	-	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
var. marginata	-	-	-	-	X	-	-	-	X	-	-
var. purpurea	-	-	-	-	-	-	-	-	X	-	-
californica	-	-	-	-	-	-	-	-	X	-	-
coronopifolia	-	-	X	-	X	-	-	-	-	-	-
deltoides	-	-	-	-	-	-	-	-	X	-	-
elata	-	-	-	-	-	-	-	X	X	-	X
flava	X	X	-	-	X	X	-	-	-	-	-
heterantha	-	-	-	-	-	-	-	-	X	-	-
hookeri											
ssp. angustifolia	-	-	-	-	-	-	-	X	X	-	-
laciniata	-	-	X	-	-	-	-	-	-	-	-
minor											
var. cusickii	-	-	-	-	-	-	-	-	X	-	-
nuttallii	-	X	-	X	-	X	-	-	-	-	-
pallida											
var. idahoensis	X	-	-	-	-	-	-	-	-	-	-
primiveris	-	-	-	-	-	-	-	-	X	-	-
villosa											
var. strigosa	-	X	X	-	X	X	-	-	-	-	-
var. villosa	-	-	X	-	-	-	-	-	X	-	-
walkeri	-	-	-	-	-	-	-	-	X	-	-
Ophioglossaceae											
Botrychium											
lanceolatum	-	-	-	-	-	-	X	-	-	-	-
lunaria											
var. lunaria	-	X	X	X	-	X	X	-	-	-	-
var. onondagense	-	X	-	-	-	-	-	-	-	-	-
multifidum	-	-	-	-	-	X	X	-	-	-	-
pinnatum	-	-	-	-	-	-	X	-	-	-	-
simplex	-	-	-	-	-	-	X	X	-	-	-
virginianum	-	-	X	-	-	-	X	-	-	-	-
Orchidaceae											
Calypto											
bulbosa											
var. americana	X	X	X	X	X	X	X	-	-	-	-
Cephalanthera											
austinae	-	-	-	-	-	-	X	-	-	-	-
Coenoglossum											
viride											
var. virescens	-	-	X	-	-	-	-	-	-	-	-
Corallorhiza											
maculata	X	X	X	-	X	X	X	X	X	-	X
mertensiana	X	X	-	-	-	-	X	-	-	-	-
striata											
var. striata	-	-	X	-	X	-	X	-	-	-	X
trifida	-	X	-	X	X	X	X	-	-	-	-
wisteriana	-	-	X	-	-	-	-	-	-	-	-
Cypripedium											
fasiculatum	-	-	-	-	-	-	X	-	-	-	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
montanum	-	-	-	-	-	-	X	-	-	-	-
Goodyera											
oblongifolia	X	-	X	-	X	-	X	-	-	-	-
Habenaria/Piperia											
elegans	-	-	-	-	-	-	X	-	-	-	-
unalascensis	X	-	X	-	X	X	X	-	-	-	-
Habenaria/Platanthera											
dilatata											
var. albiflora	-	X	-	X	X	-	-	-	-	-	-
var. dilatata	-	X	-	-	X	X	X	-	X	X	X
var. leucostachys	-	-	-	-	-	-	-	X	-	-	-
hyperborea	X	X	X	X	X	X	X	-	-	-	-
obtusata	-	-	-	X	X	X	X	-	-	-	-
saccata	X	-	-	-	-	-	-	-	-	-	-
sparsiflora											
var. ensifolia	-	-	-	-	X	-	X	X	X	-	-
stricta	-	X	-	-	-	-	X	-	-	-	-
Listera											
borealis	X	-	-	X	X	X	X	-	-	-	-
caurina	-	-	-	-	-	-	X	-	-	-	-
convallarioides	-	-	-	-	-	-	X	X	-	-	X
cordata	-	X	-	-	X	-	X	-	-	-	-
Spiranthes											
romanzoffiana											
var. romanzoffiana	-	X	X	X	-	X	X	-	-	-	-
Orobanchaceae											
Orobanche											
californica	-	-	-	-	-	-	-	-	X	-	-
corymbosa	X	-	-	-	-	-	X	-	X	-	-
fasciculata	X	X	X	X	-	X	X	X	X	-	X
ludoviciana											
var. ludoviciana	X	-	X	-	-	X	-	-	X	-	-
uniflora											
var. occidentalis	-	X	X	X	-	X	X	-	-	-	-
Oxalidaceae											
Oxalis											
dillenii	-	-	X	-	-	-	-	-	-	-	-
stricta	-	-	X	-	-	-	-	-	-	-	-
Paeoniaceae											
Paeonia											
brownii	-	-	-	-	-	-	X	X	X	X	-
Papaveraceae											
Argemone											
munita											
ssp. rotundata	-	-	-	-	-	-	-	X	X	-	-
polyanthemus	-	-	X	-	-	-	-	-	X	-	-
Eschscholzia											
californica	-	-	-	-	-	-	-	X	-	-	-
minutiflora	-	-	-	-	-	-	-	-	X	-	-









	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
intermedia	X	X	X	X	X	X	X	X	-	-	-
spicata	-	-	X	X	-	-	-	-	-	-	-
unispicata	-	X	X	X	-	X	-	-	X	X	-
Deschampsia											
atropurpurea											
var. latiolia	-	-	-	-	-	X	-	-	-	-	-
cespitosa											
var. cespitosa	X	X	X	X	X	X	X	X	X	-	-
danthonioides	-	-	-	-	-	-	X	X	X	X	-
elongata	X	X	-	-	-	-	X	X	X	X	X
Distichlis											
stricta	X	-	X	-	-	-	-	-	X	-	-
Echinochloa											
crusgalli	-	-	-	-	-	-	-	X	-	-	-
muricata											
var. microstachya	-	-	X	-	-	-	-	-	-	-	-
Elymus											
X hansenii	-	-	-	-	-	-	-	X	-	-	-
X saundersii	-	-	-	-	-	-	-	-	X	-	-
elymoides											
var. brevifolius	-	X	-	-	X	X	-	X	X	-	-
(Sitanion hystrix)											
var. elymoides	X	X	X	X	X	X	X	X	X	X	X
(Sitanion hystrix var. elymoides)											
glaucus											
var. glaucus	X	X	X	X	X	X	X	X	X	X	-
hispidus											
var. hispidus	-	X	-	-	-	X	-	-	-	-	-
var. ruthenicus	-	-	-	-	X	X	-	-	-	-	-
interruptus	-	-	X	-	-	-	-	-	-	-	-
macounii	-	-	-	-	-	X	X	-	-	-	-
(Elyhordeum macounii)											
multisetus	-	-	-	-	-	-	X	-	-	-	-
salinus	-	-	-	-	X	-	-	-	-	-	-
triticoides	-	-	-	-	-	-	-	-	X	-	-
villosus	-	-	X	-	-	-	-	-	-	-	-
virginicus											
var. submuticus	-	-	X	-	-	-	-	-	-	-	-
var. virginicus	-	-	X	-	-	-	-	-	-	-	-
Elymus/Leymus											
canadensis											
var. canadensis	-	X	X	-	-	X	X	-	-	-	-
cinerus											
var. cinerus	X	X	X	X	X	X	-	X	X	X	X
flavescens	X	-	-	-	-	-	-	-	-	-	-
innovatus											
var. innovatus	-	-	X	-	-	-	-	-	-	-	-
Elymus/Psathyrostachys											
junceus	-	X	-	-	-	X	-	-	X	-	-







	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
reflexa	-	X	-	X	X	X	-	-	-	X	-
rupicola	-	X	-	X	X	X	-	X	X	-	-
scabrella	-	-	X	X	-	-	-	X	-	-	-
(P. canbyi)											
secunda											
var. elongata	-	X	-	-	X	X	-	-	-	-	-
var. incurva	-	X	-	-	X	X	-	-	-	-	-
var. secunda	X	X	X	X	-	X	X	X	X	X	X
(P. sandbergii)											
stenantha	-	-	-	-	X	-	-	-	-	-	-
suksdorfii	-	-	-	-	-	-	X	-	-	-	-
trivalis	-	X	X	-	-	X	-	-	-	-	-
vaseyochlea	-	-	-	-	-	-	X	-	-	-	-
Polypogon											
monspeliensis	-	-	X	-	-	-	-	X	X	-	-
Puccinellia											
distans	X	-	X	-	-	-	-	-	X	-	-
lemmonii	-	-	-	-	-	-	-	X	X	-	-
nuttalliana	X	-	-	X	-	-	-	-	-	-	-
pauciflora	-	-	X	X	X	X	X	-	X	X	-
(Torreyochloa pauciflora)											
Schedonnardus											
paniculatus	-	-	X	-	-	-	-	-	-	-	-
Schizachne											
purpurascens	-	-	X	-	-	X	-	-	-	-	-
Secale											
cereale	-	-	X	-	-	-	-	X	X	-	-
Setaria											
viridis	-	-	X	-	X	-	-	-	-	-	-
Sorghum											
halpense	-	-	-	-	-	-	-	-	X	-	-
Spartina											
gracilis	X	-	X	-	-	-	-	-	X	-	-
pectinata	-	-	X	-	-	-	-	-	-	-	-
Sphenopholis											
obtusata											
var. major	-	-	X	-	-	-	-	-	-	-	-
var. obtusata	-	-	X	X	-	-	-	-	-	-	-
Sporobolus											
airoides	-	-	X	-	-	-	-	-	X	-	X
asper	-	-	X	-	-	-	-	-	-	-	-
contractus	-	-	-	-	-	-	-	-	X	-	-
cryptandrus	-	-	X	-	-	-	-	-	X	-	-
heterolepis	-	-	X	-	-	-	-	-	-	-	-
Stipa											
arida	-	-	-	-	-	-	-	-	X	-	-
X bloomeri	-	-	-	-	-	X	-	-	-	-	-
californica	-	-	-	-	-	-	-	X	-	-	-



	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
tinctoria	-	-	-	-	-	-	-	X	-	-	-
Eriastrum											
diffusum	-	-	-	-	-	-	-	-	X	-	-
sparsiflourm	-	-	-	-	-	-	-	-	X	X	-
wilcoxii	-	-	-	-	-	-	-	X	X	-	-
Gilia											
brecciarum											
ssp. brecciarum	-	-	-	-	-	-	-	X	-	-	-
capillaris	-	-	-	-	-	-	X	X	-	-	-
leptalea											
ssp. leptalea	-	-	-	-	-	-	-	X	-	-	-
leptantha											
ssp. salticola	-	-	-	-	-	-	-	X	-	-	-
leptomeria	-	-	-	-	-	-	-	-	X	-	-
micromeria	-	-	-	-	-	-	-	-	X	-	-
modocensis	-	-	-	-	-	-	-	X	-	-	-
nyensis	-	-	-	-	-	-	-	-	X	-	-
ophthalmoides	-	-	-	-	X	-	-	X	-	-	-
scopulorum	-	-	-	-	-	-	-	-	X	-	-
sinuata	-	-	-	-	-	-	-	-	X	-	-
tenerrima	-	X	-	-	-	X	X	-	X	-	-
tweedyi	-	-	-	X	-	-	-	-	-	-	-
Gymnosteris											
parvula	-	-	-	X	-	X	-	X	X	-	-
Ipomopsis											
aggregata											
var. aggregata	-	X	-	X	X	X	X	X	-	X	X
var. attenuata	-	-	-	-	X	X	-	X	-	-	-
var. microsiphon	-	-	-	-	-	-	-	-	X	-	-
congesta											
ssp. crebifolia	X	-	-	-	-	X	-	-	-	-	-
(I. crebrifolia)											
ssp. montana	-	-	-	-	-	-	-	X	-	-	-
ssp. palmifrons	-	-	-	-	-	-	-	X	-	-	-
ssp. pseudotypica	-	-	X	-	-	-	-	-	-	-	-
varieties unknown	-	-	-	-	-	-	X	-	X	X	-
depressa	-	-	-	-	-	-	-	-	X	-	-
hutchinsifolia	-	-	-	-	-	-	-	-	X	-	-
polycladon	-	-	-	-	-	-	-	-	X	-	-
spicata											
cf. ssp. capitata	-	-	-	X	-	-	-	-	-	-	-
ssp. spicata	-	-	-	X	-	X	-	-	-	-	-
Langlosia											
punctata	-	-	-	-	-	-	-	-	X	-	-
schottii	-	-	-	-	-	-	-	-	X	-	-
setosissima	-	-	-	-	-	-	-	-	X	-	-
Leptodactylon											
pungens	X	-	-	X	-	X	-	X	X	X	X
setosissima	-	-	-	-	-	-	-	-	X	-	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
watsonii	-	-	-	-	X	-	-	-	X	-	-
Linanthes											
nuttallii	-	-	-	-	-	-	-	-	X	-	-
Linanthus											
aureus	-	-	-	-	-	-	-	-	X	-	-
ciliatus											
var. neglectus	-	-	-	-	-	-	-	X	-	-	-
harknessii	-	-	-	-	-	-	X	-	-	X	-
nuttallii											
ssp. nuttallii	-	-	-	-	-	X	X	X	-	-	-
septentrionalis	-	X	X	X	X	X	X	X	X	-	-
Microsteris											
gracilis											
var. gracilis	-	X	-	-	-	-	-	X	X	-	-
var. humilior	-	X	X	X	X	X	-	-	-	-	-
Navarretia											
breweri	-	-	-	-	-	-	-	X	X	X	-
intertexta											
var. propinqua	-	-	X	-	-	X	X	-	-	X	-
Phlox											
aculeata	-	-	-	-	-	-	X	-	-	-	-
alyssifolia	-	-	X	-	-	-	-	-	-	-	-
austromontana	-	-	-	-	-	-	X	-	-	X	X
bryoides	-	-	-	X	-	-	-	-	-	-	-
caespitosa											
ssp. pulvinata	-	-	-	-	-	-	X	X	-	-	-
covillei	-	-	-	-	-	-	X	X	X	-	-
diffusa											
ssp. diffusa	-	-	-	-	-	-	-	X	-	-	-
gracilis	-	-	-	-	-	-	X	X	X	X	X
hoodii	X	X	X	X	X	X	X	-	X	X	X
kelseyi											
var. kelseyi	X	-	X	-	-	-	-	-	-	-	-
longifolia											
var. longifolia	X	X	-	-	X	X	X	X	X	X	-
var. stansburyi	-	-	-	-	-	-	-	-	X	-	-
multiflora	-	X	-	X	X	X	-	-	-	-	X
muscoides	-	X	-	-	-	-	-	-	X	-	-
pulvinata	-	X	-	X	X	X	-	-	X	-	-
stansburyi	-	-	-	-	-	-	-	-	X	X	-
viridis	-	-	-	-	-	-	-	-	-	-	X
Polemonium											
brandegei	-	-	-	-	X	-	-	-	-	-	-
caeruleum											
ssp. amygdalinum	-	-	-	-	-	-	-	X	-	-	-
elegans	-	-	-	-	-	-	X	-	-	-	-
eximium	-	-	-	-	-	-	-	X	-	-	-
foliosissimum											
var. foliosissimum	-	-	-	-	X	-	-	-	X	-	X

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
nevadense	-	-	-	-	-	-	-	-	-	X	-
occidentale											
var. occidentale	X	X	-	-	-	X	-	X	X	-	X
pulcherrimum											
var. delicatum	-	-	-	-	X	-	-	-	-	-	-
var. pulcherrimum	X	X	-	X	-	-	-	X	X	X	-
viscosum	X	X	-	X	X	X	X	-	X	-	-
Polygalaceae											
Polygala											
acanthoclada											
var. intricata	-	-	-	-	-	-	-	-	X	-	-
alba											
var. alba	-	-	X	-	-	-	-	-	-	-	-
intermontana	-	-	-	-	-	-	-	-	X	-	-
senega	-	-	X	-	-	-	-	-	-	-	-
subspinosa	-	-	-	-	-	-	-	-	X	-	-
verticillata	-	-	X	-	-	-	-	-	-	-	-
Polygonaceae											
Chorizanthe											
brevicornu											
var. spathulata	-	-	-	-	-	-	-	X	X	-	-
rigida	-	-	-	-	-	-	-	-	X	-	-
watsonii	-	-	-	-	-	-	-	-	X	-	-
Eriogonum											
acaule	-	-	-	-	-	X	-	-	-	-	-
alatum											
var. alatum	-	-	-	-	X	-	-	-	-	-	-
anemophilum	-	-	-	-	-	-	-	-	X	-	-
annuum	-	-	X	-	-	-	-	-	-	-	-
baileyi											
var. baileyi	-	-	-	-	-	-	-	X	-	-	-
beatleyae	-	-	-	-	-	-	-	-	X	-	-
brevicaule											
ssp. brevicaule											
var. laxifolium	-	X	-	X	X	X	-	-	-	-	-
caespitosum	-	-	-	-	-	X	X	X	X	X	-
cernuum											
var. cernuum	-	-	-	-	X	X	-	-	X	-	-
chrysops	-	-	-	-	-	-	X	-	-	-	-
compositum	-	-	-	-	-	-	-	-	-	-	-
deflexum											
var. deflexum	-	-	-	-	-	-	-	-	X	-	-
douglasii	-	-	-	-	-	-	X	-	-	-	-
elatum											
var. elatum	-	-	-	-	-	-	-	X	X	X	-
esmeraldense											
var. toiyabense	-	-	-	-	-	-	-	-	X	-	-
flavum											
var. flavum	-	X	X	X	-	-	X	-	-	-	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
var. piperi	-	X	-	-	-	-	-	-	-	-	-
var. polyphyllum	-	-	-	X	-	-	-	-	-	-	-
heermannii											
var. humilis	-	-	-	-	-	-	-	-	X	-	-
heracleoides											
var. heracleoides	X	X	-	-	-	X	X	-	-	X	X
hookeri	-	-	-	-	-	-	-	-	X	-	-
incanum	-	-	-	-	-	-	-	X	-	-	-
inflatum	-	-	-	-	-	-	-	-	X	-	-
kearneyi	-	-	-	-	-	-	-	-	X	-	-
lobbii											
var. lobbii	-	-	-	-	-	-	-	X	-	-	-
lonchophyllym	-	-	-	-	X	-	-	-	-	-	-
maculatum	-	-	-	-	-	-	-	-	X	-	-
mancum	X	-	-	-	-	-	-	-	-	-	-
marifolium	-	-	-	-	-	-	-	X	-	-	-
microthecum											
var. ambiguum	-	-	-	-	-	-	-	X	-	-	-
var. foliosum	-	-	-	-	-	-	-	-	X	-	-
var. laxiflorum	-	-	-	-	-	X	X	X	X	X	X
nudum											
var. deductum	-	-	-	-	-	-	-	X	-	-	-
nutans											
var. nutans	-	-	-	-	-	-	-	-	X	-	-
ovalifolium											
var. caelestirinum	-	-	-	-	-	-	-	-	X	-	-
var. depressum	X	-	-	X	-	-	-	-	-	-	-
var. macropodium	-	-	-	X	-	-	-	-	-	-	-
var. multiscapum	-	-	-	-	-	-	-	-	X	-	-
var. nevadense	X	-	-	-	-	-	-	X	-	-	-
var. nivale	-	-	-	-	-	-	-	X	-	-	-
var. orchroleucum	-	X	-	-	-	-	-	-	-	-	-
var. ovalifolium	X	-	-	X	X	X	X	X	X	X	X
var. purpureum	-	X	-	-	-	X	-	-	-	-	-
palmerianum	-	-	-	-	-	-	-	-	X	-	-
pauciflorum											
var. gnaphalodes	-	-	-	X	-	-	-	-	-	-	-
var. pauciflorum	-	-	X	-	-	-	-	-	-	-	-
polycladon	-	-	-	-	-	-	-	-	X	-	-
pusillum	-	-	-	-	-	-	-	-	X	-	-
racemosum	-	-	-	-	-	-	-	-	X	-	-
rosense	-	-	-	-	-	-	-	X	-	-	-
rubricaule	-	-	-	-	-	-	-	-	X	-	-
rupinum	-	-	-	-	-	-	-	-	X	-	-
shockleyi											
var. shockleyi	-	-	-	-	-	-	-	-	X	-	-
spergulinum											
var. reddingianum	-	-	-	-	-	-	-	X	-	-	-
sphaerocephalum	-	-	-	-	-	-	X	-	-	X	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
strictum	-	-	-	-	-	-	X	-	-	X	-
thymoides	-	-	-	-	-	-	X	-	-	-	-
umbellatum											
var. aureum	-	-	-	-	X	-	-	-	X	-	-
var. dichrocephalum	-	X	-	-	-	X	-	-	-	-	-
var. majus	-	X	-	X	X	X	-	-	-	-	-
var. nevadense	-	-	-	-	-	-	-	X	X	-	-
var. subalpinum	X	-	-	-	-	-	-	-	-	-	-
var. umbellatum	-	-	-	X	-	-	X	X	X	X	X
vimineum	-	-	-	-	-	-	-	-	-	X	-
watsonii	-	-	-	-	-	-	-	-	X	-	-
wrightii											
var. subscaposum	-	-	-	-	-	-	-	X	-	-	-
Oxyria											
digyna	X	X	-	X	X	X	X	X	X	-	-
Oxytheca											
dendroidea	-	-	-	-	-	-	-	-	X	-	-
perfoliata	-	-	-	-	-	-	-	-	X	-	-
watsonii	-	-	-	-	-	-	-	-	X	-	-
Polygonum											
achoreum	-	-	X	X	-	X	X	-	-	-	-
amphibium	X	-	X	-	X	X	-	-	X	-	-
aviculare											
var. aviculare	X	X	X	X	X	X	X	X	X	X	X
bicorne	-	-	X	-	-	-	-	-	-	-	-
bistortoides	X	X	-	X	X	X	X	X	X	X	X
buxiforme	-	-	-	-	-	-	-	-	-	-	X
coccineum	-	-	X	-	-	-	-	-	X	-	-
confertiflorum	-	-	X	X	-	-	-	-	-	-	-
convolvulus											
var. convolvulus	-	X	X	X	-	-	-	-	-	-	-
douglasii											
var. austinae	-	-	-	X	-	X	-	-	-	-	-
var. douglasii	-	X	X	X	X	X	X	X	X	X	-
var. latifolium	-	-	-	X	-	-	-	X	-	-	-
engelmannii	-	-	-	X	-	-	-	-	-	-	-
kelloggii											
var. confertiflorum	-	-	-	-	-	X	-	-	-	-	-
var. kelloggii	-	-	-	-	-	X	-	X	X	-	-
lapathifloium	X	-	X	-	-	-	-	-	-	-	-
minimum	-	-	-	-	-	X	X	X	-	-	-
persicaria											
var. persicaria	-	-	X	-	-	-	-	-	-	-	-
phytolaccaefolium	-	-	-	-	-	-	X	-	-	-	-
polygaloides	-	-	-	-	-	-	X	X	-	-	-
ramosissimum	-	-	X	-	X	-	-	-	-	-	-
sawatchense	-	X	X	-	-	X	-	-	X	-	-
scandens	-	-	X	-	-	-	-	-	-	-	-
shastense	-	-	-	-	-	-	-	X	-	-	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
spergulariaeforme	-	-	-	X	-	-	-	-	-	-	-
viviparum	-	-	-	-	-	-	-	-	-	-	-
var. viviparum	-	X	-	X	X	X	X	-	-	-	-
watsonii	-	-	-	-	-	X	-	-	-	-	-
Rheum											
rhaponticum	-	-	X	-	-	-	-	-	-	-	-
Rumex											
acetosella											
ssp. acetosella	-	X	X	X	X	X	X	X	-	-	-
aquaticus											
var. fenestratus	-	-	-	-	-	-	-	-	X	-	-
californicus	-	-	-	-	-	-	-	X	-	-	-
crispus	X	X	X	-	X	X	-	X	X	X	X
densiflorus	-	-	-	-	X	-	-	-	-	-	-
maritimus											
var. fueginus	X	-	X	-	-	X	-	-	-	-	-
occidentalis	X	-	X	-	-	-	-	-	X	-	-
patientia	-	-	X	-	-	-	-	-	-	-	-
pauciflorus											
ssp. gracilescens	-	-	-	-	-	-	-	X	-	-	-
ssp. paucifolius	X	X	-	X	-	X	-	X	X	X	-
salicifolius											
ssp. triangulivalvis											
var. monigenitus	X	-	-	-	X	X	X	X	X	X	-
stenophyllus	-	-	X	-	-	-	-	-	-	-	-
triangulivalvis	-	-	X	X	-	-	-	X	-	-	-
utahensis	-	X	X	X	X	X	-	-	-	-	-
venosus	-	-	X	-	-	-	-	-	X	-	-
Stenogonum											
salsuginosum	-	-	-	X	-	-	-	-	-	-	-
Polypodiaceae (sensu lato)											
Adiantum											
capillus-veneris	-	-	-	-	-	-	-	-	X	-	-
pedatum	-	-	-	-	-	-	X	-	-	-	-
Aspidotis											
densa	-	-	-	-	-	-	X	X	-	-	-
Asplenium											
trichomanes-ramosum	-	-	-	-	X	-	-	-	-	-	-
Athyrium											
distentifolium											
var. americanum	-	-	-	-	-	-	X	X	-	-	-
filiX-femina	-	-	X	-	-	-	X	-	X	-	-
Cheilanthes											
feei	-	-	X	-	X	X	-	-	-	-	-
fragilis											
var. fragilis	-	-	-	X	-	-	-	-	-	-	-
gracillima	-	-	-	-	-	-	X	X	X	-	-
Cryptogramma											
acrostichoides	-	X	-	-	X	X	X	X	-	-	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
<i>crispa</i>											
ssp. <i>arrostichoides</i>	-	-	-	-	-	-	-	X	X	-	-
<i>Cystopteris</i>											
<i>fragilis</i>											
var. <i>fragilis</i>	X	X	X	X	X	X	X	X	X	-	X
<i>Dryopteris</i>											
<i>felix-mas</i>	-	-	X	-	X	-	-	-	-	-	-
<i>Pellaea</i>											
<i>atropurpurea</i>	-	-	X	-	-	-	-	-	-	-	-
<i>breweri</i>	X	X	-	X	X	-	X	X	X	-	X
<i>bridgesii</i>	-	-	-	-	-	-	X	X	-	-	-
<i>glabella</i>											
var. <i>simplex</i>	-	-	X	-	X	-	-	-	-	-	-
<i>occidentalis</i>	-	-	X	-	-	-	-	-	-	-	-
<i>Polypodium</i>											
<i>hesperium</i>	-	-	-	-	-	-	X	-	-	-	-
<i>Polystichum</i>											
<i>lonchitis</i>	-	-	X	-	X	-	X	-	-	-	-
<i>munitum</i>	-	-	-	-	-	-	X	-	-	-	-
<i>Pteridium</i>											
<i>aquilinum</i>	-	-	X	-	X	-	X	X	-	-	-
<i>Woodsia</i>											
<i>oregana</i>	X	-	X	-	X	X	X	X	-	-	-
<i>scopulina</i>	-	X	X	X	-	X	X	X	X	-	-
Portulacaceae											
<i>Cistanthe/Calyptridium</i>											
<i>rosea</i>	-	-	-	-	-	X	-	X	X	-	-
<i>Claytonia</i>											
<i>cordifolia</i>	-	-	-	-	-	-	X	-	-	-	-
<i>lanceolata</i>											
var. <i>lanceolata</i>	X	X	-	X	X	X	X	-	-	X	X
var. <i>flava</i>	-	X	-	X	-	-	-	-	-	-	-
var. <i>multiscapa</i>	-	-	-	X	-	-	-	-	-	-	-
<i>megarhiza</i>											
var. <i>megarhiza</i>	-	X	-	X	X	X	X	-	-	-	-
<i>nevadense</i>	-	-	-	-	-	-	-	X	-	-	-
<i>perfoliata</i>	-	-	-	-	-	-	-	-	X	X	X
<i>rubra</i>	-	-	-	-	-	-	-	X	-	-	-
<i>sibirica</i>	-	-	-	-	-	-	X	-	-	-	-
<i>umbellata</i>	-	-	-	-	-	-	-	X	X	-	-
<i>Lewisia</i>											
<i>columbiana</i>	-	-	-	-	-	-	X	-	-	-	-
<i>nevadensis</i>	-	-	-	-	-	-	X	X	-	-	-
<i>pygmaea</i>											
var. <i>pygmaea</i>	X	X	X	X	X	X	X	X	X	-	X
<i>rediviva</i>											
var. <i>rediviva</i>	X	-	X	X	-	X	-	-	X	X	-
<i>sierrae</i>	-	-	-	-	-	-	-	X	-	-	-
<i>triphylla</i>	-	X	-	-	-	X	X	X	-	-	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
<i>Montia</i>											
<i>chamissoi</i>	X	X	-	-	-	X	X	X	X	X	X
<i>hallii</i>	-	-	-	-	-	-	-	-	-	X	-
<i>linearis</i>	-	-	-	-	-	-	X	-	-	-	-
<i>parviflora</i>	-	-	-	-	-	-	X	-	-	-	-
<i>perfoliata</i>	-	-	X	-	-	-	-	-	X	-	-
<i>Portulaca</i>											
<i>oleracea</i>	-	-	X	-	-	-	-	-	-	-	-
<i>Spraguea</i> \ <i>Cistanthe</i>											
<i>umbellata</i>											
var. <i>caudicifera</i>	-	X	-	X	-	X	X	X	X	X	-
<i>Talinum</i>											
<i>parviflorum</i>	-	-	X	-	-	-	-	-	-	-	-
Potamogetonaceae											
<i>Potamogeton</i>											
<i>alpinus</i>	-	-	-	-	-	X	X	-	-	-	-
<i>amplifolius</i>	-	-	-	-	-	X	X	-	-	-	-
<i>diversifolius</i>	-	-	X	-	-	-	-	-	-	-	-
<i>filiformis</i>											
var. <i>alpinus</i>	-	-	-	X	-	-	-	-	-	-	-
var. <i>occidentalis</i>	X	-	X	-	X	X	-	-	X	-	-
<i>foliosus</i>											
var. <i>foliosus</i>	-	-	X	X	-	X	-	-	X	-	-
<i>friesii</i>	X	-	-	-	-	X	-	-	-	-	-
<i>gramineus</i>	-	-	-	X	-	X	-	X	-	-	-
<i>natans</i>	-	-	-	-	-	-	X	-	-	-	-
<i>nodosus</i>	-	-	-	-	-	-	-	-	X	-	-
<i>pectinatus</i>	X	-	X	-	X	-	-	-	-	-	-
<i>praelongus</i>	X	-	-	-	-	-	X	-	-	-	-
<i>pusillus</i>											
var. <i>pusillus</i>	-	-	-	-	-	X	-	-	-	-	-
var. <i>tenuissimus</i>	X	-	X	-	-	-	-	-	-	-	-
<i>richardsonii</i>	X	X	X	-	X	X	X	X	-	-	-
<i>robbinsii</i>	-	-	-	-	-	X	-	-	-	-	-
<i>zosteriformis</i>	X	-	-	-	-	-	-	-	-	-	-
Primulaceae											
<i>Androsace</i>											
<i>filiformis</i>	X	X	-	-	X	X	X	-	-	-	-
<i>occidentalis</i>	-	-	X	-	-	-	-	-	-	-	-
<i>septentrionalis</i>											
varieties unknown	-	-	-	-	-	-	X	-	X	-	X
var. <i>puberulenta</i>	X	X	X	X	X	-	-	-	-	-	-
var. <i>subulifera</i>	-	-	-	-	-	X	-	X	-	-	-
var. <i>subumbellata</i>	-	-	-	X	-	-	-	X	-	-	-
<i>Centunculus</i>											
<i>minimus</i>	-	-	X	-	-	-	-	-	-	-	-
<i>Dodecathon</i>											
<i>alpinum</i>											
ssp. <i>alpinum</i>	-	-	-	-	-	-	X	X	-	-	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
ssp. majus	-	-	-	-	-	-	-	X	-	-	-
conjugens											
var. conjugens	X	-	-	X	-	X	X	-	-	-	-
pulchellum											
var. pulchellum	X	X	X	X	X	X	X	-	X	-	X
var. watsonii	-	-	-	X	-	-	-	-	-	-	-
redolens	-	-	-	-	-	-	-	-	X	-	-
Douglasia											
montana											
var. montana	X	-	-	X	-	X	-	-	-	-	-
Glaux											
maritima	-	-	-	X	-	-	-	-	X	-	-
Lysimachia											
ciliata	-	-	X	-	-	-	-	-	-	-	-
Primula											
alcalina	X	-	-	-	-	-	-	-	-	-	-
cusickiana	-	-	-	-	-	-	X	-	-	-	-
egaliksensis	-	-	-	-	-	X	-	-	-	-	-
incana	X	-	-	-	-	-	-	-	-	-	-
parryi	-	X	-	X	X	X	-	-	-	-	-
Ranunculaceae											
Aconitum											
columbianum											
var. columbianum	X	X	X	-	X	X	X	X	X	X	X
Actaea											
ruba	X	X	X	X	X	X	X	X	-	X	X
Anemone											
cylindrica	-	-	X	-	-	-	-	-	-	-	-
drummondii	-	-	-	-	-	-	X	X	-	-	-
lithophila	X	-	-	X	-	X	-	-	-	-	-
multifida											
var. multifida	X	X	X	X	X	X	X	-	X	-	-
var. tetonensis	-	-	-	X	-	-	-	-	-	-	-
oregana	-	-	-	-	-	-	X	-	-	-	-
parviflora	-	-	-	-	-	X	X	-	-	-	-
tetonensis	-	X	-	-	-	X	-	-	-	-	-
virginiana	-	-	X	-	-	-	-	-	-	-	-
Anemone/Pulsatilla											
occidentalis	-	-	-	-	-	-	X	-	-	-	-
patens	X	X	X	X	X	X	-	-	-	-	-
Aquilegia											
barnebyi	-	-	-	-	X	-	-	-	-	-	-
brevistyla	-	-	X	-	-	-	-	-	-	-	-
coerulea											
var. coerulea	-	X	-	X	X	X	-	-	X	-	X
var. ochroleuca	-	-	-	X	-	-	-	-	-	-	-
elegantula	-	-	-	-	X	-	-	-	-	-	-
flavescens											
var. flavescens	X	X	-	X	-	-	X	-	-	-	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
<i>formosa</i>											
var. <i>formosa</i>	X	-	-	-	-	-	X	X	X	X	X
var. <i>pauciflora</i>	-	-	-	-	-	-	-	X	-	-	-
<i>pubescens</i>	-	-	-	-	-	-	-	X	-	-	-
<i>scopulorum</i>	-	-	-	-	-	-	-	-	X	-	-
<i>shockleyi</i>	-	-	-	-	-	-	-	-	X	-	-
<i>Caltha</i>											
<i>leptosepala</i>											
ssp. <i>howellii</i>	-	-	-	-	-	-	-	X	-	-	-
ssp. <i>leptosepala</i>											
var. <i>leptosepala</i>	-	X	-	X	X	X	X	-	-	-	X
<i>Clematis</i>											
<i>columbiana</i>											
var. <i>columbiana</i>	X	-	-	-	X	-	X	-	-	-	-
var. <i>teuilo</i>	-	-	X	-	-	-	-	-	-	-	-
<i>hirsutissima</i>											
var. <i>hirsutissima</i>	X	X	-	X	X	X	X	-	-	-	-
<i>ligusticifolia</i>											
var. <i>ligusticifolia</i>	-	X	X	-	X	-	X	-	X	-	X
<i>occidentalis</i>	X	X	-	X	-	X	-	-	-	-	-
<i>Delphinium</i>											
<i>andersonii</i>											
ssp. <i>andersonii</i>	-	-	-	-	-	-	-	X	X	X	-
<i>barbeyi</i>	-	-	-	-	X	-	-	-	-	-	-
<i>bicolor</i>	X	X	X	X	-	X	-	-	-	-	-
<i>burkei</i>	-	-	-	-	-	-	X	-	-	-	-
<i>depauperatum</i>	-	-	-	-	-	-	X	-	X	X	-
<i>diversifolium</i>	-	-	-	-	-	-	-	-	-	-	X
<i>geyeri</i>	-	-	-	X	-	X	-	-	-	-	-
<i>glaucum</i>	X	X	-	X	-	X	-	X	-	-	-
<i>menziesii</i>	-	-	-	-	-	-	-	-	-	X	-
<i>nelsonii</i>	-	-	-	X	-	-	-	-	-	-	-
<i>nuttallianum</i>											
var. <i>fulvium</i>	X	-	-	-	-	-	-	-	-	-	-
var. <i>nuttallianum</i>	X	X	-	-	X	X	X	-	-	-	X
<i>occidentale</i>	X	X	-	-	X	X	X	-	-	X	X
<i>polycladon</i>	-	-	-	-	-	-	-	X	-	-	-
<i>ramosum</i>	-	-	-	-	X	-	-	-	-	-	-
<i>Myosurus</i>											
<i>aristatus</i>	-	X	-	X	-	X	-	X	-	-	-
<i>minimus</i>											
var. <i>minimus</i>	X	-	X	-	X	X	-	-	X	-	-
var. <i>montanus</i>	-	-	-	-	-	-	-	X	-	-	-
<i>Ranunculus</i>											
<i>abortivus</i>											
var. <i>abortivus</i>	-	-	X	-	-	-	-	-	-	-	-
<i>acriformis</i>											
var. <i>montanensis</i>	X	X	-	X	-	X	-	-	-	-	-
<i>adoneus</i>	-	X	-	X	X	X	-	-	-	-	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
<i>alismaefolius</i>											
varieties unknown	-	-	-	-	-	-	X	-	-	-	-
var. <i>alismaefolius</i>	-	-	-	-	-	-	-	X	-	-	-
var. <i>hartwegii</i>	X	-	-	-	-	X	-	-	-	-	-
var. <i>montanus</i>	-	X	-	-	X	X	-	-	-	-	-
<i>andersonii</i>	-	-	-	-	-	-	-	-	X	-	-
<i>aquatilis</i>											
var. <i>capillaceus</i>	X	X	X	X	-	X	-	X	X	-	-
<i>circinatus</i>											
var. <i>subrigidus</i>	-	-	X	-	X	X	-	-	-	-	-
<i>cymbalaria</i>											
var. <i>cymbalaria</i>	X	X	X	X	-	X	-	-	X	X	X
var. <i>saximontanus</i>	-	-	-	-	X	X	-	X	-	-	-
<i>eschscholtzii</i>											
var. <i>alpinus</i>	-	-	-	-	-	-	-	-	-	-	-
var. <i>eschscholtzii</i>	-	X	-	X	X	X	X	X	X	-	-
var. <i>oxynotis</i>	-	-	-	-	-	-	-	X	-	-	-
var. <i>suksdorfii</i>	X	X	-	X	-	-	-	-	-	-	-
var. <i>trisectus</i>	-	X	-	-	-	X	-	-	-	-	-
<i>flammula</i>											
var. <i>filiformis</i>	-	X	-	X	X	X	X	-	-	-	-
<i>gelidus</i> (c.f.)	-	-	-	X	-	-	-	-	-	-	-
<i>glaberrimus</i>											
var. <i>ellipticus</i>	X	-	X	X	-	X	-	-	-	-	-
var. <i>glaberrimus</i>	X	-	-	-	-	-	X	-	X	-	X
<i>gmelinii</i>	X	X	-	X	-	X	-	-	-	-	-
<i>inamoenus</i>											
var. <i>alpeophilus</i>	-	-	-	X	X	X	-	-	-	-	-
var. <i>inamoenus</i>	X	X	X	X	X	X	-	-	-	-	-
<i>jovis</i>	X	-	-	-	-	X	-	-	-	-	-
<i>longirostris</i>	-	-	X	-	-	-	-	-	-	-	-
<i>maclauleyi</i>	-	-	-	-	X	-	-	-	-	-	-
<i>macounii</i>	-	-	X	X	X	X	-	-	-	-	X
<i>natans</i>											
var. <i>intertextus</i>	X	X	X	-	-	X	-	-	-	-	-
<i>occidentalis</i>											
var. <i>ultramontanus</i>	-	-	-	-	-	-	-	X	-	-	-
<i>orthorhynchus</i>	-	-	-	-	-	-	X	-	-	X	-
<i>pedatifidus</i>											
var. <i>affinis</i>	-	X	-	X	-	-	-	-	-	-	-
<i>pensylvanicus</i>	-	X	X	-	-	-	-	-	-	-	-
<i>populago</i>	-	-	-	-	-	-	X	-	-	-	-
<i>pygmaeus</i>											
var. <i>pygmaeus</i>	-	-	-	X	-	X	-	-	-	-	-
<i>repens</i>											
var. <i>repens</i>	-	-	-	-	-	X	-	-	-	-	-
<i>sceleratus</i>											
var. <i>multifidus</i>	X	-	X	-	X	X	-	-	X	-	X
<i>suksdorfii</i>	-	-	-	-	-	-	X	-	-	-	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
testiculatis	X	-	X	-	X	X	-	X	X	X	-
trichophyllus	-	-	-	-	-	-	X	X	X	-	-
uncinatus											
var. parviflorus	-	X	-	-	-	X	-	-	-	-	-
var. uncinatus	X	X	X	-	X	-	X	-	-	-	-
verecundus	-	X	-	X	-	-	-	-	-	-	-
Thalictrum											
alpinum	X	X	-	X	X	X	X	-	-	-	-
dasycarpum	-	-	X	-	-	-	-	-	-	-	-
fendleri											
var. fendleri	-	X	X	-	X	X	X	X	-	X	X
occidentale	X	X	X	-	-	X	X	-	-	-	-
sparsiflorum											
var. saximontanum	X	-	-	X	-	X	X	X	X	-	-
venulosum	X	X	X	X	-	X	X	-	-	-	-
Trautvettaria											
carolinensis	-	-	-	-	-	-	X	-	-	-	-
Trollius											
laxus											
var. albiflorus	X	X	-	X	X	X	-	-	-	-	-
Rhamnaceae											
Ceanothus											
fendleri	-	-	X	-	X	-	-	-	-	-	-
greggii											
var. vestitus	-	-	-	-	-	-	-	X	-	-	-
herbaceous	-	-	X	-	-	-	-	-	-	-	-
velutinus											
var. velutinus	X	X	X	-	X	X	X	X	X	X	X
Rhamnus											
alnifolia	X	-	-	-	-	-	X	-	-	-	-
cathartica	-	-	X	-	-	-	-	-	-	-	-
frangula	-	-	X	-	-	-	-	-	-	-	-
rubra											
ssp. rubra	-	-	-	-	-	-	-	X	-	-	-
Rosaceae											
Agrimonia											
gryposepala	-	-	X	-	-	-	-	-	-	-	-
striata	-	-	X	-	-	-	-	-	-	-	-
Amelanchier											
alnifolia											
var. alnifolia	-	X	X	-	X	X	X	-	X	X	X
var. pumila	X	X	-	X	X	X	-	X	-	-	-
pallida	-	-	-	-	-	-	-	X	-	-	-
pumila	-	-	-	-	-	-	-	X	-	-	-
utahensis											
var. utahensis	-	X	-	X	X	X	-	X	X	X	X
Argentina											
anserina	-	-	-	-	-	-	-	X	X	-	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
<i>Cercocarpus</i>											
<i>ledifolius</i>											
var. <i>intercedens</i>		X	-	-	-	-	X	-	-	-	-
var. <i>ledifolius</i>	-	-	-	-	X	X	X	X	X		
<i>montanus</i>											
var. <i>montanus</i>		-	-	X	-	X	-	-	-	-	-
<i>Chamaebatiaria</i>											
<i>millefolium</i>		-	-	-	-	-	-	-	X	-	-
<i>erecta</i>											
var. <i>parviflora</i>		-	-	-	-	X	-	-	-	-	-
<i>Comarum</i>											
<i>palustre</i>		-	-	-	-	-	X	-	-	-	-
<i>Cowania</i>											
<i>mexicana</i>											
var. <i>stansburiana</i>		-	-	-	-	-	-	-	X	-	-
<i>Crataegus</i>											
<i>chrysoarpa</i>		-	-	X	-	-	-	-	-	-	-
<i>columbiana</i>		-	-	-	-	-	X	-	-	-	-
<i>douglasii</i>											
var. <i>rivularis</i>		-	-	-	-	X	-	-	-	-	-
<i>Dryas</i>											
<i>drummondii</i>		-	-	-	-	-	X	-	-	-	-
<i>octopetala</i>											
var. <i>hookeriana</i>		-	X	-	X	X	X	-	-	-	-
<i>Fragaria</i>											
<i>vesca</i>											
var. <i>bracteata</i>		X	X	-	X	X	X	-	-	-	-
<i>virginiana</i>											
var. <i>glauca</i>		X	X	X	X	X	X	-	-	-	-
<i>Geum</i>											
<i>aleppicum</i>		-	X	X	-	X	-	X	-	-	-
<i>canadense</i>											
var. <i>camporum</i>		X	-	X	-	-	-	-	-	-	-
<i>canescens</i>		-	-	-	-	-	-	X	-	-	-
<i>macrophyllum</i>											
var. <i>macrophyllum</i>		X	-	-	-	-	X	X	X	X	X
var. <i>perincisum</i>		X	X	X	X	X	-	-	-	-	-
<i>rivale</i>		-	-	X	-	X	-	-	-	-	-
<i>rossii</i>											
var. <i>rossii</i>		-	-	-	X	-	-	X	-	-	X
var. <i>turbinatum</i>		-	X	-	X	X	X	-	-	-	-
<i>triflorum</i>											
var. <i>ciliatum</i>		-	-	-	X	X	X	-	-	-	-
var. <i>triflorum</i>		X	X	X	-	-	-	X	X	X	X
<i>Holodiscus</i>											
<i>boursieri</i>		-	-	-	-	-	-	-	X	-	X
<i>discolor</i>		-	-	-	-	-	X	-	-	-	-
<i>dumosus</i>											
var. <i>dumosus</i>		-	-	-	-	X	-	-	X	X	X





	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
<i>Pyrus</i>											
<i>malus</i>	-	-	X	-	X	-	-	-	-	-	-
<i>Rosa</i>											
<i>acicularis</i>											
ssp. <i>sayi</i>	-	-	X	X	-	-	-	-	-	-	-
<i>arkansana</i>	X	-	X	-	-	-	-	-	-	-	-
<i>gymnocarpa</i>	-	-	-	-	-	-	X	-	-	-	-
<i>nutkana</i>	-	-	-	-	-	-	X	-	-	-	-
<i>sayi</i>	-	X	-	-	-	X	-	-	-	-	-
<i>woodsii</i>											
var. <i>ultramontana</i>	X	X	X	X	X	X	X	X	X	X	X
<i>Rubus</i>											
<i>acaulis</i>	X	-	-	-	-	-	-	-	-	-	-
<i>idaeus</i>											
varieties unknown	-	-	-	-	-	-	X	-	X	-	X
ssp. <i>melanolasius</i>											
var. <i>aculeatissimus</i>	-	X	-	-	X	X	-	-	-	-	-
ssp. <i>sachalinensis</i>											
var. <i>sachalinensis</i>	-	-	X	X	-	-	-	-	-	-	-
var. <i>gracilipes</i>	X	-	-	-	-	-	-	-	-	-	-
<i>leucodermis</i>	-	-	-	-	-	-	X	-	X	-	-
<i>parviflorus</i>											
var. <i>bifarius</i>	-	-	-	-	-	-	-	X	-	-	-
var. <i>parviflorus</i>	X	-	X	X	X	X	X	-	-	-	X
<i>pubescens</i>	-	-	X	-	-	-	-	-	-	-	-
<i>Sanguisorba</i>											
<i>minor</i>											
ssp. <i>muricata</i>	-	-	-	-	X	-	-	-	-	-	-
<i>occidentalis</i>	-	-	-	-	-	-	X	-	-	-	-
<i>Sibbaldia</i>											
<i>procumbens</i>	X	X	-	X	X	X	X	X	X	-	-
<i>Sorbus</i>											
<i>californica</i>	-	-	-	-	-	-	-	X	-	-	-
<i>scopulina</i>											
var. <i>scopulina</i>	X	X	X	-	X	X	X	-	-	-	-
<i>sitchensis</i>	-	-	-	-	-	-	X	-	-	-	-
<i>Spiraea</i>											
<i>betulifolia</i>											
var. <i>lucida</i>	X	X	X	X	-	X	X	-	-	-	-
<i>densiflora</i>											
ssp. <i>densiflora</i>	-	-	-	-	-	-	-	X	-	-	-
<i>splendens</i>	-	-	-	-	-	-	X	-	-	-	-
<i>Rubiaceae</i>											
<i>Galium</i>											
<i>aparine</i>											
var. <i>aparine</i>	-	X	X	-	X	-	X	X	X	X	X
var. <i>echinospermon</i>	-	-	-	-	X	-	-	-	-	-	-
<i>bifolium</i>	-	X	-	X	X	X	X	X	X	X	X
<i>boreale</i>	X	X	X	X	X	X	X	-	-	-	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
coloradoense	-	-	-	-	X	-	-	-	-	-	-
hypotrachelium											
ssp. ebbettsense	-	-	-	-	-	-	-	X	-	-	-
ssp. hypotrachelium	-	-	-	-	-	-	-	X	X	-	-
mexicanum	-	-	-	-	-	-	X	-	-	X	-
multiflorum	-	-	-	-	-	-	-	X	X	X	-
serpenticum	-	-	-	-	-	-	X	-	-	X	-
trifidum											
var. pacificum	-	-	-	X	-	-	-	-	-	-	-
var. subbiflorum	-	-	-	-	-	-	-	X	-	-	-
var. trifidum	X	X	X	X	X	X	X	-	-	-	X
triflorum	X	X	X	X	X	X	X	X	-	-	X
Kelloggia											
galioides	-	-	-	-	-	-	X	X	X	-	-
Ruppia											
maritima	-	-	X	-	-	-	-	-	-	-	-
Salicaceae											
Populus											
acuminata	X	-	-	-	-	-	-	-	-	-	-
angustifolia	X	X	X	X	X	X	-	-	X	X	X
balsamifera											
ssp. trichocarpa	-	-	-	-	-	-	-	X	-	-	-
var. balsamifera	X	X	X	X	X	X	X	-	X	X	-
deltoides											
var. occidentalis	-	X	-	-	-	-	-	-	-	-	-
ssp. monilifera	-	-	X	-	-	-	-	-	-	-	-
fremontii	-	-	-	-	-	-	-	X	X	-	-
X parryi	-	-	-	-	-	-	-	-	-	X	-
tremuloides	X	X	X	X	X	X	X	X	X	X	X
trichocarpa	-	-	-	-	-	-	-	-	X	-	-
Salix											
amygdaloides	-	-	X	-	-	-	-	-	-	-	-
arctica											
var. petraea	-	X	-	X	X	X	X	X	-	-	-
barclayi	-	X	-	-	-	-	X	-	-	-	-
bebbiana											
var. bebbiana	X	X	X	X	X	X	X	-	X	-	-
boothii	X	X	-	X	X	X	-	-	-	-	-
brachycarpa											
ssp. brachycarpa											
var. brachycarpa	-	X	-	-	X	X	X	-	-	-	-
candida	X	-	-	-	-	-	-	-	-	-	-
cascadensis											
var. cascadensis	-	X	-	X	X	-	X	-	-	-	-
commutata	-	-	-	-	-	-	X	-	-	-	-
discolor	-	-	X	-	-	-	-	-	-	-	-
drummondiana	X	X	-	X	X	X	X	X	X	X	X
eastwoodiae	-	X	-	-	-	X	X	-	X	-	-



	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
var. <i>cylindrica</i>	X	-	-	X	-	-	X	-	-	X	-
var. <i>suksdorfii</i>	-	X	-	-	-	-	-	-	-	-	-
<i>duranii</i>	-	-	-	-	-	-	-	X	X	-	-
<i>flabellifolia</i>	-	-	-	-	-	-	-	-	X	-	-
<i>grossulariifolia</i>	-	-	-	-	-	-	X	-	-	-	-
<i>parvifolia</i>											
var. <i>dissecta</i>	X	X	-	X	X	X	-	-	X	-	X
<i>richardsonii</i>	-	-	X	-	-	-	-	-	-	-	-
<i>rubescens</i>											
var. <i>alpicola</i>	-	-	-	-	-	-	-	X	X	-	X
<i>Lithophragma</i>											
<i>bulbifera</i>	X	-	-	-	-	-	-	-	X	-	-
<i>glabrum</i>											
var. <i>ranulosum</i>	-	X	X	X	X	X	X	X	X	X	X
<i>parviflorum</i>	X	X	X	X	X	X	X	-	X	X	X
<i>tenellum</i>	-	-	-	X	-	X	-	-	X	-	-
<i>Mitella</i>											
<i>breweri</i>	X	-	-	-	-	-	-	X	-	-	-
<i>pentandra</i>	X	X	X	X	X	X	X	X	-	-	X
<i>stauropetala</i>											
var. <i>stenopetala</i>	-	X	-	X	X	X	X	-	-	-	-
<i>trifida</i>	-	-	-	-	-	-	X	-	-	-	-
<i>Parnassia</i>											
<i>californica</i>	-	-	-	-	-	-	-	X	-	-	-
<i>fimbriata</i>											
var. <i>fimbriata</i>	X	X	-	X	X	X	X	-	X	-	-
<i>kotzebuei</i>											
var. <i>kotzebuei</i>	-	-	-	X	-	X	-	-	-	-	-
<i>palustris</i>											
var. <i>californica</i>	-	-	-	-	-	-	-	X	-	-	-
var. <i>montanensis</i>	-	-	-	-	-	X	-	-	X	-	-
<i>parviflora</i>	X	X	-	X	-	-	-	-	-	-	X
<i>Saxifraga</i>											
<i>adscendens</i>											
var. <i>oregonensis</i>	-	X	-	X	-	X	X	-	-	-	-
<i>aprica</i>	-	-	-	-	-	-	-	X	-	-	-
<i>arguta</i>	X	-	-	-	-	-	-	-	-	-	-
<i>bronchialis</i>											
var. <i>austromontana</i>	X	-	-	-	X	-	X	-	-	-	-
<i>bryophora</i>	-	-	-	-	-	-	-	X	-	-	-
<i>cernua</i>	-	-	-	X	-	X	-	-	-	-	-
<i>cespitosa</i>											
var. <i>minima</i>	-	X	-	X	X	X	X	-	-	-	-
<i>debilis</i>	-	-	-	X	-	-	-	-	-	-	-
<i>flagellaris</i>											
ssp. <i>flagellaris</i>	-	-	-	X	-	-	-	-	-	-	-
var. <i>crandallii</i>	-	-	-	-	-	X	-	-	-	-	-
<i>integrifolia</i>	-	-	-	-	-	-	X	-	-	-	-
<i>mertensiana</i>	-	-	-	-	-	-	X	-	-	-	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
nidifica	-	-	-	-	-	-	-	X	-	X	-
occidentalis											
var. occidentalis	-	X	X	X	-	X	X	-	-	-	-
odontoloma	X	X	-	X	X	X	X	X	-	-	X
oppositifolia											
ssp. oppositifolia	-	-	-	-	-	X	X	-	-	-	-
oregana											
var. sierrae	-	-	-	-	-	-	-	X	-	-	-
var. subpetala	-	-	-	X	-	-	-	-	-	-	-
rhomboidea											
var. rhomboidea	X	X	-	X	X	X	-	-	-	-	-
rivularis											
ssp. rivularis											
var. flexuosa	-	X	-	X	-	X	X	-	-	-	-
var. debilis	-	-	-	-	X	X	-	-	-	-	-
subapetala											
var. subapetala	-	X	-	-	-	X	-	-	-	-	-
tolmiei											
var. ledifolia	-	-	-	-	-	-	-	X	-	-	-
Suksdorfii											
var. suksdorfii	-	-	-	-	-	-	X	-	-	-	-
Sullivantia											
var. hapemanii	-	-	-	-	X	-	-	-	-	-	-
var. purpusii	-	-	-	-	X	-	-	-	-	-	-
Telesonix/Boykinia											
var. heucheriformis	-	-	-	-	-	X	-	-	-	-	-
Tiarella											
var. trifoliata	-	-	-	-	-	-	X	-	-	-	-
Scrophulariaceae											
Antirrhinum											
var. kingii	-	-	-	-	-	-	-	-	X	-	-
Bacopa											
var. rotundifolia	-	-	X	-	-	-	-	-	-	-	-
Besseya											
var. alpina	-	-	-	-	X	-	-	-	-	-	-
var. plantaginea	-	-	-	-	X	-	-	-	-	-	-
var. rubra	-	-	-	-	-	-	X	-	-	-	-
var. wyomingensis	X	X	X	X	-	X	-	-	-	-	X
Castilleja											
var. angustifolia	-	-	-	X	X	X	-	X	X	X	X
var. applegatei											
var. fragilis	-	-	-	-	-	-	X	X	-	X	-
var. pallida	-	-	-	-	-	-	-	X	-	-	-
var. chromosa	X	X	-	X	-	-	-	X	X	-	-
var. chrysantha	-	-	-	-	-	-	X	-	-	-	-
var. cusickii	X	X	-	X	-	X	X	-	-	-	-
var. dissitiflora	-	-	-	-	-	-	-	-	X	-	-
var. exilis	-	-	-	-	-	-	-	-	X	-	-
var. flava	X	X	-	X	X	X	X	-	-	X	X
var. glandulifera	-	-	-	-	-	-	X	-	-	-	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
gracillima	X	-	-	-	-	-	-	-	-	-	-
hispida	-	-	-	-	-	-	X	-	-	-	-
lemmonii	-	-	-	-	-	-	-	X	-	-	-
linariifolia	-	X	-	X	X	X	-	X	X	X	X
lonispica	X	-	-	X	-	-	-	-	-	-	-
miniata											
var. miniata	X	X	-	X	X	X	X	X	X	X	-
nana	-	-	-	-	-	-	-	X	X	-	-
nivea	-	X	-	X	-	-	-	-	-	-	-
occidentalis	-	-	-	-	X	-	-	-	X	-	-
oresbia	-	-	-	-	-	-	X	-	-	-	-
pallescens	X	X	-	X	-	X	X	-	X	-	-
parviflora	-	-	-	-	-	-	-	-	X	-	-
peirsonii	-	-	-	-	-	-	-	X	-	-	-
pilosa											
var. longispica	-	X	-	-	-	X	X	X	X	-	-
pulchella	X	X	-	X	-	X	-	-	-	-	-
rhexifolia	-	X	-	X	X	X	X	-	X	X	-
rubida	-	-	-	-	-	-	X	-	-	-	-
rustica	X	-	-	-	-	-	-	-	-	-	-
sessiliflora	-	-	X	-	-	-	-	-	-	-	-
suksdorfii	-	-	-	-	-	-	X	-	-	-	-
sulphurea	-	-	X	X	X	X	-	-	-	-	-
viscidula	-	-	-	-	-	-	-	-	X	X	-
wallowensis	-	-	-	-	-	-	X	-	-	-	-
Collinsia											
parviflora	X	X	X	X	X	X	X	X	X	X	X
Cordylanthus											
canescens	-	-	-	-	-	-	-	-	X	-	-
capitatus	-	-	-	-	-	-	X	-	-	X	-
helleri	-	-	-	-	-	-	-	-	X	-	-
kingii	-	-	-	-	-	-	-	-	X	-	-
maritimus	-	-	-	-	-	-	-	-	X	-	-
ramosus	X	X	-	X	X	X	-	-	X	X	X
Gratiola											
neglecta											
var. neglecta	-	-	X	-	-	-	-	-	-	-	-
Keckiella											
breviflora											
ssp. glabriesepal	-	-	-	-	-	-	-	X	-	-	-
Limosella											
aquatica	X	X	X	-	-	X	-	-	X	-	-
Linaria											
canadensis											
var. texana	-	-	X	-	-	-	-	-	-	-	-
dalmatica	-	X	-	X	-	-	-	-	-	-	-
vulgaris	X	X	X	-	X	X	X	-	-	-	-
Mimulus											
breweri	-	-	-	-	-	X	X	X	-	X	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
clivicola	-	-	-	-	-	-	X	-	-	-	-
coccineus	-	-	-	-	-	-	-	X	-	-	-
densus	-	-	-	-	-	-	-	-	X	-	-
floribundus											
var. floribundus	-	X	-	-	-	X	X	X	X	-	-
glabratus											
ssp. utahensis	-	-	-	-	-	-	-	-	X	-	-
guttatus											
var. guttatus	X	X	X	X	X	X	X	X	X	X	X
lewisii	X	X	-	X	-	X	X	-	-	-	X
mephiticus	-	-	-	-	-	-	-	X	-	-	-
moschatus											
var. moschatus	X	X	-	-	-	-	X	X	-	-	-
nanus	-	-	-	-	-	-	X	-	X	X	-
nasutus	-	-	-	-	-	-	-	-	X	-	-
patulus											
ssp. montanus	-	-	-	-	-	X	X	-	-	-	-
(M. breviflorus)											
pilosus	-	-	-	-	-	-	-	-	X	-	-
primuloides											
var. primuloides	-	-	-	-	-	-	X	X	X	-	-
rubellus	-	-	-	-	X	-	-	X	X	-	-
suksdorfii	-	-	-	X	-	X	-	X	X	-	X
tilingii											
var. tilingii	-	X	-	X	-	-	X	X	X	-	-
Orthocarpus											
copelandii											
var. crytanthus	-	-	-	-	-	-	-	X	-	-	-
hispidus	-	-	-	-	-	-	X	X	-	X	-
luteus	X	X	X	X	X	X	-	-	X	-	-
tenuifolius	-	-	-	-	-	-	X	-	-	-	-
Pedicularis											
attolens											
ssp. attolens	-	-	-	-	-	-	-	X	-	-	-
bracteosa											
var. paysoniana	X	X	-	X	X	X	X	-	-	-	-
centranthera	-	-	-	-	X	-	-	-	X	-	-
contorta											
var. contorta	-	-	-	-	-	X	X	-	-	-	X
cystopteridifolia	-	-	-	X	-	-	-	-	-	-	-
groenlandica	X	X	-	X	X	X	X	X	-	-	-
parryi											
var. parryi	-	X	-	X	X	X	-	-	-	-	-
var. purpurea	X	-	-	X	-	X	-	-	-	-	-
procera	-	-	-	-	X	X	X	-	-	-	-
pulchella	-	-	-	X	-	-	-	-	-	-	-
racemosa											
var. alba	X	X	-	X	X	X	X	-	-	-	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
semibarbata											
var. semibarbata	-	-	-	-	-	-	-	X	-	-	-
Penstemon											
albidus	-	-	X	-	-	-	-	-	-	-	-
angustifolia											
var. angustifolia	-	-	X	-	-	-	-	-	-	-	-
arenarius	-	-	-	-	-	-	-	-	X	-	-
arenicola	-	X	-	X	-	X	-	-	-	-	-
aridus	X	-	-	-	-	-	-	-	-	-	-
attenuatus											
var. pseudoprocerus	X	X	-	-	-	X	X	-	-	-	-
bridgesii	-	-	-	-	-	-	-	X	-	-	-
caespitosus											
var. caespitosus	-	-	-	-	X	-	-	-	-	-	-
cleburnei	-	-	-	X	-	-	-	-	-	-	-
comarrhenus	-	-	-	-	X	-	-	-	-	-	-
confertus											
var. procerus	-	-	-	X	-	-	-	-	-	-	-
cyanathus	-	-	-	-	-	-	-	-	-	-	X
cyaneus	X	-	-	X	-	-	-	-	-	-	-
davidsonii											
var. davidsonii	-	-	-	-	-	-	-	X	-	X	-
deustus											
var. deustus	X	X	-	X	-	X	X	-	X	X	-
eatonii	-	-	-	-	-	-	-	-	X	-	-
eriantherus											
var. cleburnei	-	X	-	-	-	-	-	-	-	-	-
var. eriantherus	-	X	X	X	-	-	-	-	-	-	-
var. redactus	X	-	-	-	-	-	-	-	-	-	-
fremontii											
var. fremontii	-	-	-	-	X	-	-	-	-	-	-
fruticosa											
var. fruticosa	X	X	-	-	-	-	X	-	-	-	-
glaber	-	X	X	X	-	-	-	-	-	-	-
globosus	-	-	-	-	-	-	X	-	-	-	-
gracilis	-	-	X	-	-	-	-	-	-	-	-
grandiflorus	-	-	X	-	-	-	-	-	-	-	-
harringtonii	-	-	-	-	X	-	-	-	-	-	-
heterodoxus											
var. heterodoxus	-	-	-	-	-	-	-	X	-	-	-
humilis											
var. humilis	-	X	-	X	-	X	X	-	X	X	-
immanifestus	-	-	-	-	-	-	-	-	X	-	-
janishiae	-	-	-	-	-	-	-	-	X	-	X
kingii	-	-	-	-	-	-	-	-	X	X	-
laricifolius											
var. laricifolius	-	-	-	X	-	-	-	-	-	-	-
montanus											
var. montanus	X	X	-	X	-	X	-	-	-	-	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
<i>newberryi</i>											
ssp. <i>newberryi</i>	-	-	-	-	-	-	-	X	-	-	-
<i>nitidus</i>											
var. <i>nitidus</i>	-	X	X	-	-	-	-	-	-	-	-
<i>osterhoutii</i>	-	-	-	-	X	-	-	-	-	-	-
<i>palmeri</i>											
var. <i>macranthus</i>	-	-	-	-	-	-	-	-	X	-	-
<i>payettensis</i>	-	-	-	-	-	-	X	-	-	-	-
<i>pratensis</i>	-	-	-	-	-	-	-	-	X	-	-
<i>procerus</i>											
var. <i>formosus</i>	-	-	-	-	-	-	-	X	X	-	-
var. <i>procerus</i>	X	X	-	-	X	X	X	-	-	-	-
<i>radicosus</i>	X	X	-	X	-	X	-	-	-	X	X
<i>rostriflorus</i>	-	-	-	-	-	-	-	X	X	-	-
<i>rydbergii</i>											
var. <i>rydbergii</i>	-	-	-	X	X	-	X	-	-	X	X
var. <i>varians</i>	X	-	-	-	-	-	-	X	X	-	-
<i>saxosorum</i>	-	-	-	-	X	-	-	-	-	-	-
<i>spatulatus</i>	-	-	-	-	-	-	X	-	-	-	-
<i>speciosus</i>	-	-	-	-	-	-	X	X	X	X	-
<i>strictus</i>	-	-	-	-	X	X	-	-	-	-	-
<i>subglaber</i>	-	-	-	X	-	X	-	-	-	-	-
<i>thompsoniae</i>	-	-	-	-	-	-	-	-	X	-	-
<i>venustus</i>	-	-	-	-	-	-	X	-	-	-	-
<i>watsonii</i>	-	-	-	-	X	-	-	-	X	X	-
<i>whippleanus</i>	X	X	-	X	X	X	-	-	-	-	-
<i>wilcoxii</i>	-	-	-	-	-	-	X	-	-	-	-
<i>Scrophularia</i>											
<i>desertorum</i>	-	-	-	-	-	-	-	X	X	-	-
<i>lanceolata</i>	X	-	X	-	X	-	X	-	X	-	X
<i>Synthyris</i>											
<i>missurica</i>	-	-	-	-	-	-	X	-	-	-	-
<i>Verbascum</i>											
<i>blattaria</i>	-	-	-	-	-	-	X	-	-	-	-
<i>thapsus</i>	X	X	X	-	X	X	X	X	X	-	X
<i>Veronica</i>											
<i>americana</i>	X	X	X	X	X	X	X	X	X	X	X
<i>anagallis-aquatica</i>	-	-	-	-	X	-	-	-	X	-	-
<i>arvensis</i>	-	-	X	-	-	-	X	-	-	-	-
<i>biloba</i>	X	X	X	X	X	X	-	-	-	-	-
<i>catenata</i>	-	-	X	-	X	-	-	-	-	-	-
<i>cusickii</i>	-	-	-	-	-	-	X	-	-	-	-
<i>peregrina</i>											
var. <i>xalapensis</i>	-	X	X	X	X	X	X	X	X	-	X
<i>scutellata</i>	-	X	-	-	-	X	-	-	-	-	-
<i>serphyllifolia</i>											
var. <i>humifusa</i>	-	X	X	X	X	X	-	X	-	-	-
var. <i>serpyllifolia</i>	X	-	-	-	-	-	X	-	X	-	X
<i>triphyllus</i>	-	-	-	-	-	-	X	-	-	-	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
wormskjoldii	X	X	-	X	X	X	X	X	-	-	-
Selaginellaceae											
Selaginella											
densa											
var. densa	-	-	X	X	X	X	-	-	-	-	-
var. scopulorum	X	X	-	X	-	-	-	-	-	-	-
rupestris	-	-	X	-	-	-	-	-	-	-	-
selaginoides	-	-	-	-	-	X	-	-	-	-	-
wallacei	-	-	-	-	-	-	X	-	-	-	-
watsonii	-	-	-	-	-	-	-	X	-	-	X
Solanaceae											
Hyoscyamus											
niger	X	-	X	-	X	X	-	-	-	-	-
Leucophysalis											
nana	-	-	-	-	-	-	-	X	-	-	-
Lycium											
andersonii	-	-	-	-	-	-	-	-	X	-	-
halmifolium	-	-	X	-	-	-	-	-	-	-	-
Nicotiana											
attenuata	-	-	-	-	-	X	-	X	X	-	-
Physalis											
heterophylla											
var. heterophylla	-	-	X	-	-	-	-	-	-	-	-
virginiana											
var. sonora	-	-	X	-	-	-	-	-	-	-	-
Solanum											
niger	-	-	X	-	-	-	-	-	-	-	-
rostratum	-	-	X	-	-	-	-	-	-	-	-
triflorum	-	X	X	-	-	-	-	-	X	-	-
Sparganiaceae											
Sparganium											
angustifolium	-	-	-	-	X	X	X	-	-	-	-
emersum											
var. multipedunculatum	X	-	X	X	-	X	-	-	-	-	-
minimum	-	X	-	-	-	-	X	-	-	-	-
Tamaricaceae											
Tamarix											
chinensis	-	-	X	-	X	X	-	-	-	-	-
parviflora	-	-	-	-	-	-	-	-	X	-	-
Typhaceae											
Typha											
angustifolia	-	-	X	-	-	-	-	-	-	-	-
latifolia	X	X	X	-	X	X	X	X	X	-	X
Ulmaceae											
Ulmus											
americana	-	-	X	-	-	-	-	-	-	-	-
pumila	-	-	X	-	X	-	-	-	-	-	-

	CR	YE	BH	SA	NC	WR	WA	SP	CN	SR	RR
Urticaceae											
Parietaria											
pennsylvanica	-	-	X	-	X	-	-	-	-	-	-
Urtica											
dioica											
ssp. gracilis	X	X	X	X	X	-	X	-	X	X	X
ssp. holosericea	-	-	-	X	-	-	-	X	-	-	-
var. procera	-	-	-	-	X	X	-	-	-	-	-
Valerianaceae											
Plectritis											
macrocera											
ssp. grayii	-	-	-	-	-	-	-	X	X	X	-
Valeriana											
acutiloba											
var. pubicarpa	X	-	-	-	X	X	-	-	X	X	X
californica	-	-	-	-	-	-	-	X	-	-	-
dioica											
var. sylvatica	X	X	-	X	-	-	-	-	-	-	-
edulis											
var. edulis	X	X	X	X	X	X	X	-	X	X	-
occidentalis	X	X	X	X	X	X	-	-	X	X	X
sitchensis	-	-	-	-	-	-	X	-	-	-	-
Verbenaceae											
Glandularia											
bipinnatifida	-	-	X	-	-	-	-	-	-	-	-
bracteata	-	X	X	-	X	X	-	-	X	-	-
hastata	-	-	X	-	-	-	-	-	-	-	-
stricta	-	-	X	-	-	-	-	-	-	-	-
Violaceae											
Viola											
adunca											
var. adunca	-	X	X	X	X	X	X	-	-	X	X
var. bellidifolia	X	-	-	X	-	-	-	-	-	-	-
bakeri											
ssp. bakeri	-	-	-	-	-	-	-	X	-	-	-
beckwithii	-	-	-	-	-	-	-	-	-	X	-
canadensis											
var. canadensis	-	-	-	X	X	-	-	-	-	-	-
var. rugulosa	-	-	X	X	-	-	-	-	-	-	-
glabella	-	-	-	-	-	-	X	-	-	-	-
macloskeyoi											
var. macloskeyoi	-	-	-	-	-	-	-	X	-	-	-
var. pallens	-	-	-	X	-	-	X	-	-	-	-
nephrophylla	X	-	X	-	-	X	X	X	X	-	-
nuttallii											
var. major	X	X	X	X	X	-	X	-	X	X	-
orbiculata	-	X	-	-	-	-	X	-	-	-	-
palustris											
var. palustris	-	X	-	-	X	X	X	-	X	-	X



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