

A FLORISTIC INVENTORY OF GRAND TETON NATIONAL PARK,  
PINYON PEAK HIGHLANDS, AND VICINITY, WYOMING, U.S.A.

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ABSTRACT

Federal lands totaling 766 mi<sup>2</sup> (198,393 ha) of Grand Teton National Park, the John D. Rockefeller Jr. Memorial Parkway, Bridger-Teton National Forest (Pinyon Peak Highlands), and Targhee National Forest (Wyoming's northern portion) were inventoried. Collected were 8,002 vouchers of vascular plants at 375 locations. They represent 962 unique taxa (904 species) in 347 genera and 86 families. For the Park and Parkway proper, the relevant numbers are 909 unique taxa (861 species, 42 infraspecies, and 6 hybrids); 112 of which are new records. One escaped ornamental was documented as new to the State. Species of conservation concern (Wyoming Natural Diversity Database) totaled 42. Exotics to North America (72 unique taxa) represented 7.5 percent of the flora, a relatively low number when compared to similar inventories in Wyoming.

RESUMEN

Fueron inventariados territorios Federales que totalizan 766 millas cuadradas (198,393 ha) del Grand Teton National Park, el John D. Rockefeller Jr. Memorial Parkway, Bridger-Teton National Forest (Pinyon Peak Highlands), y Targhee National Forest (porción norte de Wyoming). Se colectaron 8,002 testigos de plantas vasculares en 375 localizaciones. Estos representan 962 taxa únicos (904 especies) de 347 géneros y 86 familias. Para el Park y Parkway propiamente dicho, los números son 909 taxa únicos (861 especies, 42 taxa infraespecíficos, 6 híbridos); 112 de los cuales son nuevas citas. Se citó una ornamental escapada nueva para el estado. Las especies protegidas (Wyoming Natural Diversity Database) fueron 42. Exóticas para Norte América (72 taxa únicos) representaron el 7.5 por ciento de la flora, un número relativamente bajo cuando se compara con inventarios similares de Wyoming.

INTRODUCTION

This contribution discusses a broad-scale inventory of the vascular plants documented on federal lands of the southern Greater Yellowstone Ecosystem. The areas are: Grand Teton National Park (Park), the John D. Rockefeller Jr. Memorial Parkway (Parkway), the northern-most portion of Targhee National Forest (Targhee) in Wyoming, and a remote segment of the Bridger-Teton National Forest (Highlands). This region is known for its lack of human developments and its wild character. Inventories had been conducted on lands adjacent to the current one: the Southwest Absarokas (Snow 1989); the Targhee National Forest (Markow 1994); and the Gros Ventres and Mount Leidy Highlands (Hartman 1996; Lichvar 1979).

This botanical inventory is part of the larger effort by the Rocky Mountain Herbarium (RM) to produce a critical flora of the Rocky Mountains and to map, based on vouchered specimen, the distributions of its taxa in relatively fine detail (Hartman 1992; Hartman & Nelson 2008; Hartman et al. 2009; Reif et al. 2009). To this end, over 64 (48 as Master's degree projects) major floristic inventories have been conducted during the past 32 years in Arizona, Colorado, Idaho, Kansas, Montana, Nebraska, New Mexico, Oregon, South Dakota, Utah, Washington, and Wyoming. Over 600,000 new numbered collections have been obtained by graduate students, staff, and research associates of the RM. These specimens form the core of the Rocky Mountain Herbarium plant specimen database (700,000+ specimen record, 25,000+ specimen images) (Hartman et al. 2009).

**Study area.**—The lands surveyed lie in the Greater Yellowstone Ecosystem of northwest Wyoming, wholly within Teton County (Figure 1). They belong to the Middle Rocky Mountain Province (Horberg 1938).

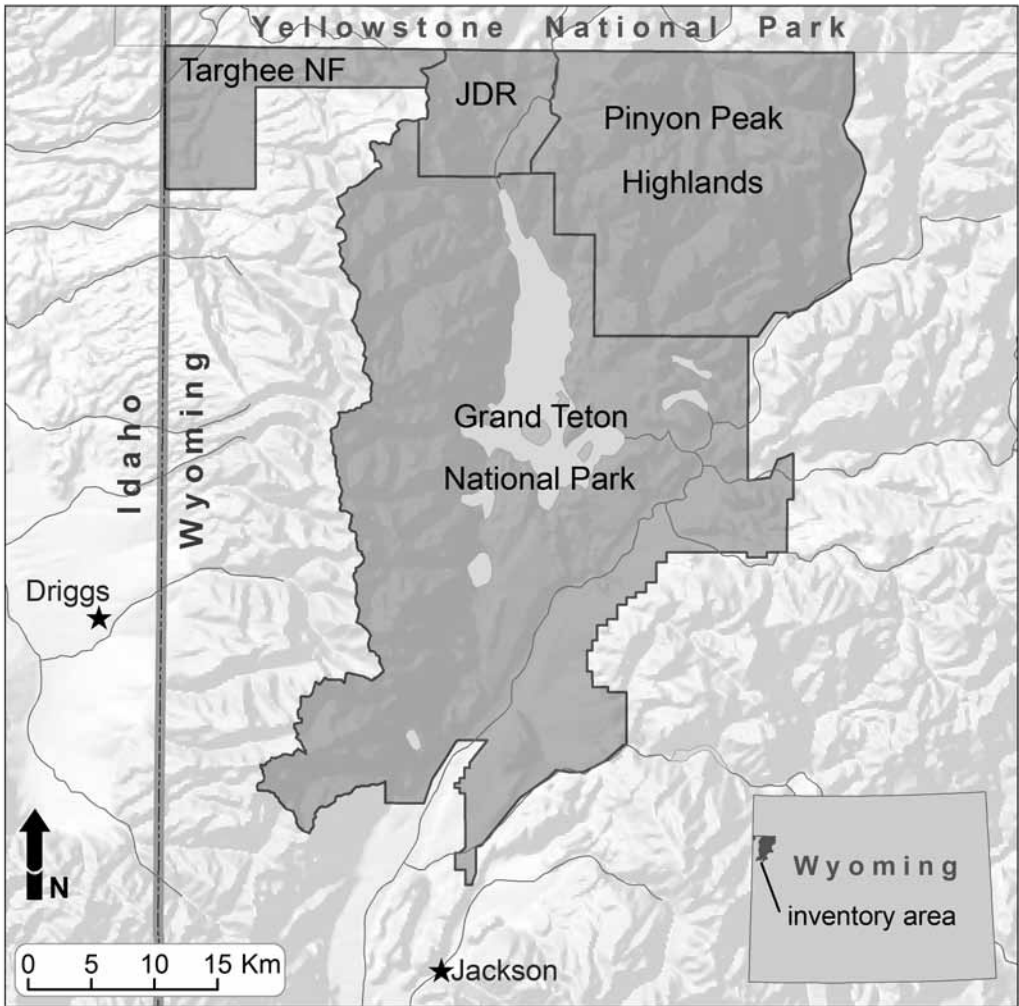


FIG. 1. Boundaries of the federal lands included in the floristic inventory: Grand Teton National Park, John D. Rockefeller Jr. Memorial Parkway, Bridger-Teton National Forest (Pinyon Peak Highlands), and a portion of the Targhee National Forest, Wyoming. The area is located in extreme northwest Wyoming, just south of Yellowstone National Park.

The unique geology and associated topography coupled with three converging floristic regions (Rocky Mountain, Great Basin, and northern Great Plains) yield a highly diverse flora.

The National Park Service administers the bulk of the lands. Grand Teton National Park and the John D. Rockefeller Jr. Memorial Parkway total 521 mi<sup>2</sup> (134,938 ha). To the east, the contiguous western portion of the Teton Wilderness, Bridger-Teton National Forest, consists of 194 mi<sup>2</sup> (50,246 ha). Finally, the Wyoming section of the Targhee National Forest, immediately west of the Parkway, totals 51 mi<sup>2</sup> (13,209 ha). Thus, the inventory covered 766 mi<sup>2</sup> (490,240 acres; 198,393 ha) of public lands.

**Boundaries.**—The western boundary is along the Teton Divide, from near Jackson Hole Mountain Resort on the south to the Parkway (Figure 1). It continues west to Indian Lake on the Targhee, north to the southern edge of Yellowstone National Park, and east to Gravel Creek, in the Pinyon Peak Highlands. The eastern delineation follows Pacific Creek southward to and along the eastern edge of the Park. On the

south, it extends west (four miles north of Jackson) where it completes the loop at the Resort. The area lies between approximately N44°07' and N43°32' latitude, north and south, respectively; likewise W110°25' and W111°01' longitude, east and west.

**Topography.**—The Teton landscape is nothing short of spectacular. The range rises abruptly from the valley floor (Jackson Hole) with a maximum relief of 6,772 feet (2,064 m). Glaciers and permanent snowfields occur on north and east exposures at high elevations. The Grand Teton rises to an elevation of 13,770 feet (4,197 m) with associated peaks extending to the north and south, along the Teton Divide, for a total distance of 40 miles (64 km).

In contrast, rolling hills and abundant wetlands characterize the Targhee (west of the Parkway). These wetlands, perpetuated by groundwater discharge and general runoff, are often extensive and complex in structure. The floating peat mats and ephemeral ponds provided novel habitats.

The Parkway bridges the northern slope of the Teton Range and the Yellowstone Plateau. It contains extensive wetlands including thermal springs and pools. A rolling topography dissected by the Snake River contributes to the landscape.

The Pinyon Peak Highlands lie east of the Parkway and the Park. Some shared features are porous volcanic soils and rolling terrain. The remote region is indeed a “perched highlands” with its namesake Pinyon Peak (9,705 feet; 2,958 m) (Whitlock 1993; Love et al. 2003). Although mostly montane, a number of scattered peaks provide subalpine environments. The Highlands drain to the south and then into Jackson Hole. Much of the Teton Wilderness was burned by “The Yellowstone Fire” of 1988 (Christensen et al. 1989).

Lowest in elevation is Jackson Hole, a flat valley dominated by sagebrush. It is the downthrown block of the Teton Fault that gave rise to the Tetons (Love et al. 2003). It ranges in elevation from 6,354 to 6,772 feet (1,937–2,064 m). The Snake River bisects Jackson Hole creating braided channels with oxbow ponds. Many of the lakes were formed by glaciers descending from the Yellowstone plateau or the Tetons near the end of the Pleistocene (Love et al. 2003).

**Climate.**—Reliable long-term weather data are from the Moose, Moran, and Snake River weather stations (Curtis & Grimes 2004). Average daily high and low temperatures for the Moran station, centrally located and most representative of the area, are 69 and 37, 79 and 42, and 78 and 40° F for June, July and August, respectively (21 and 3, 26 and 6, 26 and 4° C) (HPRCC 2010). From 1933 through 2002, the highest recorded temperature was 97° F (36° C) at Moose while the lowest recorded temperature was -63° F (-53° C) at Moran. The extreme northwest corner of Wyoming is generally the coldest. The high latitude and high elevation makes it subject to the passage of cold polar air masses (Dirks & Martner 1982). As a consequence, cold air becomes trapped in the valleys and radiative heat loss from snow-covered surfaces increases winter cooling (Dirks & Martner 1982). Average summer frost-free periods are short: 14 days at Moran, 29 days at Moose (Becker et al. 1961).

Most precipitation falls as snow (Knight 1994). Estimated annual snowfall at higher elevations ranges from 200 to 500 inches (508–1,270 cm) (Farnes 1974). In the Tetons, melt water flows from alpine snowpacks throughout the summer. Summer brings the dry period with average rains totaling a mere 4.12 inches (10.5 cm) for June, July, and August at Moran (period 1911–2010) (HPRCC 2010). A predominant west to southwest flow of air delivers both winds and thunderstorms in the summer. This is also true of frontal winds in winter (Curtis & Grimes 2004), although they may range from north to south.

**Geology and geomorphology.**—The greater Teton landscape is the result of three regional mountain-building phases. First, the Sevier Orogeny of the Cretaceous caused widespread compression of the Rocky Mountain region (Love et al. 2003). Thus, sedimentary strata were pushed eastward to the southern Tetons as evidenced by the Teton-Gros Ventre uplift. Second, and partially concurrent, was the Laramide Orogeny that began in late Cretaceous (70 mya). It led to the first significant uplift of the Tetons, again due to compression. Thrust activity along the Buck Mountain, Cache Creek, and Forellen Peak faults elevated the basement Precambrian. These include the Mount Owen Granite, Webb Canyon Gneiss, and Rendezvous Metagabbro, some of the oldest rocks in Wyoming with an estimated age of 2.68 billion years (Love et al.

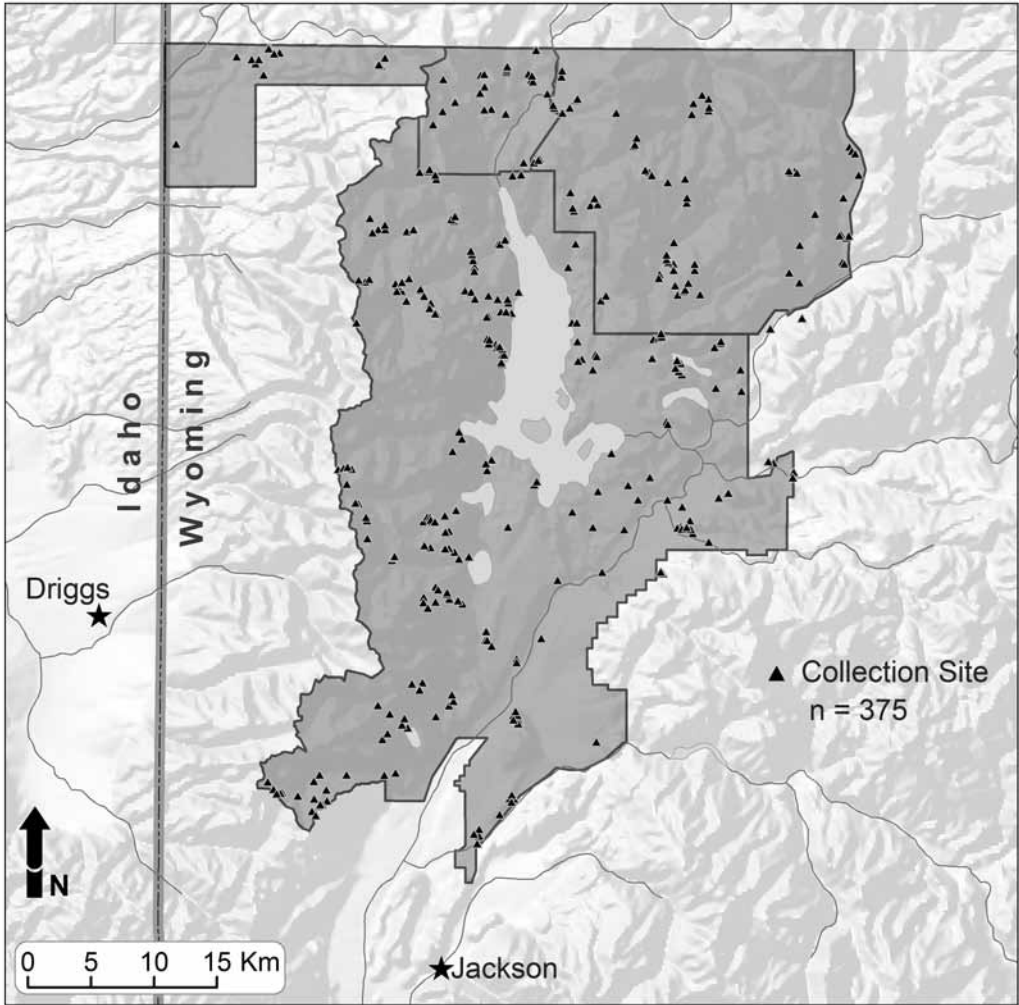


FIG. 2. Localities surveyed in the floristic inventory of Grand Teton National Park and the Pinyon Peak Highlands, Wyoming. The total number of collecting sites was 375; GPS coordinates were recorded for each.

2003). Correspondingly, erosion stripped away the overlying sedimentary layers of Lower Paleozoic age. Third, the largest uplift in the Tetons occurred in recent geologic time (7.5 mya). Movement along the Teton fault, due to extension or pulling, allowed the downthrusting of the Jackson Hole block and an uplift of the Teton block (5 to 1 ratio of drop to lift) (Love et al. 2003). The high and steep east face of the Tetons thus is largely a result of the subsidence of Jackson Hole.

The northern portion of the area has been influenced primarily by the Yellowstone Plateau Volcanic Field. The subterranean plume of superheated magma has led to repeated volcanic activity during the past 2.1 million years (Pierce & Morgan 2009). Furthermore, as the plume is more buoyant, the elevation of the Plateau increased. Two recent volcanic eruptions have shaped the geology. The first was when hot gases and ash poured south into the Highlands, the Parkway, and the Targhee. The resulting tuff (Huckleberry Ridge formation) is widespread across the northern portion of these areas. A later eruption produced the Lewis Canyon Rhyolite, evident in the Parkway (Love et al. 1992).

The Yellowstone Plateau has also influenced the surficial geology by hosting ice masses during the last two glacial periods (Bull Lake and Pinedale). The Plateau's high elevation and cold temperatures produced orographic precipitation that formed large ice sheets. The sheets moved south due to the elevational gradient. The penultimate event, Bull Lake glaciations, (maximum 155,000 years ago) covered most of Jackson Hole and areas to the south (Pierce & Good 1992; Love et al. 2007). Smaller glaciers in the canyons of the Tetons joined this Yellowstone ice mass. It is likely that only the highest elevations in the Tetons and the Highlands were exposed.

The Pinedale glacial maximum (25,000 years ago) also influenced the surficial geology of Jackson Hole (Pierce 2003). The process parallels that of the Bull Lake event but the Yellowstone ice sheet only extended to just south of Jackson Lake. One result was the scouring of the basin now occupied by Jackson Lake (maximum depth 800 feet, 244 m; currently 446 feet, 136 m, deep to sediment level) (Brewer & Thompson 1991; Love et al. 2007).

Many lakes formed on the valley bottom due to scouring (the largest being Emma, Matilda, Two Ocean, Leigh, Jenny). Fine scale effects include numerous pothole ponds (Knight 1994). Finally, when the Yellowstone ice sheet receded, glacial outwash and rivers redistributed large quantities of cobblestone, gravel, and sand.

#### METHODS

The procedures largely follow practices employed by students and staff at the Rocky Mountain Herbarium for inventories in the region (Hartman 1992; Hartman & Nelson 2008). The main objective is to collect the diversity of vascular plants, in a stratified manner, throughout the growing season. We collected in these four areas during the summers of 2006 (May 27 to Aug 22) and 2007 (June 12 to August 22).

Some specifics on methodology are as follows. When collecting, a route was chosen to sample the greatest diversity of plant habitats. GPS coordinates were taken every 0.5 mile (0.8 km) or less. Often a unique habitat (e.g., bog, neoglacial deposit, alpine communities) was preselected as the destination with frequent collecting in route. About half of the routes were off-trail. The total number of collecting sites was 375 (Figure 2). For rare plants (as designated by the Wyoming Natural Diversity Database, University of Wyoming) (WYNDD), vouchers were taken only for populations that consisted of 20 or more individuals. Specimens were processed at the University of Wyoming/National Park Service Research Station (the AMK Ranch) near Leeks Marina in the Park.

The dried specimens were identified at the RM using appropriate taxonomic literature and then compared with authenticated material. Data for each collection were entered into the RM database (Hartman et al. 2009). The original set of vouchers is housed at the RM and a representative set of duplicates are at the Bridger-Teton National Forest Herbarium in Jackson. The RM vouchers have been mounted and imaged (16.7 megapixels, Canon Mark II). Each high-resolution image is attached to the corresponding entry in the database. They may be viewed from University of Wyoming Digital Initiative website (UWDI 2010) along with the 6,360 images (and database) of specimens housed at the Grand Teton National Park Herbarium (GTNP) (UWDI 2010).

#### RESULTS AND DISCUSSION

##### **Vegetation Types**

Two systems of classification are commonly used to describe plant communities. The first is "community typing" which is based on "existing" vegetation of an area (Cogan et al. 2005). This classification describes assemblages of plants where the dominant species is often used as part of its name. The second system, "habitat typing," describes a community as it would be at "climax." It is a theoretical approach that incorporates succession (Anderson 1986). The following discussion will refer primarily to plant communities of the area – *as they exist today* – yet some comments will cover successional processes as used with habitat typing. This discussion facilitates the listing of relevant vegetation types for each taxon in the Annotated Checklist.

### Forests and Woodlands

*Subalpine Mixed-Conifer Forest.*—Upper treeline is characterized by krummholtz growth forms of subalpine fir (*Abies lasiocarpa*) and Engelmann spruce (*Picea engelmannii*). Here, the low-growing common juniper (*Juniperus communis*) may be found. Whitebark pine (*Pinus albicaulis*) is frequent in the subalpine of the Park and in the Highlands where it may be dominant or co-dominant. The *Pinus albicaulis/Vaccinium scoparium* association is most frequent in the Park (Cogan et al. 2005).

The subalpine zone (8,800–9,500 feet; 2,682–2,896 m) is dominated by subalpine fir – Engelmann spruce forests. Seven associations of this type have been described solely for the Park and the Parkway (Cogan et al. 2005), but in most cases this degree of detail will not be addressed. *Acer glabrum* var. *glabrum* and *Ribes montigenum*, are common in the understory of these forests. Named associations include these two shrubs and the following understory species: *Arnica cordifolia*, *Arnica latifolia*, *Luzula glabrata* var. *hitchcockii*, and *Vaccinium scoparium*. A few otherwise conspicuous taxa are *Trisetum spicatum*, *Hedysarum occidentale*, and *Viola purpurea* ssp. *venosa*.

*Montane Mixed-Conifer Forest.*—These forests are widespread in a zone from 6,400 to 8,900 feet (1,950–2,713 m). Most common is lodgepole pine forest (*Pinus contorta*) with subalpine fir or Engelmann spruce in the understory; thus the broader category, montane mixed conifer. At climax these communities have the last two conifers as dominants; lodgepole pine is nearly always seral (Steele et al. 1983; Habeck 1987).

### Shrublands

*Montane Shrubland.*—Montane slopes are often dominated by shrubs. First is the deciduous shrub community often associated with steep avalanche chutes. Frequent snow slides promote the growth of *Amelanchier* spp., *Sorbus scopulina* var. *scopulina*, *Acer glabrum* var. *glabrum*, *Salix* spp., *Vaccinium* spp., and dwarf individuals of aspen (*Populus tremuloides*). A second is the *Ceanothus velutinus* community that occupies burned areas (Cogan et al. 2005). Associated species are *Symphoricarpos oreophilus* var. *utahensis* and young lodgepole pines. The last shrubland type is usually dominated by *Prunus virginiana* and *Amelanchier* spp. This community type intergrades with Montane Meadow.

*Sagebrush Shrubland.*—A great deal of interest has centered on the vast expanses of sagebrush shrublands visible across Jackson Hole. Research findings regarding its attributes, in the context of wildlife habitat, are prevalent in the literature (Reed 1952; Martinka 1969; McGee 1982; Chong et al. 2011), yet it has also been described in terms of its floristic elements (Shaw 1958). These areas are easily accessible and thus much-studied. In fact, seventeen associations have been described in the Park and the Parkway where sagebrush species are dominant or codominant (Cogan et al. 2005).

Main shrub components are four species of sagebrush including the most common, *Artemisia tridentata* ssp. *vaseyana*. The other woody taxa are *Purshia tridentata*, *Symphoricarpos oreophilus* var. *utahensis*, and *Linanthus pungens*. The most widespread associations are *Artemisia tridentata* var. *vaseyana*–*Purshia tridentata*/*Festuca idahoensis*, *Artemisia tridentata* var. *vaseyana*/*Hesperostipa comata*, and *Artemisia tridentata* var. *vaseyana*/*Poa pratensis*.

A rich assemblage of grasses and over a hundred species of forbs can be found in these communities (Reed 1952). Typical grasses are *Achnatherum lettermanii*, *Danthonia intermedia*, *Poa wheeleri*, *Poa pratensis*, and *Pseudoroegneria spicata* ssp. *spicata*. Ubiquitous sedges are *Carex geyeri*, *Carex rossii*, and *Carex hoodii*. Forbs include *Lupinus argenteus* ssp. *rubricaulis*, *Erigeron eatonii* var. *eatonii*, *Astragalus miser* var. *praeteritus*, *Antennaria rosea*, and *Crepis acuminata*.

*Willow Bottomland.*—Drainages in the lowlands typically are lined by willows while broad canyons with low stream gradients host large areas dominated by willows with occasional stands of blue spruce (*Picea pungens*) or Engelmann spruce. Seasonal flooding may be responsible for adjacent wetlands. Twenty-three associations have been described including distinctive ones with *Salix wolfii* and *Salix geyeriana* (Cogan et al. 2005). Understory diversity is represented by *Angelica arguta*, *Cirsium scariosum*, *Solidago canadensis* var. *salebrosa*, *Betula glandulosa*, *Carex aquatilis* var. *aquatilis*, *Gentianella amarella*, *Mimulus guttatus*, and *Galium trifidum* ssp. *subbiflorum*.

## Herblands

*Alpine Tundra and Talus.*—True alpine conditions promote perennial tufted or mat-forming herbs and ground-hugging shrubs; they are limited to the Park. Topography and aspect dictate the elevation of these communities but most occur above 9,500 feet (2,896 m) (Spence & Shaw 1981). Unique are dwarf shrublands dominated by *Salix arctica*, just above treeline (Cogan et al. 2005). Here and elsewhere are mosaics of meadows, barren areas, patterned ground formed by cryogenic perturbation of soils, rock outcrop, and talus with significant areas consisting of shear rock.

Common mat-formers on the driest microsites include *Phlox multiflora*, *Minuartia obtusiloba*, and *Sibbaldia procumbens*. Representative graminoids include *Agrostis scabra*, *Juncus parryii*, *Carex paysonis*, and *Poa alpina*; also *Deschampsia cespitosa* on mesic sites. Species often associated with cliffs, rock crevices, and talus include *Saxifraga bronchialis* ssp. *austromontana*, *Smelowskia calycina* var. *americana*, *Cryptogramma acrostichoides*, and *Telesonix heucheriformis*.

*Subalpine Meadow and Talus.*—Meadows adjacent to the subalpine forests vary greatly in size. About half of this zone is characterized by these meadows. They may be lush with tall forb assemblages dominated by *Symphotrichum ascendens* or *Erigeron peregrinus* ssp. *callianthemus* with a minimal cover of grasses.

The herbaceous perennials *Castilleja sulphurea*, *Epilobium anagallidifolium*, and *Phleum alpinum* are common. Talus slopes and rocky outcrops including cliffs provide habitat for *Leucopoa kingii*, *Erysimum capitatum* var. *capitatum*, and *Penstemon whippleanus*. Mesic sites or stream sides are often inhabited by *Carex microptera*, *Kalmia microphylla*, *Mertensia ciliata*, and *Dodecatheon pulchellum* ssp. *pulchellum*.

*Sparsely Vegetated Montane or Subalpine Slope.*—Hillsides with the Sparsely Vegetated Montane communities cover extensive areas of the Highlands. They may intergrade with xeric montane grasslands (Cogan et al. 2005) or with limber pine communities (*Pinus flexilis*) that often include Douglas-fir (*Pseudotsuga menziesii*). Rockslides and talus may be placed under the Subalpine Slope type. Frequent associates on open slopes are *Mahonia repens*, *Lomatium ambiguum*, *Crepis* spp., *Phacelia hastata* var. *hastata*, and *Penstemon cyaneus*.

*Montane Meadow.*—A xeric montane meadow community occurs in the Pinyon Peak Highlands (Cogan et al. 2005). Dry conditions are promoted by well-drained soils or southern exposures; grasses are dominant. More common are the moister meadows with abundant forb cover. Elevations range from 6,500 feet (1,981 m) in the vicinity of Jackson Hole to about 8,800 feet (2,682 m) where they transition to subalpine meadow. Frequent forbs are *Balsamorhiza sagittata*, *Linum lewisii* var. *lewisii*, *Hieracium albiflorum*, *Achillea millefolium* var. *occidentalis*, and *Taraxacum* spp., whereas graminoids include *Melica spectabilis*, *Poa secunda*, *Poa pratensis*, *Carex hoodii*, and *Bromus carinatus*.

*Mesic Montane Meadow.*—These diverse communities occur at montane elevations but with wet conditions throughout the growing season. Intergradation into stream and seep communities is frequent and some are influenced by thermal springs in the Parkway. Associations listed for the Park and the Parkway are *Mertensia ciliata*, *Heracleum maximum*–*Rudbeckia occidentalis*, *Geranium viscosissimum*, and *Ligusticum filicinum*–*Delphinium occidentale* type which intergrade into subalpine meadows (Cogan et al. 2005). Recurring species include *Gentianopsis thermalis*, *Deschampsia cespitosa*, *Senecio integerrimus* var. *exaltatus*, *Perideridia gairdneri* ssp. *borealis*, and *Calamagrostis canadensis*.

*Montane Grassland.*—They occur in areas on or near Jackson Hole and are frequently adjacent to sagebrush shrublands. Pastures or old fields also may be of this type. Burned sagebrush communities, not classified under “burned area,” usually fall into this category. Representatives include *Koeleria macrantha*, *Poa pratensis*, *Bromus inermis* ssp. *inermis*, and *Antennaria rosea*.

## Hydrologically-Influenced Vegetation

*Aquatic.*—The majority of aquatic habitats are ponds, lakes, and fens occurring below the alpine. Unique aquatic habitats include thermal pools and streams. Free-floating aquatics include *Lemna* spp., while common rooted taxa with floating leaves include *Nuphar lutea* ssp. *polysepala*, *Sagittaria cuneata*, and *Potamogeton* spp. Largely submerged species, often overlooked, include *Isoetes bolanderi* and *Utricularia macrorhiza*.

*Scoured Streambed.*—Floristically diverse areas heavily influenced by flood runoff are described below

(Reed 1952). They typically occur where streambeds have a low gradient, such as in the Highlands, northern portions of the Park, and the Parkway. Deposits of sand, gravel, and cobble are often in ribbon mosaics and are typically wet or moist. Sedges and rushes are common, as are species adapted to disturbed areas. Frequently, plants of higher elevations shed propagules that are washed downstream to low elevations, thus appearing as oddities. Woody species may include *Picea pungens* and *Populus angustifolia*; herbs may consist of *Epilobium* spp., *Platanthera* spp., *Heterotheca villosa* var. *depressa*, *Juncus saximontanus*, *Trifolium* spp., *Potentilla arguta*, and *Crepis tectorum*. A local endemic, *Stephanomeria fluminea*, is limited to these habitats.

*Stream and Seep*.—Perennial and ephemeral riparian habitats and springs are here included. Intergradation with mesic montane meadow, subalpine meadow, scoured streambed, aquatic habitats, willow bottomland, and even montane mixed-conifer forest are possible and may form mosaics. Thus, these communities are diverse and may support *Equisetum arvense*, *Equisetum laevigatum*, and *Botrychium multifidum*. Flowering plants include *Mertensia ciliata*, *Lonicera involucrata*, *Saxifraga odontoloma*, *Epilobium* spp., *Senecio triangularis*, and *Mentha arvensis*, and a few species of slight stature: *Stellaria longipes* ssp. *longipes*, *Parnassia fimbriata* var. *fimbriata*, and *Spiranthes romanzoffiana*.

*Wetland*.—Next are habitats that support emergent aquatics. Other communities intergrade: aquatics on the hydric side; montane mesic meadow, stream and seep, and willow bottomland on the drier flanks. Sedges are important and pure stands of *Carex utriculata* or *Carex vesicaria* are common. Likewise, *Poa palustris*, *Agrostis scabra*, *Calamagrostis stricta*, and *Glyceria* spp. provide high canopy cover. Willows are expected, but are a minor component. Herbs include *Eleocharis palustris*, *Carex aurea*, *Juncus ensifolius*, and *Menyanthes trifoliata* as well as *Sium suave* and *Sparganium angustifolium*. Ephemeral ponds may become mud flats and thus classed as “disturbed area.”

### Disturbed

*Aspen Seral Forest*.—Aspen forests are promoted by fire yet not classified under “burn areas” due to their successional nature (White et al. 1998). Most are seral, thus the “habitat type” would indicate a climax dominated by conifer (Youngblood 1979). These forest types are rich in herbs, diverse, and physiognomically complex. Sixteen named associations occur in the Park and the Parkway (Cogan et al. 2005).

*Burned Area*.—The greater extent of these fires occurred in 1988 when nearly half of Yellowstone National Park burned (Christensen et al. 1989). Such areas may be covered by lodgepole pine (Kashian et al. 2004) whereas those previously occupied by shrublands revert to a seral grass community. Exotic species may be frequent, especially near roads and trails. Common species are *Chamerion angustifolium* ssp. *circumvagum*, *Calamagrostis* spp., *Phlox longifolia* ssp. *longifolia*, and *Viola adunca*. Resprouting shrubs such as *Symphoricarpos oreophilus* var. *utahensis* and *Prunus virginiana* var. *melanocarpa* are typical while such communities may also have the fire-obligate *Ceanothus velutinus*.

*Roadside-agricultural*.—Human-disturbed sites include gravel quarry, parking lot, roadside, homestead, and heavily-used trail. Both non-native and native weeds are conspicuous and may include *Taraxacum laevigatum*, *Carduus nutans*, *Cirsium arvense*, *Tragopogon dubius*, *Capsella bursa-pastoris*, *Medicago lupulina*, *Plantago major*, *Bromus tectorum*, and *Potentilla norvegica*.

#### TAXON NEWLY DOCUMENTED IN WYOMING

Surprisingly, only one “state record” was documented, an ornamental established in numerous states in the country (2010). *Achillea ptarmica* (Scott 5641) is a double-variant cultivar, bred for its showy white ray florets and sold as an ornamental (Thornton-Wood 2000). It was collected near a historic ranch that has seen significant activity for many decades (Daugherty et al. 1999). Irrigation ditches appear to be the corridor for migration.

#### TAXA NEWLY DOCUMENTED IN THE PARK AND PARKWAY

A comparison was made between Shaw’s (1992) “Annotated Checklist of the Vascular Plants of Grand Teton National Park and Teton County, Wyoming” and the results of the inventory of the Park and Parkway. A



total of 112 unique taxa new to these federal lands were obtained in our inventory. Of these, 65 were new to this area based solely on our inventory. An additional 47 unique taxa were also added based on our collections although these had been documented previously based on vouchers in the Grand Teton National Park Herbarium (UWDI 2010) and the Rocky Mountain Herbarium (Hartman et al. 2009).

#### SPECIES OF SPECIAL CONCERN

Species of conservation concern in Wyoming are designated by the Wyoming Natural Diversity Database (Heidel 2007). Only “Plant Species of Concern,” the category covering the rarest plants at the state level (S1, SH) are discussed. They represent 21 species documented at 39 sites. The 21 “Species of Concern,” (S2) are so indicated in the checklist. No taxon listed under the Endangered Species Act was encountered nor are any known from northwestern Wyoming.

**Achnatherum nevadense** (Nevada needlegrass) was collected in a 21 year old burn area with lodgepole pine in the Pinyon Peak Highlands. All other Wyoming localities are east of the Continental Divide in Carbon and Fremont counties. Voucher: *Hartman 82299*.

**Agrostis oregonensis** (Oregon bentgrass) was collected in the Pinyon Peak Highlands on the margin of a pond with scattered individuals of Engelmann spruce. The WYNDD list indicates uncertainty (S1?) as to its status. Voucher: *Scott 3299*.

**Aquilegia formosa** (crimson columbine) has a distribution centered in the Pacific Northwest (2010). Its status in Wyoming was previously unknown as the first specimen, collected in 1951, is thought to be a hybrid between *Aquilegia formosa* and *A. flavescens* (Fertig 2000). Voucher: *Scott 961*.

**Aspidotis densa** (pod-fern) is known from cliff habitats (Shaw 1992). It was collected at montane elevations in the Park. Vouchers: *Nelson 68545, 68589*.

**Astragalus terminalis** (railhead milkvetch) is a regional endemic of northwest Wyoming, central Idaho, and southwest Montana that grows on steep, often eroded, and bare slopes (Shaw 1992). It was collected in the Park and the Highlands, all in Jackson Hole. Vouchers: *Hartman 82399; Nelson 68354, 68503*.

**Botrychium minganense** (Mingan moonwort) is known in Wyoming primarily from sites east of the Continental Divide. It is widespread across the western United States, yet populations probably go unnoticed due to its cryptic form. It was collected in willow bottomlands in the Park. Voucher: *Scott 5690*.

**Carex echinata ssp. echinata** (little prickly sedge) was collected in all jurisdictions surveyed. It was obtained in montane wetland and montane mesic meadow. Vouchers: *Scott 1868, 2283; Hartman 86597, 86612, 86685*.

**Carex proposita** (Smoky Mountain sedge) has not been documented in Wyoming since 1899 and thus had been classified as a “historical species” based in the WYNDD list (Fertig 2001; Heidel 2007). The collection was obtained from a subalpine wet meadow in the Park. Voucher: *Scott 1525*.

**Cicuta bulbifera** (bulb-bearing water-hemlock) was collected in the Targhee on the margin of Tillery Lake. Voucher: *Hartman 86575*.

**Gentianopsis simplex** (hiker’s gentian) was previously known in the state only from Yellowstone (Heidel 2007). The new collections expand its range southward into the Parkway and the Highlands. This species was found in wetlands at the margins of both a thermal and cold springs and a pond with scattered individuals of Engelmann spruce. Vouchers: *Scott 2456, 3295a*.

**Huperzia haleakalae** (fir clubmoss) was documented in Wyoming only from a 1932 collection by L. O. Williams. The historical collection and the new record are from the north exposures of the Cathedral Group in the Park. The habitat was a cool, moist, shady cliff ledge in the subalpine. Voucher: *Scott 2666*.

**Kelloggia galioides** (milk kelloggia) is rare in western Wyoming. It was collected on talus in the montane in the Park. Voucher: *Scott 1889*.

**Luzula glabrata** var. **hitchcockii** (smooth wood-rush) is locally abundant in the Park (Cogan et al. 2005). It is now recognized as *Luzula hitchcockii* by Swab (2000) as the typical *L. glabrata* is European in distribution. The collections were from the montane to the alpine. Vouchers: *Scott 850, 3218, 5260; Hartman 82255*.

**Minuartia macrantha** (House's Stitchwort) was previously recognized as *Minuartia filiorum*, now a synonym of *Minuartia macrantha* (Hartman & Rabeler 2008). It was collected on high elevation limestone in the Park. Voucher: *Scott 5711a*.

**Myriophyllum verticillatum** (whorled water-milfoil) is an aquatic documented once in the Park. Previously it was known in Wyoming only from Yellowstone National Park and the Shoshone National Forest (Heidel 2007). Voucher: *Scott 2543*.

**Porterella carnosula** (western porterella) is a showy annual, locally abundant in drying ponds. It was collected in the Park. Voucher: *Scott 5421*.

**Scheuchzeria palustris** (pod-grass) is known from bogs in Yellowstone (Lemly 2007). The population in Targhee extends its Wyoming range a bit to the south. Voucher: *Hartman 86799*.

**Spirodela polyrhiza** (duckmeat) was collected in the Highlands and in northeastern portions of the Park. Most small populations do not overwinter, but must be established anew or at other sites through introductions on the feet of waterfowl. Thus they are difficult to track over time (Landolt 2000). Vouchers: *Scott 2380, 3818, 4098, 4412*.

**Stellaria crispa** (crimped stitchwort) is known from mesic habitats of northwest Wyoming. Thus its occurrence in this Park is limited. Vouchers: *Scott 990, 1954; Hartman 86755*.

**Viola renifolia** (kidney leaf white violet) is new to the Park where it was collected in a willow bog. Voucher: *Nelson 68832*.

**Xerophyllum tenax** (western beargrass) is abundant just south of Yellowstone where it was documented in the Park, the Parkway, and the Targhee. Vouchers: *Scott 2977, 3990, 5436*.

#### INVASIVE PLANTS

Invasive plants of exotic origins pose certain threats to ecosystems and human economies. Because these threats can be insidious and persistent, noxious weeds are carefully monitored by governmental agencies. In Wyoming, the state legislation has designated 25 plant species as "noxious" (Wyoming Weed and Pest Council 2008). This study identified nine such taxa; nearly all were collected in human-disturbed areas (see The Annotated Checklist). Exceptions were three species obtained from areas seemingly free from such disturbance: *Cirsium arvense*, *Linaria vulgaris*, and *Sonchus arvensis*. The first two were found in the backcountry at multiple sites.

Teton County has established a list of "Declared Weeds" that compliments the state list of noxious plants (Wyoming Weed and Pest Council 2007). The three species, collected along roads or developed sites, are *Berteroa incana*, *Cirsium vulgare*, and *Verbascum thapsus*.

Roughly 7.5 percent (72 species) of the documented taxa are not native to North America (USDA 2010). This is a relatively low number as levels of 12 to 14 percent have been typical in other studies through the RM (Hartman et al. 2009).

#### SUMMARY OF TAXA

A summary of collection results for the study follows. Numbers in parentheses are the subset for the Park and Parkway.

List by taxonomic category		List by special category	
Families	86 (82)	Exotic taxa	72 (69)
Genera	347 (338)	Percent exotic taxa	7.5 (7.6)
Species	904 (861)	WY Noxious weeds	9 (8)
Infraspecies	52 (42)	Species conservation concern	42 (37)
Hybrids	6 (6)	State records	1 (1)
Unique taxa	962 (909)	Taxa new to the Park and Parkway	(112):
		this study	(65)
		this and other studies	(47)

List of unique taxa by major plant group.

Fern Allies	10	(10)
Ferns	12	(12)
Gymnosperms	9	(9)
Angiosperms	931	(878)
<b>Total</b>	<b>962</b>	<b>(909)</b>

#### CONCLUSIONS

The entire summers of 2006 and 2007 were devoted to inventorying the vascular plants of Grand Teton National Park, the J. D. Rockefeller Jr. Memorial Parkway, a portion of the Targhee National Forest, and the Pinyon Peak Highlands, Bridger-Teton National Forest. Detailed collecting was done at 375 sites (Fig. 2).

A total of 962 unique taxa (904 species, 52 infraspecies) in 347 genera and 86 families were documented in the study. Also, six hybrid taxa, as documented in the literature, were collected. For the Park and Parkway proper, the relevant numbers are 909 unique taxa (861 species, 42 infraspecies, and 6 hybrids).

The following botanists obtained a total of 8,002 numbered voucher specimens: David Scott, 5,752 collections, Ronald L. Hartman, 1,351, and B.E. Nelson, 899.

We documented one Wyoming record, the cultivar *Achillea ptarmica*, one local endemic, *Stephanomeria fluminea* described 12 years ago (Gottlieb 1999), and a number of regional endemics. Species of conservation totaled 42 vouchered at 89 sites. Finally, 112 unique taxa new to the Park and Parkway have been documented.

Roughly 7.5 percent (72 species) of the flora is not native to North America. Of these exotics, nine species are considered “Noxious” in Wyoming.

#### THE ANNOTATED CHECKLIST

The checklist is divided into major vascular plant groups (ferns and fern allies, gymnosperms, and angiosperms) each with alphabetical listings by family and species. Nomenclature follows PLANTS database (USDA 2010). In cases where names differ from those in Dorn’s Vascular Plants of Wyoming (2001), the latter name is placed in brackets.

Following is a guide to format and abbreviations associated with individual taxa in the checklist. Collection data are available online (Hartman et al. 2009).

*Taxon* with Authority **Federal entities [G,W,H,T]** elevational range in feet; **GEOLOGIC AREA [number of collections]** vegetation type.

[*Synonym* with Authority] based on Dorn (2001). If the binomial for the synonym is the same for the accepted name, the authority is omitted]

#### Entity abbreviations:

<b>G</b>	Grand Teton National Park
<b>W</b>	J.D. Rockefeller Jr. Memorial Park
<b>H</b>	Pinyon Highlands, Bridger-Teton National Forest
<b>T</b>	Targhee National Forest

#### Geologic area:

<b>JAC</b>	Jackson Hole
<b>PPH</b>	Pinyon Peak Highlands
<b>TET</b>	Teton Mountains
<b>YEL</b>	Yellowstone Plateau (J. D. Rockefeller Jr. Memorial Parkway and Targhee National Forest)

#### Habitat type:

<b>alt</b>	Alpine tundra	<b>mos</b>	Montane shrubland
<b>aqu</b>	Aquatic	<b>sas</b>	Sagebrush shrubland
<b>asf</b>	Aspen seral forest	<b>sum</b>	Subalpine meadow
<b>bua</b>	Burned area	<b>scs</b>	Scoured streambed
<b>clf</b>	Cliffside or cliff ledge	<b>smc</b>	Subalpine mixed-conifer forest

<b>dis</b>	Disturbed area	<b>sps</b>	Sparsely vegetated montane or subalp. slope
<b>mm</b>	Montane meadow	<b>str</b>	Stream and seep
<b>mmm</b>	Montane mesic meadow	<b>tas</b>	Talus and scree
<b>mmc</b>	Montane mixed-conifer forest	<b>wet</b>	Wetland
<b>mog</b>	Montane grassland	<b>wib</b>	Willow bottomland

### Symbols by category preceding Taxon

- Exotic to North America
- ▲ “Noxious,” weeds so designation in Wyoming
- ▶ Taxon new to Park and Parkway, this study
- ◀ Taxon new to Park and Parkway, this study and other collections
- > Plant Species of [Conservation] Concern (S1, SH) (WYNDD; Heidel 2007)
- < Species of [Conservation] Concern (S2) (WYNDD; Heidel 2007)
- × Hybrid

### FERN ALLIES

#### Equisetaceae

*Equisetum arvense* L. [G,W,H,T] 6527–8885'; JAC, PPH, TET, YEL [23] mmm, scs, str, wet, wib.

*Equisetum hyemale* L. var. *affine* (Engelm.) A.A. Eat. [G,H,T] 6527–7000'; JAC, YEL [4] mmm, mmc, sps, wet.

*Equisetum laevigatum* A. Br. [G,W,H] 6551–7200'; JAC, PPH, YEL [11] sas, scs, str, wet, wib.

*Equisetum variegatum* Schleich. ex Weber & Mohr var. *variegatum* [G,H] 6860–7780'; JAC, PPH [8] scs, str, wet. [*Equisetum variegatum*]

#### Isoetaceae

*Isoetes bolanderi* Engelm. [G,T] 7340–9530'; TET, YEL [2] aqu.

#### Lycopodiaceae

> *Huperzia haleakalae* (Brack.) Holub [G] 9520'; TET [1] alt, clf. *Lycopodium annotinum* L. [G] 7825'; TET [1] mmc, str.

#### Ophioglossaceae

▶ > *Botrychium minganense* Vict. [G] 7350'; TET [1] wib. *Botrychium multifidum* (S.G. Gmel.) Trevisan [G,W,H,T] 6333–7539'; JAC, PPH, YEL [10] mmm, mmc, str, wet.

#### Selaginellaceae

*Selaginella densa* Rydb. [G,H] 6700–10800'; JAC, TET [14] alt, clf, sas, sps, str, tas.

### FERNS

#### Aspleniaceae

< *Asplenium trichomanes-ramosum* L. [G] 9320–9635'; TET [3] clf.

#### Dennstaedtiaceae

*Pteridium aquilinum* (L.) Kuhn var. *latiusculum* (Desv.) Underw. ex A. Heller [G] 6800–7200'; TET [1] mos.

#### Dryopteridaceae

< *Athyrium americanum* (Butters) Maxon. [G] 9590–10160'; TET [2] tas. [*Athyrium distentifolium* Tausch ex Opiz. var. *americanum* (Butters) Cronq.]

*Athyrium filix-femina* (L.) Roth [G] 6868'; JAC [1] str.

*Cystopteris fragilis* (L.) Bernh. [G,W] 7000–10060'; TET, YEL [27]

alt, clf, mos, sps, sum, tas.

▶ *Dryopteris filix-mas* (L.) Schott [G] 6800–7200'; TET [1] mos. < *Gymnocarpium disjunctum* (Rupr.) Ching [G] 6824'; TET [1] str.

*Polystichum lonchitis* (L.) Roth [G] 8285–9400'; TET [4] clf, mmc, smc, tas.

*Woodsia scopulina* D.C. Eat. [G] 7200–9200'; TET [3] sps, tas.

#### Pteridaceae

> *Aspidotis densa* (Brack.) Lellinger [G] 7200–8000'; TET [2] clf, sps.

*Cryptogramma acrostichoides* R. Br. [G] 7000–10800'; TET [17] alt, clf, mmc, mos, sps, tas.

*Pellaea breweri* D.C. Eat. [G,H] 6938'; JAC, TET [6] alt, clf, sum, sps, tas.

### GYMNOSPERMS

#### Cupressaceae

*Juniperus communis* L. var. *depressa* Pursh [G,H] 6640–10000'; JAC, PPH, TET [16] asf, clf, sps, mmc, tas.

*Juniperus scopulorum* Sarg. [G,H] 6860–7367'; JAC, TET [4] asf, bua, clf, sps.

#### Pinaceae

*Abies lasiocarpa* (Hook.) Nutt. var. *lasiocarpa* [G,W,H] 6700–9485'; JAC, PPH, TET, YEL [20] bua, mmc, mos, smc.

*Picea engelmannii* Parry ex Engelm. [G,H] 6920–9800'; JAC, PPH, TET [16] mmc, scs, smc, sps.

*Picea pungens* Engelm. [G,H] 6640–6865'; JAC [5] asf, scs, wet, wib.

*Pinus albicaulis* Engelm. [G,H] 6758–9620'; JAC, PPH, TET [7] sum, smc, sps.

*Pinus contorta* Dougl. ex Loud. var. *latifolia* Engelm. ex Wats. [G,H,T] 6700–8360'; JAC, PPH, TET, YEL [33] asf, bua, mmc, sas.

*Pinus flexilis* James [G] 6700–7367'; JAC [3] mmc, sps.

*Pseudotsuga menziesii* (Mirb.) Franco var. *glauca* (Beissn.) Franco [G,H] 6700–9200'; JAC, TET [20] asf, bua, mmc, sas, sps, str, tas.

## ANGIOSPERMS

## Aceraceae

*Acer glabrum* Torr. var. *glabrum* [G,H] 6824–9300'; JAC, PPH, TET [12] clf, mmc, mos, smc, sps, tas.

## Alismataceae

*Sagittaria cuneata* Sheld. [G,W,H] 6845–7549'; JAC, PPH, YEL [6] aqu, wet.

## Apiaceae

*Angelica arguta* Nutt. [G,W,H,T] 6460–10250'; JAC, PPH, TET, YEL [10] mmm, mmc, str, wet, wib.

*Angelica pinnata* Wats. [G,W,H] 6820–8360'; JAC, PPH, TET, YEL [13] mmm, mmc, scs, str, wet, wib.

*Angelica roseana* L. F. Hend. [G,H] 7785–10040'; TET [3] alt, smc, tas.

*Bupleurum americanum* Coult. & Rose [G] 9607–10875'; TET [4] alt, clf, sps, tas.

> *Cicuta bulbifera* L. [T] 7340'; YEL [1] str.

*Cicuta maculata* L. var. *angustifolia* Hook. [W,T] 6527–6859'; YEL [3] str, wet.

*Heracleum maximum* Bartram [G,W,H] 6816–8885'; JAC, PPH, TET, YEL [14] mmm, mmc, str, wet. [*Heracleum sphondylium* L. var. *lanatum* (Michx.) Dorn]

*Ligusticum canbyi* (Coult. & Rose) Coult. & Rose [W,H,T] 6880–8320'; PPH, YEL [4] mmm, mmc, str.

*Ligusticum filicinum* Wats. [G,W,H,T] 6920–10100'; JAC, PPH, TET, YEL [19] bua, mmc, sum, str, sps.

*Lomatium ambiguum* (Nutt.) Coult. & Rose [G,H] 6551–8320'; JAC, PPH, TET [25] bua, mmc, scs, sps.

*Lomatium cous* (Wats.) Coult. & Rose [G,W] 6397–9640'; JAC, PPH, TET, YEL [10] sas, smc, sps, wet.

*Lomatium dissectum* (Nutt.) Math. & Const. var. *multifidum* (Nutt.) Math. & Const. [G,H] 6800–8400'; PPH, TET [7] mos.

*Lomatium simplex* (Nutt.) Macbr. var. *simplex* [G,W,H] 6397–9200'; JAC, PPH, TET, YEL [27] asf, bua, dis, mmc, mos, sas. [*Lomatium triternatum* (Pursh) Coult. & Rose var. *platycarpum* (Torrey) Boivin]

*Orogenia linearifolia* Wats. [G,W,H] 6520–8640'; JAC, PPH, TET, YEL [4] mm, dis, sas.

*Osmorhiza berteroi* DC. [G,W,H,T] 6700–7760'; JAC, PPH, TET, YEL [11] mm, mmc, sas, str.

*Osmorhiza depauperata* Phil. [G,H] 6760–6938'; JAC, PPH, TET [13] mm, mmc, mos, sps, str.

*Osmorhiza occidentalis* (Nutt. ex T. & G.) Torr. [G,H] 6520–8500'; JAC, PPH, TET [8] mos, sas, sps, wib.

*Perideridia bolanderi* (A. Gray) Nels. & Macbr. ssp. *bolanderi* [G] 6520–6938'; JAC [4] mm, mmc, sps.

*Perideridia gairdneri* (Hook. & Arn.) ssp. *borealis* T.I. Chuang & Constance [G,W,H] 6780–8320'; JAC, PPH, TET, YEL [19] mm, mmm, mmc, mog, sps, wet, wib. [*Perideridia montana* (Blank.) Dorn]

*Pteryxia hendersonii* (Coult. & Rose) Mathias & Constance [G,H] 9300–10795'; TET [16] alt, clf, sps, tas. [*Cymopterus longilobus* (Rydb.) W. A. Weber]

*Pteryxia terebinthina* (Hook.) Coult. & Rose var. *albiflora* (T. & G.) Mathias [G] 6980–7080'; JAC [1] sps. [*Cymopterus terebinthinus* (Hook.) T. & G. var. *albiflorus* (T. & G.) Jones]

▶ < *Sanicula graveolens* Poepp. ex DC. [G,H] 7800–9200'; JAC, PPH, TET [4] mm, sps.

*Sium suave* Walt. [G,H,T] 6400–7550'; JAC, PPH, YEL [4] mmm, wet, wib.

▶ *Zizia aptera* (A. Gray) Fern. [G] 6400–6790'; JAC [3] wet, wib.

## Apocynaceae

*Apocynum androsaemifolium* L. [G,W,H] 6932–8130'; JAC, PPH, TET, YEL [6] mmc, mm, sps.

▶ × *Apocynum xfloribundum* Greene [G] 6823–8400'; JAC, TET [3] mm, mos, sum.

## Asteraceae

*Achillea millefolium* L. var. *occidentalis* DC. [G,W,H,T] 6333–10450'; JAC, PPH, TET, YEL [49] alt, bua, mm, mmm, mmc, mog, mos, sum, scs, sps, tas, wet, wib. [*Achillea millefolium* var. *lanulosa* (Nutt.) Piper]

● *Achillea ptarmica* L. [G] 6760–6740'; JAC [1] dis.

*Agoseris aurantiaca* (Hook.) Greene [G,W,H] 6824–10060'; JAC, PPH, TET, YEL [20] alt, bua, mm, mmc, mos, sps, wib.

*Agoseris glauca* (Pursh) Raf. var. *glauca* [G,H] 6780–9680'; JAC, PPH, TET [11] mmm, sum, sps, str, wib.

*Agoseris glauca* (Pursh) Raf. var. *dasycephala* (T. & G.) Jeps. [G,W,H,T] 6527–10600'; JAC, PPH, TET, YEL [34] bua, mm, mmc, mos, scs, sps, str, tas, wet, wib.

*Agoseris glauca* (Pursh) Raf. var. *laciniata* (D.C. Eat.) Smiley [G,H] 6560–10350'; JAC, PPH, TET [10] alt, bua, sas, tas.

◀ *Agoseris lackschewitzii* D. M. Hend. & Moseley [G,W,H] 6900–9780'; JAC, PPH, TET, YEL [4] bua, mmm, scs.

*Anaphalis margaritacea* (L.) Benth. [G,W,H,T] 6900–7740'; JAC, PPH, TET, YEL [25] mm, mmm, mmc, mos, scs, sps, wet.

*Antennaria anaphaloides* Rydb. [G,H] 7000–8310'; JAC, PPH, TET [4] bua, scs, str.

*Antennaria aromatica* Evert [G] 10000'; TET [1] tas.

*Antennaria corymbosa* E. Nels. [G,W,H] 6750–8680'; JAC, PPH, YEL [10] mm, mmm, mog, wib.

*Antennaria dimorpha* (Nutt.) T. & G. [G] 7367'; JAC [1] sps.

*Antennaria lanata* (Hook.) Greene [G] 9665'; TET [1] tas.

◀ *Antennaria luzuloides* T. & G. [G,H] 6551–8000'; JAC, PPH, TET [13] mm, sas, scs.

*Antennaria media* Greene [G] 9240–10795'; TET [10] alt, clf, sum, tas.

*Antennaria microphylla* Rydb. [G,H] 6551–10640'; JAC, PPH, TET [24] alt, asf, bua, mm, mmc, sps.

*Antennaria parvifolia* Nutt. [G] 6840'; TET [1] mm.

◀ *Antennaria pulcherrima* (Hook.) Greene [G,W,H] 6790–6820'; JAC, PPH, YEL [4] mmc, str, wet.

*Antennaria racemosa* Hook. [G, W,H] 6700–8720'; JAC, PPH, TET, YEL [18] bua, mm, mmc, sps, tas.

*Antennaria rosea* Greene [G,W,H] 6700–9740'; JAC, PPH, TET, YEL [54] alt, mm, mmm, mmc, mog, sas, scs, sps.

*Antennaria umbrinella* Rydb. [G,H] 7020–11320'; JAC, TET [16] alt, sas, tas.

*Arnica chamissonis* Less. var. *andina* (Nutt.) Ediger & T.M. Barkley [G,W,H] 7160–7860'; JAC, PPH, TET, YEL [6] mmm, mmc, scs, tas, wib. [*Arnica chamissonis* var. *foliosa* (Nutt.) Maguire]

*Arnica cordifolia* Hook. [G,W,H] 6594–9485'; JAC, PPH, TET, YEL [44] bua, mm, mmc, sas, sum, smc, tas.

- Arnica latifolia* Bong. [G,H] 6823–10350'; JAC, PPH, TET [15] alt, mm, mmc, mos, sps, tas.
- Arnica longifolia* D.C. Eat. [G,W,H] 7230–10800'; PPH, TET, YEL [11] alt, sps, str, tas, wib.
- Arnica mollis* Hook. [G,H,T] 6460–10060'; JAC, PPH, TET, YEL [15] alt, mm, mmc, scs, str.
- Arnica parryi* A. Gray var. *parryi* [G,H,T] 7120–8360'; PPH, TET, YEL [7] mm, mmc, scs.
- *Arnica rydbergii* Greene [G] 7210–10800'; TET [7] alt, smc, sps, tas.
- Arnica sororia* Greene [G] 6560'; JAC [1] bua.
- Artemisia arbuscula* Nutt. ssp. *arbuscula* [G] 6975'; JAC [1] mog.
- ◄ *Artemisia arbuscula* Nutt. ssp. *thermopola* Beetle [G,W] 6810–6880'; JAC [2] dis, mmc.
- Artemisia dracunculul* L. [G,H] 6935–7790'; JAC, PPH [4] mmc, scs, str.
- Artemisia ludoviciana* Nutt. ssp. *ludoviciana* [H] 7740'; PPH [1] scs.
- Artemisia ludoviciana* Nutt. ssp. *candicans* (Rydb.) D.D. Keck [G,W,H] 6770–9300'; JAC, PPH, TET [10] alt, dis, sum, scs, wib. [*Artemisia ludoviciana* var. *latiloba* Nutt.]
- Artemisia scopulorum* A. Gray [G] 10640'; TET [1] alt.
- Artemisia tridentata* Nutt. ssp. *vaseyana* (Rydb.) Beetle [G] 6400–6975'; JAC [2] mog.
- Artemisia tripartita* Rydb. ssp. *tripartita* [G] 6400'; JAC [1] mm.
- Balsamorhiza sagittata* (Pursh) Nutt. [G,H] 6397–8985'; JAC, PPH, TET, YEL [43] mm, mmm, mmc, sas, str.
- Bidens cernua* L. [G,T] 6400–7340'; JAC, YEL [7] str, wet.
- ▲ *Carduus nutans* L. [G,W] 6597–6845'; JAC [5] dis, scs.
- ▲ *Centaurea stoebe* L. ssp. *micranthos* (Gugler) Hayek [G] 6840'; JAC [1] dis. [*Centaurea maculosa* Lam.]
- Chaenactis douglasii* (Hook.) H. & A. var. *douglasii* [G,H] 7367–10350'; JAC, PPH, TET [5] sps, tas. [*Chaenactis douglasii* var. *montana* Jones]
- Chaenactis douglasii* (Hook.) Hook. & Arn. var. *alpina* A. Gray [G] 10600'; TET [1] alt, tas. [*Chaenactis alpina* (A. Gray) Jones var. *alpina*]
- ▲ *Cirsium arvense* (L.) Scop. [G,W,H,T] 6780–8360'; JAC, PPH, TET, YEL [9] bua, dis, mm, mmc, mog, wet, wib.
- Cirsium eatonii* (A. Gray) Robins. [G] 8878–11320'; TET [8] alt, sps, tas.
- Cirsium scariosum* Nutt. [G,W,H] 6573–7255'; JAC, PPH, TET, YEL [9] mm, mmc, wet, wib.
- *Cirsium vulgare* (Savi) Tenore [W] 6810–6840'; YEL [2] dis, wet.
- Crepis acuminata* Nutt. [G,H] 6560–7180'; JAC [9] asf, bua, mmc, mog, sas, sps.
- Crepis atribarba* Heller [G,H] 6700–7160' JAC, PPH, TET [9] alt, mmc, mog, sas, sps.
- ◄ *Crepis intermedia* A. Gray [G,H] 7040–8130'; JAC, PPH, TET [6] mm, mos, sps.
- Crepis modocensis* Greene ssp. *modocensis* [G,H] 6700–7180'; JAC [2] sas, sps.
- Crepis nana* Richards. ssp. *ramosa* Babco. [H] 9590'; PPH [1] sps.
- *Crepis tectorum* L. [G,W,H,T] 6333–7740'; JAC, PPH, TET, YEL [21] mm, mmc, mog, sas, scs, wet, wib.
- Ericameria suffruticosa* (Nutt.) G.L. Nesom [G] 8600–10450'; TET [3] alt, mmc.
- Erigeron acris* L. ssp. *debilis* (A. Gray) Piper [G] 6824'; TET [1] str. [*Erigeron acris* var. *kamtschaticus* (DC.) Herder]
- Erigeron concinnus* (H. & A.) T. & G. var. *concinnus* [G,H] 6560–7160'; JAC [10] bua, sas, sps. [*Erigeron pumilus* Nutt. var. *concinnus* (H. & A.) Dorn]
- Erigeron compositus* Pursh [G] 6550–10000'; JAC, TET [23] alt, clf, mm, mmc, mog, sas, sps, tas. [*Erigeron compositus* var. *discoideus* A. Gray]
- Erigeron corymbosus* Nutt. [G] 6560–7160'; TET [4] bua, sas, sps.
- Erigeron divergens* T. & G. [G,W] 6550–7155'; JAC, YEL [8] bua, mos, sas.
- Erigeron eatonii* A. Gray var. *eatonii* [G,H] 6700–8000'; JAC, PPH, TET [22] mm, mmc, sas, sum, smc, scs, sps.
- Erigeron glabellus* Nutt. var. *glabellus* [G] 6400–6852'; JAC [5] dis, mmc, wet.
- Erigeron gracilis* Rydb. [H] 8320'; PPH [1] mmm.
- Erigeron leiomerus* A. Gray [G,H] 8878–11320'; TET [12] alt, sps, tas.
- Erigeron lonchophyllus* Hook. [G,H] 7185–7740'; JAC, PPH, TET [8] mmm, scs, wet, wib.
- Erigeron ochroleucus* Nutt. var. *scribneri* (Canby ex Rydb.) Cronq. [G] 8975'; TET [1] sum.
- Erigeron peregrinus* (Banks ex Pursh) Greene ssp. *callianthemus* (Greene) Cronq. [G,H] 8450–10305'; PPH, TET [16] alt, clf, mm, mmc, smc, str, tas. [*Erigeron peregrinus* var. *scaposus* (T. & G.) Cronq.]
- Erigeron simplex* Greene [G] 9520–10305'; TET [7] alt, clf, mm, sps.
- Erigeron speciosus* (Lindl.) DC. [G,W,H] 6232–9680'; JAC, PPH, TET, YEL [15] mm, mmc, sas, sum.
- Erigeron strigosus* Muhl. ex Willd. var. *septentrionalis* (Fern. & Wieg.) Fern. [W] 6859'; YEL [1] wet. [*Erigeron strigosus*]
- *Erigeron tweedyi* Canby [G] 7785'; TET [1] sps, tas.
- Erigeron ursinus* D.C. Eat. [G,H] 9140–10350'; PPH, TET [8] mmc, sum, smc, sps, tas.
- Eriophyllum lanatum* (Pursh) Forbes var. *integrifolium* (Hook.) Smiley [G,H] 6597–9620'; JAC, PPH, TET [25] mm, mmc, sas, sum, sps, wib.
- Eucephalus elegans* Nutt. [G] 8000'; TET [1] mmc.
- Eucephalus engelmannii* (D.C. Eaton) Greene [G,W,H] 6824–10450'; PPH, TET, YEL [11] alt, mmc, sps.
- Eurybia glauca* (Nutt.) G.L. Nesom [G] 8885–8375'; TET [1] mm. [*Eucephalus glaucus* Nutt.]
- Eurybia integrifolia* (Nutt.) G.L. Nesom [G,W,H,T] 6527–10450'; JAC, PPH, TET, YEL [13] mm, mmc, sum, sps.
- Eurybia merita* (A. Nelson) G.L. Nesom [G] 6795'; JAC [1] mmc.
- Gnaphalium palustre* Nutt. [G,W,H] 6680–7980'; JAC, PPH, YEL [6] bua, dis, mmm, str, wet.
- Helianthella quinquevenis* (Hook.) A. Gray [G,H] 6995–8420'; JAC, PPH, TET [7] mm, mmc.
- Helianthella uniflora* (Nutt.) T. & G. var. *uniflora* [G,W,H] 6932–8915'; JAC, PPH, TET [17] mm, mmc, mos, sas.
- Heliomeris multiflora* (Nutt.) var. *multiflora* [G,W,H] 6840–7790'; JAC, PPH, TET, YEL [4] mm, mmc, str, wet. [*Viguiera multiflora* (Nutt.) Blake var. *multiflora*]
- Heterotheca villosa* (Pursh.) Shinners var. *depressa* (Rydb.) Semple [G,H] 6760–7740'; JAC, PPH [4] scs. [*Heterotheca depressa* (Rydb.) Dorn]

- Hieracium albiflorum* Hook. [G,W,H] 6800–8360'; JAC, PPH, TET, YEL [20] bua, mm, mmc, mog, mos, str.
- Hieracium cynoglossoides* Arv.-Touv. [G,W,H,T] 7200–8885'; JAC, PPH, TET, YEL [7] bua, mm, mmc.
- Hieracium gracile* Hook. var. *gracile* [G,H] 7210–10350'; PPH, TET [13] alt, clf, mm, mmc, sum, tas. [*Hieracium triste* Willd. ex Spreng. var. *gracile* (Hook.) A. Gray]
- Hieracium scouleri* Hook. var. *scouleri* [W] 6920'; PPH [1] mmc.
- Lactuca tatarica* (L.) C. A. Mey. var. *pulchella* (Pursh) Breitung [H] 7790'; PPH [1] mmc. [*Lactuca oblongifolia* Nutt.]
- *Lactuca serriola* L. [G,T] 6515–6845'; [3] dis, wet.
  - ▲● *Leucanthemum vulgare* Lam. [G] 6680'; JAC [2] dis, mmc. [*Chrysanthemum leucanthemum* L.]
  - ▶● *Logfia arvensis* (L.) Holub [G] 6700'; JAC [1] dis.
- Machaeranthera canescens* (Pursh) A. Gray var. *canescens* [G] 8400'; TET [1] clf, sum. [*Machaeranthera canescens* var. *monticola* Dorn]
- Madia glomerata* Hook. [G,W,H] 6840–8310'; JAC, PPH, TET, YEL [7] dis, mm, mog, wet.
- *Matricaria discoidea* DC. [G] 6760–6820'; JAC [2] dis, sas, wib. [*Matricaria matricarioides* (Less.) Porter]
- Microseris nutans* (Hook.) Schultz-Bip. [G,H] 6520–8160'; JAC, PPH, TET [29] mm, mmc, mos, sas, sps, str.
- ▶ *Nothocalais nigrescens* (L. F. Hend.) Heller [W,H] 6900–8270'; PPH, YEL [2] mm, str.
- Oreostemma alpinum* (Torr. & A. Gray) Greene var. *haydenii* (Porter) G.L. Nesom [G] 9590–10795'; YEL [10] alt, clf, sum, sps.
- Packera cana* (Hook.) W. A. Weber & A. Löve [G] 7600–10795'; TET [8] alt, clf, mog, sps.
- Packera dimorphophylla* (Greene) W. A. Weber & A. Löve var. *paysonii* (T. M. Barkl.) T. M. Barkl. & Trock [G] 7860–10000'; TET [8] alt, mm, sum, sps.
- Packera multilobata* (T. & G. ex A. Gray) Weber & A. Löve [G] 7390'; PPH [1] str.
- Packera paupercula* (Michx.) A. Löve & D. Löve [G] 6790–6850'; JAC [2] mmm, str.
- ▶ *Packera pseudaurea* (Rydb.) W. A. Weber & A. Löve var. *pseudaurea* [G,W,H,T] 6460–7300'; JAC, PPH, TET, YEL [7] mmm, mmc, str, wet, wib.
- Packera streptanthifolia* (Greene) W. A. Weber & A. Löve [G,H] 6400–10795'; JAC, PPH, TET, YEL [52] alt, asf, mm, mmc, mog, mos, sas, scs, sps, str, tas.
- ▶ *Packera subnuda* (DC.) Trock & T. M. Barkl. [W] 7155'; YEL [1] wet.
- Packera wernerifolia* (A. Gray) W. A. Weber & A. Löve [G] 10295'; TET [1] alt, sps.
- Pseudognaphalium macounii* (Greene) Kartesz [G,W,H,T] 6527–7549'; PPH, TET, YEL [4] bua, dis, mmc, sps. [*Gnaphalium viscosum* H.B.K.]
- Rudbeckia occidentalis* Nutt. [G,W,H,T] 6460–8320'; JAC, PPH, TET, YEL [22] mm, mmm, mmc, scs, wib.
- Senecio amplexens* A. Gray var. *holmii* (Greene) Harrington [G] 10171'; TET [1] sps. [*Ligularia amplexens* (A. Gray) Weber var. *holmii* (Greene) Dorn]
- Senecio crassulus* A. Gray [G,W,H] 6960–10600'; JAC, PPH, TET, YEL [17] alt, mm, mmm, mmc, sum, smc, str.
- Senecio fremontii* T. & G. var. *fremontii* [G] 8878–10305'; TET [12] alt, sps, tas.
- Senecio hydrophilus* Nutt. [G,W,T] 6460–7160'; JAC, YEL [7] str, wet.
- Senecio integerrimus* Nutt. var. *exaltatus* (Nutt.) Cronq. [G,W,H] 6400–8400'; JAC, PPH, TET, YEL [28] mm, mmm, mmc, mog, mos, sas, sum.
- Senecio serra* Hook. var. *serra* [G] 6935–7200'; JAC [2] mmc, str.
- Senecio triangularis* Hook. [G,W,H] 6800–10640'; JAC, PPH, TET, YEL [19] alt, clf, mmm, mmc, sas, str, wet.
- Solidago canadensis* L. var. *salebrosa* (Piper) Jones [G,W,H,T] 6500–8360'; JAC, PPH, TET, YEL [25] bua, mmc, mog, scs, str, wet, wib.
- Solidago missouriensis* Nutt. var. *missouriensis* [G,W] 6743–7186'; JAC, YEL [5] mmm, mmc, sas, sps.
- Solidago multiradiata* Ait. var. *scopolorum* A. Gray [G,W,H] 6560–11320'; JAC, PPH, TET, YEL [33] alt, clf, mm, mmc, mos, sum, sps, wib.
- ▲● *Sonchus arvensis* L. ssp. *arvensis* [T] 7340'; YEL [1] dis.
  - ◀● *Sonchus arvensis* L. ssp. *uliginosus* (M. Beib.) Nyman [G] 6935'; JAC [1] str. [*Sonchus uliginosus* Bieb.]
- Stenotus acaulis* (Nutt.) Nutt. [G] 6560–10000'; JAC, TET [5] alt, sps.
- < *Stephanomeria fluminea* Gottlieb [H] 7220–7250'; PPH [2] scs.
- Symphyotrichum ascendens* (Lindl.) G.L. Nesom [G,W,H,T] 6527–8880'; JAC, PPH, TET, YEL [8] mm, mog, scs, sps, wet.
- Symphyotrichum campestre* (Nutt.) G.L. Nesom [G] 7785'; TET [1] sps, tas.
- Symphyotrichum cusickii* (A. Gray) G.L. Nesom [G] 8760–9300'; TET [1] mm.
- Symphyotrichum eatonii* (A. Gray) G.L. Nesom [G,W,H,T] 6460–6840'; JAC, PPH, YEL [9] dis, sas, scs, wet.
- Symphyotrichum foliaceum* (Lindl. ex DC.) G.L. Nesom var. *apricum* (A. Gray) G.L. Nesom [G,H] 6700–8320'; JAC, PPH [4] dis, mm, scs, wib.
- Symphyotrichum foliaceum* (Lindl. ex DC.) G.L. Nesom var. *canbyi* (A. Gray) G.L. Nesom [G,W,H] 7155–9680'; PPH, TET, YEL [9] alt, mmc, mog, scs, sps, wib.
- Symphyotrichum foliaceum* (Lindl. ex DC.) G.L. Nesom var. *parryi* (D.C. Eaton) G.L. Nesom [G,H,T] 6491–10600'; JAC, PPH, TET, YEL [18] aqu, mm, mmm, mmc, str, wet, wib.
- Symphyotrichum spathulatum* (Lindl.) G.L. Nesom var. *spathulatum* [G,W,H,T] 6460–8360'; JAC, PPH, TET, YEL [14] mmm, mmc, scs, str, wet.
- Symphyotrichum welshii* (Cronq.) G.L. Nesom [W,H,T] 6333–7780'; PPH, YEL [4] mmm, str, wet.
- ▲● *Tanacetum vulgare* L. [G] 6880'; JAC [1] dis.
  - *Taraxacum laevigatum* (Willd.) DC. [G,H] 6550'; JAC, PPH, TET [19] asf, dis, mm, mmc, mog, sas.
- Taraxacum lyratum* (Ledeb.) DC. [G] 10000'; TET [1] sps, tas. [*Taraxacum scopulorum* (A. Gray) Rydb.]
- *Taraxacum officinale* F.H. Wigg. ssp. *officinale* [G,H] 6400–8640'; JAC, PPH, TET [10] mm, mmm, sas, mmc, str.
  - ▶ *Taraxacum officinale* F.H. Wigg. ssp. *ceratophorum* (Ledeb.) Schinz ex Thell. [G] 10600'; TET [1] alt, tas. [*Taraxacum ceratophorum* (Ledeb.) DC.]
- Tetranneuris grandiflora* (T. & G. ex A. Gray) Parker [G] 9607–

- 10875'; TET [3] alt, clf, tas. [*Hymenoxys grandiflora* (T. & G. ex A. Gray) Parker]
- Townsendia alpigena* Piper var. *alpigena* [G,H] 8160–10000'; PPH, TET [7] alt, sum, sps, tas.
- Townsendia parryi* D.C. Eat. [G] 9300–9565'; TET [2] alt, sum, sps.
- *Tragopogon dubius* Scop. [G,H] 6600–8720'; JAC, PPH, TET [25] bua, dis, mm, mmc, mos, sas, scs, sps, wib.
  - *Tragopogon lamottei* Rouy [G,W] 6820–8400'; JAC, TET, YEL [4] dis, scs, sum, wet.
  - *Tripleurospermum maritimum* (L.) W.D.J. Koch ssp. *maritimum* [G] 6573'; JAC [1] dis. [*Matricaria maritima* L. ssp. *maritima*]
- Wyethia amplexicaulis* (Nutt.) Nutt. [G] 6520–6686'; JAC [3] mm, sas.
- Wyethia helianthoides* Nutt. [G] 6850'; JAC [1] mmm.
- ### Berberidaceae
- Mahonia repens* (Lindl.) G. Don [G,H] 6550–8880'; JAC, PPH, TET [37] bua, mm, mmm, mmc, sas, sps, tas.
- ### Betulaceae
- Alnus incana* (L.) Moench ssp. *tenuifolia* (Nutt.) Breitung [G,H] 6400–7934'; JAC, PPH, TET [11] mmm, scs, str. [*Alnus incana* var. *occidentalis* (Dippel) C.L. Hitchc.]
- Betula glandulosa* Michx. [G,W,H,T] 6333–8985'; JAC, PPH, TET, YEL [16] mmm, mmc, scs, str, wet, wib.
- ### Boraginaceae
- *Asperugo procumbens* L. [H] 7000'; JAC [1] dis.
- Cryptantha ambigua* (A. Gray) Greene [G,H] 6600–8320'; JAC, PPH [4] mmm, mos, sas, sps.
- Cryptantha torreyana* (A. Gray) Greene var. *torreyana* [G] 6560–7340'; JAC, TET [7] dis, mm, mmc, mos.
- ▲ • *Cynoglossum officinale* L. [G] 6550–6845'; JAC [4] sas, str.
- Hackelia floribunda* (Lehm.) I. M. Johnst. [G,H] 6920–9060'; JAC, PPH, TET [11] bua, mm, mmm.
- Hackelia patens* (Nutt.) I. M. Johnst. var. *patens* [G] 6550–8000'; JAC, TET [17] mmm, mmc, mos, sps.
- Lappula occidentalis* (S. Watson) Greene var. *occidentalis* [G,H] 6400–7000'; JAC [8] dis, sas, sps. [*Lappula redowskii* (Hornem.) Greene var. *redowskii*]
- ◀ • *Lappula squarrosa* (Retz.) Dumort. [G] 6600–7000'; JAC [3] dis, mmm, mog, sps.
- Lithospermum ruderale* Dougl. ex Lehm. [G,H] 6232–7000'; JAC, PPH, TET [26] dis, mm, mmc, mos, sas, sum, sps.
- Mertensia ciliata* (James ex Torr.) G. Don var. *ciliata* [G,W,H] 6594–9240'; JAC, PPH, TET [27] mm, mmm, mmc, str, wib.
- Plagiobothrys scouleri* (H. & A.) I. M. Johnst. var. *hispidulus* (Greene) Dorn [G,H] 6880–8680'; PPH, TET [2] mmm.
- ### Brassicaceae
- *Alyssum alyssoides* (L.) L. [G] 6400–6938'; JAC [2] sps, str.
  - *Alyssum desertorum* Stapf [G,H] 6400–7180'; JAC [9] bua, mm, mog, sas, str, wib.
- Arabis drummondii* A. Gray [G,H] 6550–10600'; JAC, PPH, TET [52] alt, asf, bua, mm, mmc, mog, mos, sas, sum, scs, sps, str. [*Boechea angustifolia* (Nutt.) Dorn] [*Boechea brachycarpa* (T. & G.) Dorn]
- Arabis glabra* (L.) Bernh. var. *glabra* [G,H] 6750–8100'; JAC, PPH, TET [18] bua, mm, mmm, mmc, sas, sps.
- Arabis hirsuta* (L.) Scop. var. *glabrata* T. & G. [H] 8400'; PPH [1] sum.
- Arabis hirsuta* (L.) Scop. var. *pyncocarpa* (M. Hopk.) Roll. [G] 6780–7350'; JAC, TET [5] str, wib.
- Arabis holboellii* Hornem. var. *collinsii* (Fernald.) Roll. [G] 6700–6800'; JAC [1] sps. [*Boechea holboellii* (Hornem.) Löve & Löve var. *collinsii* (Fern.) Dorn]
- Arabis holboellii* Hornem. var. *pendulocarpa* (A. Nelson) Roll. [G,H] 6880–8915'; JAC, PPH, TET [4] mm, mmm, mmc. [*Boechea exilis* (A. Nels.) Dorn]
- Arabis holboellii* Hornem. var. *pinetorum* (Tidest.) Roll. [G,H] 6600–8280'; JAC, PPH, TET [9] sas, scs, sps. [*Boechea holboellii* (Hornem.) Löve & Löve var. *pinetorum* (Tidest.) Dorn]
- Arabis holboellii* Hornem. var. *retrofracta* (Graham) Rydb. [G,H] 6400–9200'; JAC, PPH, TET [47] asf, dis, mmm, mmc, mos, scs, sps. [*Boechea holboellii* (Hornem.) Löve & Löve var. *secunda* (Howell.) Dorn]
- Arabis lemmonii* Wats. var. *lemmonii* [G] 8878–10600'; TET [5] alt, smc, sps. *Arabis lignifera* A. Nels. [H] 7000'; JAC [1] sps. [*Boechea lignifera* (A. Nels.) Weber]
- Arabis lyallii* Wats. var. *lyallii* [G] 9590–10640'; TET [6] alt, sum, sps. [*Boechea lyallii* (Wats.) Dorn]
- ▶ *Arabis microphylla* Nutt. var. *microphylla* [G,H] 6806–10640'; JAC, PPH, TET [8] alt, clf, sps, tas. [*Boechea microphylla* (Nutt.) Dorn var. *microphylla*]
- Arabis nuttallii* Robins. [G,H] 6597–9300'; JAC, TET [3] sas, sps.
- ▶ *Arabis williamsii* Roll. var. *saximontana* (Roll.) Roll. [G,H] 6686–10800'; JAC, PPH, TET [7] alt, mmc, mm, mos, smc, sps. [*Boechea williamsii* (Rollins) Dorn var. *saximontana* (Rollins) Dorn]
- Barbarea orthoceras* Ledeb. [G,W] 6810–7360'; JAC, YEL [2] dis, mmm.
- Berteroa incana* (L.) DC. [G] 6400'; JAC [1] scs.
- ◀ • *Camelina microcarpa* Andr. ex DC. [G] 6560'; JAC [1] bua.
  - *Capsella bursa-pastoris* (L.) Medik. [G,H] 6479–6900'; JAC [7] dis, mmm, sas, str, wib.
- Cardamine breweri* Wats. var. *breweri* [G,H] 6680–8360'; JAC, PPH, TET [4] mm, wet, wib.
- Cardamine pensylvanica* Muhl. ex Willd. [G,H,T] 6400–8320'; JAC, PPH, YEL [6] aqu, mm, mmm, str.
- *Chorispora tenella* (Pall.) DC. [G] 6852'; JAC [1] dis.
- Descurainia californica* (A. Gray) O. E. Schulz [G,H] 6800–7366'; JAC, PPH, TET [4] bua, mm, mmc.
- Descurainia incana* (Bernh. ex Fisch. & Mey.) Dorn ssp. *incana* [H] 7280–8130'; PPH, TET [2] mmc, scs. [*Descurainia incana* var. *major* (Hook.) Dorn]
- Descurainia incana* (Bernh. ex Fisch. & Mey.) Dorn ssp. *procera* (Greene) Kartesz & Gandhi [G,H] 7350–9620'; PPH, TET [6] mm, sum, sps, wib. [*Descurainia incana* var. *macrosperma* (O. E. Schulz) Dorn]
- Descurainia incana* (Bernh. ex Fisch. & Mey.) Dorn ssp. *viscosa* (Rydb.) Kartesz & Gandhi [G] 7200'; TET [1] mm. [*Descurainia incana* var. *viscosa* (Rydb.) Dorn]
- Descurainia pinnata* (Walt.) Britt. ssp. *nelsonii* (Rydb.) Detling [G] 6597–7000'; JAC [6] bua, mmc, sas, sps. [*Descurainia pinnata* var. *nelsonii* (Rydb.) Peck]
- < *Descurainia pinnata* (Walt.) Britt. ssp. *paysonii* Detl. [G] 6686';



- JAC [1] mmc, str. [*Descurainia pinnata* var. *paysonii* (Detl.) Welsh & Reveal]
- *Descurainia sophia* (L.) Webb ex Prantl [G,H] 6686–6900'; JAC, PPH [3] mmc, mos, sps.
- Draba albertina* Greene [G,H] 6607–8275'; JAC, PPH, TET, YEL [13] mm, mmm, mmc.
- Draba aurea* Vahl ex Hornem. [G] 8770–10255'; TET [4] alt, smc, sps.
- ▶ *Draba breweri* Wats. var. *cana* (Rydb.) Roll. [G] 8500–9740'; TET [5] alt, sps. [*Draba cana* Rydb.]
  - ◀ *Draba crassa* Rydb. [G,H] 8680–10640'; PPH, TET [6] alt, clf, sum, tas.
  - ◀ *Draba fladnizensis* Wulf. var. *pattersonii* (O. E. Schulz) Roll. [G] 9530'; TET [1] sps, tas. [*Draba fladnizensis*]
  - ▶ *Draba incerta* Pays. [G] 9800'; TET [1] sps, tas.
- Draba lonchocarpa* Rydb. var. *lonchocarpa* [G] 8878–11320'; TET [9] alt, clf, sps, tas.
- Draba nemorosa* L. [G,H] 6479–8320'; JAC, PPH, TET [6] mm, mmm, mmc, sas, str.
- Draba oligosperma* Hook. [G] 9300–10000'; TET [7] alt, sps, tas.
- ▶ *Draba praealta* Greene [G] 6597–9320'; JAC, TET [4] clf, sps, tas.
  - ▶ *Draba reptans* (Lam.) Fern. [G] 6560–6852'; JAC [2] bua, dis.
- Erysimum capitatum* (Dougl. ex Hook.) Greene var. *capitatum* [G] 6800–9640'; TET [14] mm, mmc, mos, sum, sps. [*Erysimum asperum* (Nutt.) DC. var. *arkansanum* (Nutt.) A. Gray]
- *Erysimum cheiranthoides* L. [G] 6680'; JAC [1] dis, mmm.
- Erysimum inconspicuum* (Wats.) MacM. [G,H] 6900–6865'; JAC [2] mos, sps.
- *Lepidium campestre* (L.) W.T. Aiton [G] 6560–7000'; JAC [4] bua, dis, mm.
- Lepidium densiflorum* Schrad. var. *densiflorum* [G] 6760'; JAC [1] dis.
- Lepidium densiflorum* Schrad. var. *macrocarpum* Mulligan [G,H] 6743–7000'; JAC [6] asf, dis, mmc.
- Lepidium densiflorum* Schrad. var. *pubecarpum* (A. Nels.) Thell. [G] 6560'; JAC [1] bua. [*Lepidium densiflorum* var. *pubecarpum* (A. Nels.) Thell.]
- *Lepidium perfoliatum* L. [G] 6400–6560'; JAC [2] bua, scs.
- Lepidium ramosissimum* A. Nels. [H] 7220'; PPH [1] scs.
- ◀ *Lepidium virginicum* L. var. *pubescens* (Greene) Thell. [G] 6400–7220'; JAC, TET [8] dis, mos, sas, scs, sps.
- < *Lesquerella carinata* var. *carinata* Roll. [G,H] 7000–8400'; JAC, TET [4] mm, sum, sps.
- ◀ *Lesquerella paysonii* Roll. [G] 9800'; TET [1] clf, sps, tas.
  - *Nasturtium officinale* W.T. Aiton [G,W] 6680–6900'; JAC, YEL [2] str, wet.
- Noccaea montana* (L.) F.K. Mey. var. *montana* [G] 8275–9320'; TET [2] clf, mm, tas. [*Thlaspi montanum* L. var. *montanum*]
- Physaria didymocarpa* (Hook.) A. Gray var. *didymocarpa* [G] 7367'; JAC [1] sps.
- Physaria integrifolia* (Roll.) Lichvar var. *integrifolia* [G] 6900–7160'; JAC [1] sps.
- Rorippa alpina* (Wats.) Rydb. [G] 10100–10640'; TET [2] alt, mmc. [*Rorippa curvipes* Greene var. *alpina* (Wats.) Stuckey]
- Rorippa curvipes* Greene var. *curvipes* [G] 6680–7000'; JAC [2] mm, mmm, wet.
- Rorippa curvipes* Greene var. *truncata* (Jeps.) Rollins [H] 7220'; PPH [1] scs. [*Rorippa truncata* (Jeps.) Stuckey]
- Rorippa curvisiliqua* (Hook.) Besser ex Britt. var. *curvisiliqua* [H] 7920'; PPH [1] dis.
- Rorippa curvisiliqua* (Hook.) Besser ex Britt. var. *orientalis* Stuckey [H] 7980'; PPH [1] dis.
- Rorippa palustris* (L.) Bess. var. *fernaldiana* (Butters & Abbe) Stuckey [G] 6563'; JAC [1] aqu.
- Rorippa palustris* (L.) Bess. ssp. *hispida* (Desv.) Johnsell. [G,T] 6400'; JAC, YEL [2] mmm, wet. [*Rorippa palustris* var. *elongata* Stuckey] [*Rorippa palustris* var. *hispida* (Desv.) Rydb.]
- ▶ *Schoenocrambe linifolia* (Nutt.) Greene [G] 6597'; JAC [2] sps.
  - *Sisymbrium altissimum* L. [G] 6932–6400'; JAC [2] sps, scs.
- Smelowskia calycina* (Steph. ex Willd.) C. A. Mey. var. *americana* (Regel & Herd.) Drury & Roll. [G] 9300–10800'; TET [8] alt, sps, tas.
- *Thlaspi arvense* L. [G,H] 6520–7000'; JAC [11] dis, mm, mmm.
- ### Cactaceae
- Opuntia fragilis* (Nutt.) Haw. var. *fragilis* [G] 6400–6800'; JAC [2] sps.
- ### Callitrichaceae
- Callitriche hermaphroditica* L. [G] 7200'; JAC [1] aqu.
- Callitriche heterophylla* Pursh var. *heterophylla* [T] 7340'; YEL [1] mmc.
- Callitriche palustris* L. [G,W] 6680–10100'; JAC, PPH, TET [5] aqu.
- ### Campanulaceae
- Campanula rotundifolia* L. [G,W,H,T] 6700–10480'; JAC, PPH, TET, YEL [35] bua, mm, mmc, mog, mos, sum, scs, sps, wib.
- ▶ *Campanula uniflora* L. [G] 10255'; TET [1] alt.
- > *Porterella carnosula* (H. & A.) Torr. [G] 6860'; JAC [1] wet.
- ### Cannabaceae
- Humulus lupulus* L. var. *neomexicanus* Nels. & Ckll. [G] 6760'; JAC [1] dis.
- ### Caprifoliaceae
- ▶ • × *Lonicera xbella* Zabel [G] 6760'; JAC [1] dis.
- Lonicera involucrata* (Richards.) Banks ex Spreng. var. *involuta* [G,W,H] 6573–8375'; JAC, PPH, TET, YEL [38] mmm, scs, str, wet, wib.
- Lonicera utahensis* Wats. [G,W,H,T] 6607–9200'; JAC, PPH, TET, YEL [35] mm, mmc, mos, str, wet.
- Sambucus racemosa* L. var. *racemosa* [G,W,H] 6573–8775'; JAC, PPH, TET [5] mm, mmc, tas. [*Sambucus racemosa* var. *microbotrys* (Rydb.) Kearns. & Peeb.]
- Sambucus racemosa* L. var. *melanocarpa* (A. Gray) McMinn [H] 7740'; PPH [1] mm, mmc.
- Symphoricarpos occidentalis* Hook. [G] 7366'; TET [1] mog.
- Symphoricarpos oreophilus* A. Gray var. *utahensis* (Rydb.) A. Nels. [G,W] 6232–8915'; JAC, PPH, TET, YEL [18] bua, dis, mm, mmc, smc, tas.
- ### Caryophyllaceae
- Arenaria congesta* Nutt. var. *congesta* [G,W,H] 6560–10795'; JAC, PPH, TET, YEL [34] alt, clf, dis, mm, mmc, sas, sps. [*Eremogone congesta* (Nutt.) Ikonnikov var. *congesta*]

*Cerastium arvense* L. [G,W,H] 6520–7400'; JAC, PPH, TET, YEL [18] mm, mmm, mmc, mos, sas, scs, wib.

*Cerastium beerianum* Cham. & Schlecht. var. *earlei* (Rydb.) Hulten [G] 10000–10390'; TET [2] tas. [*Cerastium beerianum* var. *capillare* Fern. & Wieg.]

• *Cerastium fontanum* Baumg. ssp. *vulgare* (Hartm.) Greuter & Burdet [G,W,H,T] 6680–7350'; JAC, PPH, TET, YEL [13] mmm, mmc, sas, scs, str, wet, wib. [*Cerastium fontanum*]

◀ *Minuartia austromontana* S. J. Wolf & Packer [G] 10198–10795'; TET [2] alt.

◀> *Minuartia macrantha* (Rydb.) House [G] 9140'; TET [1] alt. [*Minuartia filiorum* (Maguire) McNeil]

*Minuartia nuttallii* (Pax) Briq. ssp. *nuttallii* [G] 8160–9640'; TET [3] sum, smc, tas.

*Minuartia obtusiloba* (Rydb.) House [G] 8600–10800'; TET [16] alt, clf, str, tas.

◀ *Minuartia rubella* (Wahlenb.) Hiern [G] 8878–10255'; TET [8] alt, clf, sum, smc, tas.

*Moehringia lateriflora* (L.) Fenzl [G,H,T] 6460–7185'; JAC, TET, YEL [10] mmc, mog, sas, str, wib.

*Sagina saginoides* (L.) Karst. [G,W,H,H] 6780–10640'; JAC, PPH, TET, YEL [18] alt, clf, dis, sum, scs, wet, wib.

*Silene acaulis* (L.) Jacq. var. *subcaulescens* (F. N. Wms.) Fern. & St John [G] 9400–11320'; TET [8] alt, clf, tas.

▶ *Silene drummondii* Hook. var. *drummondii* [G] 6800–7340'; JAC, TET [2] bua, mm, mos.

• *Silene latifolia* Poir. ssp. *alba* (Mill.) Greuter & Burdet [G,W] 6400–6840'; JAC, YEL [2] wet. [*Silene latifolia*]

*Silene menziesii* Hook. [G,H] 6560–7360'; JAC, PPH [7] bua, dis, scs. [*Silene menziesii* var. *menziesii*] [*Silene menziesii* var. *viscosa* (Greene) Hitchc. & Maguire]

*Silene oregana* Wats. [G,H] 7200–8450'; PPH, TET [2] mm, mmc. *Silene parryi* (Wats.) Hitchc. & Maguire [G] 7840–9680'; TET [7] mm, mmc, sum.

• *Spergularia rubra* (L.) J. & K. Presl [G,W,H] 6700–7000'; JAC, YEL [5] dis, mmm.

*Stellaria calycantha* (Ledeb.) Bong. [W,H] 7020–8320'; PPH, YEL [7] mm, mmm, str, wet.

> *Stellaria crisa* Cham. & Schlecht. [G,T] 6527–8975'; JAC, TET, YEL [3] str, wet.

*Stellaria longifolia* Muhl. ex Willd. [G,W,H] 6680–7580'; JAC, PPH, TET, YEL [6] mmm, str, wet, wib.

*Stellaria longipes* Goldie ssp. *longipes* [G,W,H] 6760–8320'; JAC, PPH, TET, YEL [25] asf, bua, mmm, scs, sps, str, wet, wib.

*Stellaria obtusa* Engelm. [G,H] 6760–8885'; JAC, PPH, TET [9] mmm, mmc, scs, wib.

*Stellaria umbellata* Turcz. ex Karel. & Kir. [G,H] 7580–10640'; JAC, PPH, TET [13] alt, clf, mm, mmm, sum, tas, wet.

#### Celastraceae

*Paxistima myrsinites* (Pursh) Raf. [G,H] 6597–8953'; JAC, PPH, TET [17] bua, mm, mmc, tas.

#### Ceratophyllaceae

*Ceratophyllum demersum* L. [T] 6333–6400'; YEL [1] wet.

#### Chenopodiaceae

*Chenopodium atrovirens* Rydb. [G] 6760–9060'; JAC, TET [4] dis, mm, mmc, sps.

*Chenopodium capitatum* (L.) Asch. [G] 7366'; TET [1] bua.

*Chenopodium foliosum* (Moench) Asch. [G,H] 6597–7220'; JAC, PPH [3] dis, scs, sps. [*Chenopodium capitatum* (L.) Asch. var. *parvicapitatum* S.L. Welsh]

#### Clusiaceae

*Hypericum scouleri* Hook. ssp. *scouleri* [G,W,H] 6900–10060'; PPH, TET, YEL [7] mm, str, tas, wet. [*Hypericum formosum* var. *formosum*] [*Hypericum formosum* var. *scouleri* (Hook.) Coult.]

#### Cornaceae

*Cornus sericea* L. ssp. *sericea* [G] 6573–7200'; JAC, TET [7] str.

#### Crassulaceae

*Rhodiola integrifolia* (Raf.) ssp. *integrifolia* [G] 10000–10480'; TET [2] alt, clf, sum. [*Sedum integrifolium* (Raf.) A. Nels.]

*Rhodiola rhodantha* (A. Gray) H. Jacobsen [G] 7840–10305'; TET [3] alt, sum, str, wib. [*Sedum rhodanthum* A. Gray]

*Sedum debile* Wats. [G] 9240–10480'; TET [5] alt, clf, sum.

*Sedum lanceolatum* Torr. var. *lanceolatum* [G,H] 6400–10350'; JAC, PPH, TET [21] alt, clf, dis, mmc, sas, sum, tas.

#### Cyperaceae

*Carex aquatilis* Wahlenb. var. *aquatilis* [G,W,H,T] 6460–9180'; JAC, PPH, TET, YEL [29] str, wet, wib.

*Carex athrostachya* Olney [G,T] 6400–6900'; JAC, YEL [5] aqu, mog, str.

*Carex aurea* Nutt. [G,W,H] 6820–7780'; JAC, PPH, TET, YEL [16] mmm, scs, str, wet, wib.

◀ *Carex bebbii* Olney ex. Fern. [G] 6680'; JAC [1] mmm.

*Carex buxbaumii* Wahlenb. [W,T] 6460–7160'; YEL [2] mmm, str.

< *Carex cusickii* Mack. ex Piper & Beattie [W,H] 6840–7300'; YEL [4] str, wet.

*Carex disperma* Dewey [G,H] 6840–7560'; JAC, PPH [4] str, wet, wib.

*Carex douglasii* Boott [G] 6398'; JAC [1] scs, wib.

*Carex duriuscula* C. A. Mey. [G,H] 7000–7550'; JAC, PPH [2] sps, wet. [*Carex stenophylla* Wahlenb.]

> *Carex echinata* J. A. Murray ssp. *echinata* [G,W,H,T] 6460–7539'; JAC, TET, YEL [5] mmm, str.

*Carex elynoides* Holm [G] 8600–10800'; TET [7] alt, tas.

*Carex engelmannii* L.H. Bailey [G] 9400–10795'; TET [4] alt, tas. [*Carex breweri* Boott var. *paddoensis* (Suksd.) Cronq.]

*Carex filifolia* Nutt. [G] 6560'; JAC [1] bua.

*Carex geyeri* Boott [G,W,H] 6920–9267'; JAC, PPH, TET, YEL [36] asf, bua, mm, mmc, mog, mos, sas, tas.

*Carex haydeniana* Olney [G,H] 6900–10795'; JAC, PPH, TET [7] alt, mmm, tas.

*Carex hoodii* Boott [G,H] 6520–8915'; JAC, PPH, TET, YEL [43] bua, mm, mmc, sas, sum, sps, wib.

*Carex illota* Bailey [G,H] 8320–9240'; PPH, TET [3] mmm, str.

▶< *Carex incurviformis* Mack. var. *danaensis* (Stacey) F. J. Herm. [G] 10600'; TET [1] alt.

*Carex interior* Bailey [G] 6816–7840'; JAC, TET [2] mmc, str.

▶ *Carex lachenalii* Schkuhr. [G] 10100–10390'; TET [3] alt, smc, tas. [*Carex bipartita* All.]

*Carex lapponica* O.F.Lang [G,W,H] 6900–8065'; JAC, PPH, YEL [8] mmm, str, wet. [*Carex canescens* L.]

*Carex lasiocarpa* Ehrh. [G] 6500'; YEL [1] wet.

- Carex lenticularis* Michx. var. *lipocarpa* (T. Holm) L.A. Standl. [G] 6816–7840'; JAC, TET [5] mmc, str, wet, wib. [*Carex lenticularis* var. *pallida* (Boott) Dorn]
- ◀ *Carex leptalea* Wahlenb. [G] 6854'; TET [1] mmc, str.  
< *Carex limosa* L. [W,T] 6460–7340'; YEL [5] mmm, mmc, wet.  
▶ < *Carex livida* (Wahlenb.) Willd. var. *radicaulis* Paine [W] 6980'; YEL [1] str. [*Carex livida*]
- Carex luzulina* Olney var. *ablata* (Bailey) F. J. Herm. [G,W,T] 6816–8065'; JAC, TET, YEL [7] mmm, mmc, str, wet.  
▶ *Carex macloviana* Urv. [G] 8975–11320'; TET [6] alt, mm, sps, tas.
- Carex microptera* Mack. [G,W,H] 6816–8680'; JAC, PPH, TET, YEL [16] mm, mmm, scs, str, wib. [*Carex microptera* var. *microptera*] [*Carex microptera* var. *limnophila* (F. J. Herm.) Dorn]
- Carex nardina* Fries [G,H] 10000–10795'; TET [5] alt.  
*Carex nebrascensis* Dewey [G,W,T] 6573–7340'; JAC, YEL [6] mmc, mmm, str, wib.
- Carex neurophora* Mack. [G,H] 7580–8320'; PPH, TET [3] mmm, wib.
- Carex nigricans* C. A. Mey. [G] 9240–10100'; TET [2] alt, smc.  
*Carex norvegica* Retz. ssp. *stevanii* (Holm) E. Murray [G] 7090'; TET [1] str. [*Carex norvegica* var. *stevanii* (Holm) Dorn]
- ◀ *Carex pachystachya* Cham. ex Steud. [G,H] 7680–11320'; PPH, TET [9] alt, mmm, scs, tas, wet, wib.
- Carex paysonis* Clokey [G] 9590–11320'; TET [4] alt, tas.  
◀ *Carex pellita* Muhl. ex Willd. [G,W,T] 6460–6845'; JAC, YEL [5] mmm, wet.
- Carex pelocarpa* F.J. Herm. [G] 9760–10795'; TET [2] alt. [*Carex nova* Bailey var. *pelocarpa* (F. J. Herm.) Dorn]
- Carex petasata* Dewey [G] 6700–7160'; JAC [4] bua, sas.  
*Carex phaeocephala* Piper [G] 6975–11320'; JAC, TET [5] alt, mmm, tas.  
▶ *Carex platylepis* Mack. [G] 6816–7680'; JAC, TET [2] str.
- Carex praeceptorum* Mack. [G,H] 7255–10100'; PPH, TET [2] mm, smc.
- Carex praticola* Rydb. [G] 6880'; JAC [1] mmm.  
▶ > *Carex proposita* Mack. [G] 9607'; TET [1] wet.
- Carex pyrenaica* Wahlenb. [G] 10060–10640'; TET [3] alt, clf, tas.  
*Carex raynoldsii* Dewey [G,H] 6930–9130'; JAC, PPH, TET, YEL [13] asf, mm, mmc, mos, sas.
- Carex rossii* Boott [G,H] 6573–9615'; JAC, PPH, TET, YEL [18] mm, mmc, sas, sum, str, tas.  
▶ *Carex scopulorum* Holm var. *scopulorum* [G] 9240'; TET [1] sum.  
◀ *Carex simulata* Mack. [G,W] 6680–6840'; JAC, YEL [3] aqu, wet.  
◀ *Carex spectabilis* Dewey [G,H] 8270–10640'; PPH, TET [3] alt, mm, tas.
- Carex stenoptila* F. J. Herm. [H] 7580–8400'; PPH [2] mm, mmm.  
*Carex utriculata* Boott [G,W,H,T] 6400–8400'; JAC, PPH, TET, YEL [25] aqu, mmm, wet.
- Carex vallicola* Dewey var. *vallicola* [G,H] 6398–7367'; JAC [6] bua, sps, str.
- Carex vesicaria* L. var. *vesicaria* [G,W,H] 6880–8360'; JAC, PPH, TET, YEL [9] mmm, str, wet.  
◀ *Carex viridula* Michx. var. *viridula* [G,W,T] 6900–7340'; JAC, YEL [3] str, wet.
- Cyperus squarrosus* L. [G] 6860'; JAC [1] wet.
- Eleocharis acicularis* (L.) R. & S. [W,H,T] 6400–8680'; PPH, YEL [5] mmm, wet. *Eleocharis flavescens* (Poir.) Urban var. *thermalis* (Rydb.) Cronq. [W] 6840'; YEL [1] str, wet.
- Eleocharis palustris* (L.) R. & S. [G,W,H,T] 6491–7550'; JAC, PPH, YEL [11] aqu, mmm, str, wet.
- Eleocharis quinqueflora* (Hartmann) O. Schwarz [G,W] 6563–6859'; JAC, YEL [2] mmm, str. [*Eleocharis pauciflora* (Lightf.) Link]
- Eleocharis rostellata* (Torr.) Torr. [W] 6905'; YEL [1] str.  
◀ *Eriophorum angustifolium* Honck. ssp. *angustifolium* [W,T] 6500–7160'; YEL [3] mmm, str, wet.  
< *Eriophorum gracile* Koch var. *gracile* [T] 6500–7340'; YEL [2] mmm, wet.
- Scheonoplectus acutus* (Muhl. ex Bigelow) A. Löve & D. Löve var. *acutus* [T] 6460–6527'; YEL [2] mmm, wet.  
< *Schoenoplectus americanus* (Pers.) Volkart ex Schinz & R. Keller [W] 6859–6905'; YEL [2] str, wet.  
*Schoenoplectus tabernaemontani* (C.C. Gmel.) Palla [W] 6680'; JAC [1] wet.
- Droseraceae**  
< *Drosera anglica* Huds. [W,T] 6460–7340'; YEL [9] mmm, str, wet.
- Elaeagnaceae**  
*Elaeagnus commutata* Bernh. ex Rydb. [G] 6560–8500'; JAC, TET [5] bua, str, sps.  
*Shepherdia canadensis* (L.) Nutt. [G,W,H,T] 6500–8400'; JAC, PPH, TET, YEL [41] mm, mmc, sps, str.
- Ericaceae**  
*Arctostaphylos uva-ursi* (L.) Spreng. [G,W,H] 6865–10000'; JAC, PPH, TET, YEL [5] mmc, sps. [*Arctostaphylos uva-ursi* var. *stipitata* (Packer & Denford) Dorn] [*Arctostaphylos uva-ursi* var. *uva-ursi*]
- Chimaphila umbellata* (L.) Barton ssp. *occidentalis* (Rydb.) Hulten [G,W] 6852–7670'; JAC, TET, YEL [3] mmc. [*Chimaphila umbellata* var. *occidentalis* (Rydb.) Blake]
- Gaultheria humifusa* (Grah.) Rydb. [G,W,H,T] 6980–9240'; PPH, TET, YEL [7] mmm, mmc.
- Kalmia microphylla* (Hook.) Heller [G,W,H] 6980–10305'; TET, YEL [8] alt, mm, mmc, str.
- Menziesia ferruginea* Sm. [G,H] 6852–9267'; JAC, PPH, TET [7] mmc, str. [*Menziesia ferruginea* var. *glabella* (A. Gray) Peck]
- Moneses uniflora* (L.) A. Gray [W] 7280'; YEL [1] mmc, str.
- Orthilia secunda* (L.) House [G,W,T] 6460–10450'; JAC, TET, YEL [10] mmm, mmc, str.
- Phyllodoce empetriformis* (Sw.) D. Don [G] 8975–10295'; TET [4] alt, sum, sps.
- Phyllodoce glanduliflora* (Hook.) Cov. [G] 9680–10305'; TET [4] alt, sps, wet.
- Pterospora andromedea* Nutt. [G,W] 6868–7344'; JAC, YEL [3] mmc.
- Pyrola asarifolia* Michx. var. *asarifolia* [G,W,H,T] 6824–7340'; JAC, PPH, TET, YEL [10] mmm, mmc, scs, str, wet, wib.
- Pyrola chlorantha* Sw. [G] 6852–6854'; TET [3] mmc, str.
- Pyrola minor* L. [G,T] 6980–7340'; JAC, YEL [2] mm, mmc.
- Vaccinium cespitosum* Michx. [G,W,T] 7020–7760'; TET, YEL [3] mmc.

*Vaccinium membranaceum* Dougl. ex Torr. [G,H] 6575–9189'; JAC, PPH, TET [23] alt, mm, mmc, smc, str.  
*Vaccinium scoparium* Leib. ex Cov. [G,W,H,T] 6600–10295'; JAC, PPH, TET, YEL [32] alt, bua, clf, mm, mmc, smc, sps.  
*Vaccinium uliginosum* L. [G,W,T] 6491–10250'; TET, YEL [5] alt, mmm, mmc, wet. [*Vaccinium occidentale* A. Gray]

### Euphorbiaceae

► *Chamaesyce glyptosperma* (Engelm.) Small [W] 6820'; YEL [1] str.

### Fabaceae

*Astragalus agrestis* Dougl. ex G. Don [G,H] 6470–7740'; JAC, PPH, TET [9] mm, mmm, mmc, mos, sas, sps, wib.  
*Astragalus alpinus* L. var. *alpinus* [G,W,H] 6800–9740'; JAC, PPH, TET, YEL [23] mm, mmm, mmc, scs, sps, str, wib.  
*Astragalus argophyllus* Nutt. var. *argophyllus* [G] 6640–7367'; JAC [5] mm, sas, sps.  
*Astragalus australis* (L.) Lam. [G] 9300'; TET [1] alt.  
 ► *Astragalus convallarius* Greene var. *convallarius* [G] 6560'; JAC [1] bua.  
*Astragalus eucosmus* Robins. [G] 6820'; JAC [1] mm.  
*Astragalus kentrophyta* A. Gray var. *tegetarius* (Wats.) Dorn [G,H] 7250–10795'; PPH, TET [14] alt, sum, tas.  
 ► *Astragalus laxmannii* Jacq. var. *robustior* (Hook.) Barneby & S.L. Welsh [G] 6950–7785'; JAC, TET [2] str, tas, wib.  
*Astragalus miser* Dougl. ex. Hook. var. *hylophilus* (Rydb.) Barneby [G,H] 6900–8160'; JAC, PPH, TET [9] mmm, mmc, sps.  
*Astragalus miser* Dougl. ex. Hook. var. *praeteritus* Barneby [G,H] 6398–7367'; JAC [8] asf, bua, sas, sps.  
*Astragalus miser* Dougl. ex. Hook. var. *tenuifolius* (Nutt.) Barneby [H] 7020–7180'; JAC [1] sas.  
 ◄ *Astragalus molybdenus* Barneby [G] 8760–10795'; TET [3] alt, mm.  
*Astragalus purshii* Dougl. ex Hook. var. *purshii* [G,H] 6398–7160'; JAC [5] bua, sas, sps.  
*Astragalus tenellus* Pursh [G] 6900–7367'; JAC [3] sps.  
 > *Astragalus terminalis* Wats. [G,H] 6640–7180'; JAC [3] bua, mos, sas.  
*Glycyrrhiza lepidota* Pursh [G] 6680'; JAC [1] str. [*Glycyrrhiza lepidota* var. *glutinosa* (Nutt.) Wats.]  
*Hedysarum alpinum* L. [G,H] 6885–8985'; JAC, TET [3] asf, mm, sum. [*Hedysarum alpinum* var. *americanum* Michx.]  
*Hedysarum boreale* Nutt. var. *boreale* [G] 6900'; JAC [1] sps. [*Hedysarum boreale* var. *pabulare* (A. Nels.) Dorn]  
*Hedysarum occidentale* Greene [G] 7210–10450'; TET [7] sum, smc, sps, tas.  
*Lupinus argenteus* Pursh ssp. *argenteus* [G,H] 7360–9780'; JAC, PPH, TET [5] mm, mmm, mmc, sum, scs.  
*Lupinus argenteus* Pursh var. *laxiflorus* (Dougl. ex Lindl.) Dorn [G,H] 6720–8975'; JAC, PPH, TET [16] bua, dis, mm, mmc, sas, sps.  
*Lupinus argenteus* Pursh ssp. *rubricaulis* (Greene) Hess & D. Dunn [G,H] 6590–10600'; JAC, PPH, TET, YEL [23] alt, mm, mmm, mmc, sas, sps.  
*Lupinus caespitosus* Nutt. var. *utahensis* (Wats.) Cox [G,W,H] 6640–8320'; JAC, PPH, YEL [9] mm, mmm, mmc, sas, str.

[*Lupinus lepidus* Dougl. ex Lindl. var. *utahensis* (Wats.) C.L. Hitchc.]  
*Lupinus caudatus* Kellogg ssp. *argophyllus* (A. Gray) L. Phillips [G,W] 6795–7155'; JAC, YEL [2] str. [*Lupinus argenteus* Pursh var. *argophyllus* (A. Gray) Wats.]  
*Lupinus depressus* Rydb. [G,H] 8000–9680'; PPH, TET [3] mm, mmc, sps, tas. [*Lupinus argenteus* Pursh var. *depressus* (Rydb.) C.L. Hitchc.]  
*Lupinus leucophyllus* Dougl. ex Lindl. [G,H] 6520–8000'; JAC, PPH [5] asf, mm, mmc, sps.  
*Lupinus prunophilus* M.E. Jones [G,W,H] 6400–9530'; JAC, PPH, TET, YEL [14] bua, mm, mmc, sas, sps, tas. [*Lupinus polyphyllus* Lindl. var. *prunophilus* (Jones) L. Phillips]  
*Lupinus sericeus* Pursh [G,H] 6400–8500'; JAC, PPH [11] bua, mm, mmc, sas, sps.  
*Lupinus wyethii* S. Watson ssp. *wyethii* [G,H] 6880–7000'; JAC [4] mm, mmc, scs, sps. [*Lupinus polyphyllus* Lindl. var. *humicola* (A. Nels.) Barneby]  
 • *Medicago lupulina* L. [G,W,H] 6398–7350'; JAC, TET, YEL [25] bua, dis, mm, mmc, sas, scs, sps, str, wib.  
 • *Medicago sativa* L. [G] 6400–6560'; JAC [2] bua, mm.  
 • *Melilotus officinalis* (L.) Lam. [G] 6400'; JAC [1] mm. *Oxytropis borealis* DC. var. *viscida* (Nutt.) S.L. Welsh [G] 9665'; TET [1] sps, tas. [*Oxytropis viscida* Nutt. var. *viscida*]  
*Oxytropis campestris* (L.) DC. var. *cusickii* (Greenm.) Barneby [G] 9300'; TET [1] alt.  
*Oxytropis deflexa* (Pall.) DC. var. *foliolosa* (Hook.) Barneby [G] 9640–9840'; TET [4] sps, tas.  
*Oxytropis deflexa* (Pall.) DC. var. *sericea* T. & G. [G,H] 6700–7360'; JAC, PPH [7] mmc, sas, scs.  
 • *Trifolium hybridum* L. [G,W,H,T] 6560–7340'; JAC, PPH, YEL [25] bua, dis, mm, mmm, mmc, mog, sas, scs, wib.  
*Trifolium longipes* Nutt. ssp. *reflexum* (A. Nels.) J.M. Gillett [G,W,H] 6398–7360'; JAC, PPH, TET, YEL [18] mm, mmm, mmc, scs, str, wib.  
 • *Trifolium pratense* L. [G,W,H] 6540–7000'; JAC, PPH [7] mmc, sas, str.  
 • *Trifolium repens* L. [G,W,H,T] 6460–8100'; JAC, PPH, YEL [9] dis, mmc, sas, scs, sps.  
*Vicia americana* Muhl. ex Willd. ssp. *minor* (Hook.) C.R. Gunn [G] 6398–7367'; JAC [5] dis, mmc, sas, sps.

### Fumariaceae

*Corydalis aurea* Willd. [G] 6960'; JAC [1] mmc.  
*Dicentra uniflora* Kellogg [G,W,H] 7320–9635'; PPH, TET, YEL [11] bua, mm, sas, sum, smc, sps.

### Gentianaceae

*Frasera speciosa* Dougl. ex Griseb. [G,H] 6600–9300'; JAC, PPH, TET [14] asf, bua, mm, mmc, sas, sps.  
*Gentiana affinis* Griseb. [G] 6790'; JAC [1] str.  
*Gentiana calycosa* Griseb. [G] 7860–10795'; TET [10] alt, clf, sum, smc.  
*Gentianella amarella* (L.) Borner [G,W,H] 6980–9060'; JAC, PPH, TET, YEL [10] mm, mmm, mmc, str, wib.  
 ► > *Gentianopsis simplex* (A. Gray) Iltis [W,H] 6905–8360'; PPH, YEL [2] str, wet.  
*Gentianopsis thermalis* (Kuntze.) Iltis [G,W,H,T] 6333–8360';

JAC, PPH, YEL [18] mmm, str, wet, wib. [*Gentianopsis detonsa* (Rottb.) Ma var. *elegans* (A. Nels.) N. Holmgren] *Swertia perennis* L. [G] 7185'; TET [1] wib.

### Geraniaceae

*Geranium richardsonii* Fisch. & Trautv. [G,W,H] 6770–8420'; JAC, PPH, TET, YEL [26] mmm, scs, str, wib.

*Geranium viscosissimum* Fisch. & Mey. ex Mey. var. *viscosissimum* [G,W,H] 6555–8320'; JAC, PPH, TET, YEL [35] asf, mm, mmm, mmc, mog, mos, sas.

*Geranium viscosissimum* Fisch. & Mey. ex Mey. var. *incisum* (Torr. & A. Gray) N.H. Holmgren [G,H] 6760–8640'; JAC, PPH [4] mm, mmc, mos. [*Geranium viscosissimum* var. *nervosum* (Rydb.) C.L. Hitchc.]

### Grossulariaceae

*Ribes cereum* Dougl. var. *pedicellare* Brewer & Wats. [G,H] 6595–8130'; JAC, PPH [7] mmc, sps.

*Ribes hudsonianum* Richards. var. *petiolare* (Dougl.) Jancz. [G,H] 6590–7598'; JAC, PPH, TET [4] mmc, str. [*Ribes hudsonianum*]

*Ribes inerme* Rydb. var. *inerme* [G,H] 6790–6920'; JAC [3] asf, mm, wib.

*Ribes lacustre* (Pers.) Poir. [G,H] 6600–9615'; JAC, PPH, TET, YEL [16] bua, mmc, mos, str.

*Ribes montigenum* McClat. [G,H] 6900–9635'; JAC, PPH, TET [14] alt, mm, mmc, sum, sps.

*Ribes viscosissimum* Pursh [G,H] 6760–9200'; JAC, PPH, TET, YEL [22] bua, mm, mmc, mos, str.

### Haloragaceae

*Myriophyllum sibiricum* Kom. [G,W,H] 6820–7560'; JAC, PPH, YEL [3] aqu.

► > *Myriophyllum verticillatum* L. [G] 6790'; JAC [1] aqu.

### Hippuridaceae

*Hippuris vulgaris* L. [G,H,T] 6400–8140'; JAC, PPH, YEL [3] aqu.

### Hydrocharitaceae

*Elodea canadensis* Michx. [T] 7340'; YEL [1] aqu.

### Hydrophyllaceae

*Hydrophyllum capitatum* Dougl. ex Benth. var. *capitatum* [G,W,H] 6595–8975'; JAC, PPH, TET, YEL [26] dis, mm, mmc, sas, sum, smc.

*Nemophila breviflora* A. Gray [G,H] 6600–8000'; JAC, PPH, TET [28] mm, mmc, mos, sas.

*Phacelia franklinii* (R. Br.) A. Gray [G] 6900–7000'; JAC [1] dis.

*Phacelia hastata* Dougl. ex Lehm. var. *hastata* [G,W,H] 6700–10480'; JAC, PPH, TET, YEL [22] mmc, sum, sps, tas.

*Phacelia heterophylla* Pursh ssp. *virgata* (Greene) Heckard [G,H] 6700–7200'; JAC, PPH [6] bua, mm, mmc, mos.

*Phacelia sericea* (Graham) A. Gray ssp. *sericea* [G,H] 6600–10600'; JAC, PPH, TET [13] alt, mm, mmc, mos, sum, sps.

### Iridaceae

*Sisyrinchium idahoense* Bickn. var. *occidentale* (Bickn.) D. M. Hend. [G,W,H] 6700–7250'; JAC, PPH, YEL [6] scs, str, wet, wib.

### Juncaceae

*Juncus arcticus* Willd. ssp. *littoralis* (Engelm.) Hulten [G,W,H]

6573–6905'; JAC, YEL [6] aqu, sps, wet. [*Juncus balticus* Willd. var. *montanus* Engelm.]

*Juncus bufonius* L. [G,H] 6680–8400'; JAC, PPH [3] dis, mmm, str.

*Juncus confusus* Cov. [G,H,T] 6527–8320'; JAC, PPH, TET, YEL [8] mm, mmm, mmc, mog, wet.

*Juncus drummondii* E. Mey. [G] 7680–10800'; TET [10] alt, clf, smc, tas, wib.

*Juncus ensifolius* Wikstr. [G,W,H,T] 6460–8360'; JAC, PPH, TET, YEL [33] aqu, mmm, mmc, str, wet, wib. [*Juncus ensifolius* var. *ensifolius*]

< *Juncus filiformis* L. [G,T] 6900–7340'; JAC, YEL [2] str.

◀ *Juncus interior* Wieg. var. *interior* [G,H] 6700–8120'; JAC, YEL [2] bua, dis.

*Juncus longistylis* Torr. var. *longistylis* [G,H] 6816–7250'; JAC, PPH [4] mmc, scs, str.

*Juncus mertensianus* Bong. [G,W,H] 7160–10640'; PPH, TET, YEL [11] alt, mmm, sum, scs, str, tas.

*Juncus nevadensis* Wats. var. *nevadensis* [G,W] 6960–7020'; JAC, YEL [2] mmc, str, wet.

*Juncus nodosus* L. [T] 6500'; YEL [1] wet.

*Juncus paryi* Engelm. [G,H] 7995–11320'; PPH, TET [14] alt, mmc, sum, smc, tas.

*Juncus regelii* Buch. [H] 6930'; PPH [1] str.

*Juncus saximontanus* A. Nelson [G,W,H,T] 6491–7780'; JAC, PPH, TET, YEL [16] aqu, mmm, scs, str, wet. [*Juncus ensifolius* Wikstr. var. *montanus* (Engelm.) C.L. Hitchc.]

*Juncus tweedyi* Rydb. [H,T] 6460–7539'; PPH, YEL [3] str, wet.

◀ > *Luzula glabrata* (Hoppe ex Rostk.) Desv. var. *hitchcockii* (Hamet-Ahti) Dorn [G] 7860–10600'; TET [4] mmc, tas.

► *Luzula multiflora* (Ehrh.) Lej. [G,W] 6920–7360'; JAC, YEL [2] mmm, mmc.

*Luzula parviflora* (Ehrh.) Desv. [G,W,H,T] 6960–10390'; JAC, PPH, TET, YEL [17] alt, mmm, mmc, sum, str, tas, wib.

*Luzula piperi* (Cov.) Jones [G] 10640–10800'; TET [2] alt, clf. [*Luzula wahlenbergii* Rupr.]

*Luzula spicata* (L.) DC. [G] 8000–11320'; TET [12] alt, clf, smc, str.

### Juncaginaceae

*Triglochin maritima* L. [G,W] 6790–6905'; JAC, YEL [3] aqu, wet. [*Triglochin maritima* var. *elata* (Nutt.) A. Gray]

► *Triglochin palustris* L. [W] 6905'; YEL [1] wet.

### Lamiaceae

*Agastache urticifolia* (Benth.) Kuntze var. *urticifolia* [G,H] 6750–7840'; JAC, PPH, TET [6] mm, mmc, mos, str.

*Dracocephalum parviflorum* Nutt. [G] 6560–6932'; JAC [2] dis, sps.

*Mentha arvensis* L. [G,W,H,T] 6333–7550'; JAC, TET, YEL [15] mmm, str, wet. [*Mentha arvensis* var. *canadensis* (L.) Kuntze]

*Prunella vulgaris* L. ssp. *lanceolata* (Barton) Hulten [G,W] 6563–6905'; JAC, TET, YEL [3] str, wet. [*Prunella vulgaris*]

*Scutellaria galericulata* L. [G,W,H,T] 6491–7550'; JAC, PPH, YEL [8] mmm, str, wet.

### Lemnaceae

► *Lemna gibba* L. [W] 6905'; YEL [1] aqu. *Lemna minuta* Kunth [G,W] 6905–7390'; JAC, YEL [2] aqu.

*Lemna trisulca* L. [H] 7440–8320'; PPH [3] aqu.

*Lemna turionifera* Landolt [G,H] 6563–8320'; JAC, PPH [8] aqu.

◀ *Spirodela polyrhiza* (L.) Schleid. [G,H] 7390–8320'; JAC, PPH [4] aqu.

### Lentibulariaceae

*Utricularia macrorhiza* Leconte [G,W,T] 6460–6905'; JAC, YEL [4] aqu, wet.

< *Utricularia minor* L. [W] 6840–7155'; YEL [2] aqu, str, wet.

### Liliaceae

*Allium brevistylum* Wats. [G,H] 6551–7390': JAC, PPH, TET [5] mmc, sas, str.

*Allium geyeri* Wats. var. *tenerum* Jones [G] 6880': JAC [1] mmm.

*Allium schoenoprasum* L. [G,W,H] 6850–9400': JAC, PPH, TET, YEL [7] alt, mm, mmm, mmc, str, wib.

*Calochortus nuttallii* T. & G. [G] 6932'; JAC [1] sps.

*Camassia quamash* (Pursh) Greene ssp. *utahensis* Gould [G,W] 6820–7360'; JAC, YEL [4] mmm, mmc, wib.

*Erythronium grandiflorum* Pursh ssp. *grandiflorum* [G,W,H] 6920–9140'; PPH, TET, YEL [4] mmc, smc, str, wet.

*Fritillaria atropurpurea* Nutt. [G,H] 6594–8640'; JAC, PPH, TET [22] asf, mm, mmc, sas, tas.

*Fritillaria pudica* (Pursh) Spreng. [G,W,H] 6551–9200'; JAC, PPH, TET [21] bua, dis, mm, mos, sas, sum.

*Lloydia serotina* (L.) Salisb. ex Rchb. var. *serotina* [G] 9320–9607'; TET [2] alt, clf, tas.

*Maianthemum racemosum* (L.) Link ssp. *amplexicaule* (Nutt.) LaFrankie [G] 6594–9200'; JAC, TET [15] mmm, mmc, sps.

*Maianthemum stellatum* (L.) Link [G,H] 6551–8100'; JAC, PPH, TET [29] asf, mm, mmm, mmc, sas, str, wib.

*Prosartes trachycarpa* S. Watson [G] 6686–7380'; JAC, TET [8] mmc, mos.

*Streptopus amplexifolius* (L.) DC. [G,W,H,T] 6460–8040'; JAC, PPH, TET, YEL [11] mmm, str.

*Triantha occidentalis* (S. Watson) Gates ssp. *montana* (C.L. Hitchc.) Packer [G,W,T] 6500–9240'; TET, YEL [7] str, wet. [*Tofieldia glutinosa* (Michx.) Pers. var. *montana* (C.L. Hitchc.) R. J. Davis]

> *Xerophyllum tenax* (Pursh) Nutt. [G,W,T] 7340–7860'; [3] PPH, TET, YEL mmc.

*Zigadenus elegans* Pursh [G] 6854–10795'; TET [9] alt, mmc, sps, str.

*Zigadenus venenosus* Wats. var. *gramineus* (Rydb.) Walsh ex Peck [G] 6560–8000'; JAC, TET [5] bua, sas, sps.

### Limnanthaceae

*Floerkea proserpinacoides* Willd. [G,H] 6720–8320'; JAC, PPH, TET, YEL [17] bua, mm, mmm.

### Linaceae

*Linum lewisii* Pursh var. *lewisii* [G,H] 6400–10795'; JAC, PPH, TET [21] alt, asf, mm, mmc, sas, sum, sps, str.

### Loasaceae

*Mentzelia dispersa* Wats. [H] 7300'; PPH [1] mmc.

### Malvaceae

*Iliamna rivularis* (Dougl. ex Hook.) Greene [G,H] 6560–7740'; JAC, PPH, TET [4] bua, mm, mmc, mos.

### Menyanthaceae

*Menyanthes trifoliata* L. [G,W,H,T] 6460–7539'; JAC, PPH, YEL [7] mmm, str, wet.

### Nymphaeaceae

*Nuphar lutea* (L.) Sm. ssp. *polysepala* (Engelm.) E. O. Beal [G,W,H,T] 6333–10250'; JAC, PPH, YEL [12] aqu, wet. [*Nuphar polysepala* Engelm.]

### Onagraceae

*Camissonia biflora* (T. & G.) Raven [G] 6845': JAC [1] wet.

*Camissonia subacaulis* (Pursh) Raven [G,W,H] 6820–6900'; JAC, YEL [4] mmm.

*Chamerion angustifolium* (L.) Holub ssp. *angustifolium* [G,H,T] 7220–9320'; PPH, TET, YEL [7] mmc, scs.

*Chamerion angustifolium* (L.) Holub ssp. *circumvagum* (Mosquin) Hoch [G,W,H] 6960–10450'; JAC, PPH, TET, YEL [11] bua, mmc, str. [*Chamerion angustifolium* var. *canescens* (A. W. Wood) N. & P. Holmgren]

*Chamerion latifolium* (L.) Holub [G,H] 7250–10390'; JAC, PPH, TET [7] scs, str, tas. [*Epilobium latifolium* L.]

*Circaea alpina* L. ssp. *pacifica* (Aschers. & Magnus) P.H. Raven [G] 7159'; JAC [1] str.

*Epilobium anagallidifolium* Lam. [G] 8160–11320'; TET [8] alt, clf, sum, str, tas.

*Epilobium brachycarpum* Presl [G,W,H] 6760–7790'; JAC, PPH, TET, YEL [12] dis, mmc, scs, sps, str.

◀ *Epilobium ciliatum* Raf. ssp. *ciliatum* [G,W,H,T] 6500–7780'; JAC, PPH, TET, YEL [20] bua, mmm, mmc, str, wet.

*Epilobium ciliatum* Raf. ssp. *glandulosum* (Lehm.) Hoch & P.H. Raven [G,W,H] 6680–7680'; JAC, PPH, TET, YEL [9] mmm, scs, str, wet, wib.

◀ *Epilobium clavatum* Trel. [G,H] 7250–10795'; PPH, TET [12] alt, scs, sps, str, tas.

◀ *Epilobium halleanum* Hausskn. [G,W,H] 7160–10305'; PPH, TET, YEL [9] alt, scs, str.

◀ *Epilobium hornemannii* Rchb. ssp. *hornemannii* [G,W,H] 6790–8885'; JAC, PPH, TET, YEL [12] bua, mmm, mmc, str, wib.

*Epilobium lactiflorum* Hausskn. [G] 6750–7210'; JAC, TET [3] mmc, wet.

*Epilobium leptophyllum* Raf. [W] 6905'; YEL [1] str. [*Epilobium palustre* L. var. *gracile* (Farw.) Dorn] *Epilobium oregonense* Hausskn. [W] 6905'; YEL [1] str, wet.

*Epilobium palustre* L. [T] 7340'; YEL [1] mmc.

▶ *Epilobium saximontanum* Hausskn. [G,W,H] 6854–10100'; JAC, PPH, TET, YEL [9] bua, mm, mmm, mmc, smc, wib.

*Epilobium suffruticosum* Nutt. [G,W,H] 6810–8280'; JAC, PPH, YEL [9] dis, scs, sps.

▶ *Gayophytum decipiens* Lewis & Szweyk. [G] 6700'; JAC [1] sas.

*Gayophytum diffusum* T. & G. ssp. *diffusum* [G] 6750–7000'; JAC [3] sas, str, wib.

*Gayophytum diffusum* T. & G. ssp. *parviflorum* F.H. Lewis & Szweykowski [G,W,H,T] 6460–7860'; JAC, PPH, TET, YEL [11] bua, dis, mm, mos, sas, wet. [*Gayophytum diffusum* var. *strictipes* (Hook.) Dorn]

◀ *Gayophytum racemosum* T. & G. [G] 6700'; JAC [1] mmc.

◀ *Gayophytum racosissimum* T. & G. [G] 6743'; JAC [1] mmc.

*Oenothera cespitosa* Nutt. ssp. *cespitosa* [G,H] 6865–8400'; JAC, PPH [4] sas, sps.

*Oenothera flava* (A. Nels.) Garrett [G,H] 6750–7000'; JAC, PPH [2] mm.

*Oenothera villosa* Thunb. ssp. *strigosa* (Rydb.) W. Dietr. & P.H. Raven [G,W] 6400–6880'; JAC, YEL [3] dis, str.

### Orchidaceae

*Calypso bulbosa* (L.) Oakes var. *americana* (R. Br.) Luer [G,W,H] 6594–7080'; JAC, TET, YEL [10] mmc, str. [*Calypso bulbosa*]

*Corallorrhiza maculata* (Raf.) Raf. var. *occidentalis* (Lindl.) Ames [G,H] 6800–7960'; JAC, PPH, TET [8] bua, mm, mmc.

*Corallorrhiza mertensiana* Bong. [G] 6800–8285'; JAC, TET [6] bua, mm, mmc, sas.

*Corallorrhiza striata* Lindl. [G] 6760'; TET [1] mmc.

*Corallorrhiza trifida* Chat. [G] 7515'; TET [1] mmc.

*Corallorrhiza wisteriana* Conrad [G] 6594–8285'; JAC, TET [3] mmc.

*Goodyera oblongifolia* Raf. [G] 6852–7360'; JAC, TET [3] mmc.

*Listera borealis* Morong [G] 6980'; JAC [1] wet.

*Listera caurina* Piper [G,T] 6852–7340'; TET, YEL [2] mmc.

< *Listera convallarioides* (Sw.) Nutt. ex Elliott [G] 6854–6975'; TET [2] mmc, str.

*Listera cordata* (L.) R. Br. [G,W] 6854–9140'; JAC, TET, PPH [9] mmc.

*Piperia unalascensis* (Spreng.) Rydb. [G] 6938–7691'; JAC, TET [3] mm, mmc, sps.

*Platanthera aquilonis* Sheviak [W] 7155'; YEL [1] mmm.

*Platanthera dilatata* (Pursh) Lindl. ex Beck var. *dilatata* [G,H,T] 6680–8420'; JAC, PPH, TET, YEL [11] mmm, scs, str.

*Platanthera dilatata* (Pursh) Lindl. ex Beck var. *albiflora* (Cham.) Ledeb. [G,H] 6816–8400'; JAC, PPH, TET [8] mmm, mmc, str.

*Platanthera huronensis* (Nutt.) Lindl. [G,H] 6820–8975'; JAC, PPH, TET [11] mmm, scs, str.

*Platanthera obtusata* (Banks ex Pursh) Lindl. [G] 7390'; JAC [1] mmm.

◀ *Platanthera stricta* Lindl. [G,W,H] 6816–8680'; JAC, PPH, TET, YEL [8] mmm, str.

*Spiranthes romanzoffiana* Cham. [G,W,H,T] 6500–8320'; JAC, PPH, YEL [10] mm, mmc, str, wet.

### Orobanchaceae

*Orobanche fasciculata* Nutt. [G] 6594–7367'; JAC [5] bua, sas, sps.

*Orobanche uniflora* L. [G,H] 6710–9240'; JAC, TET, YEL [9] bua, mm, sas, sps. [*Orobanche uniflora* var. *occidentalis* (Greene) Taylor & MacBryde]

### Plantaginaceae

*Plantago eriopoda* Torr. [H] 6940–8320'; PPH [3] dis, mm, mmm.

● *Plantago major* L. [G] 6680–6900'; JAC [6] dis, mmm, str, wet, wib.

*Plantago tweedyi* A. Gray [H] 7250–7390'; PPH [2] scs.

### Poaceae

*Achnatherum hymenoides* (Roem. & Schult.) Barkworth [G,H] 6400–7367'; JAC [6] sas, sps, str.

*Achnatherum lettermanii* (Vasey) Barkworth [G,H] 6595–9300'; JAC, PPH, TET [10] mm, mmm, sas, sps, sum.

*Achnatherum nelsonii* (Scribn.) Barkworth ssp. *nelsonii* [G,H] 6560–8000'; JAC, PPH, TET [10] bua, mm, mos, scs.

*Achnatherum nelsonii* (Scribn.) Barkworth ssp. *dorei* (Barkw. & Maze) Barkw. [G,H] 6940–8975'; JAC, PPH, TET [8] bua, mm, mmm, scs.

> *Achnatherum nevadense* (Johnson) Barkworth [H] 8120–8720'; YEL [1] bua.

*Achnatherum occidentale* (Thurb. ex Watson) Barkworth [G,W,H] 6900–8280'; JAC, PPH, YEL [4] bua, mmc, sas, sps.

● *Agropyron desertorum* (Fisch. ex Link) Schult. [G] 6400–6820'; JAC [4] dis, sas, sps. [*Agropyron cristatum* (L.) Gaertn. var. *desertorum* (Fisch. ex Link) Dorn]

▶ ● *Agropyron fragile* (Roth) P. Candargy [G] 6560'; JAC [1] bua.

[*Agropyron cristatum* (L.) Gaertn. var. *fragile* (Roth) Dorn]

*Agrostis exarata* Trin. [G,W,H,T] 6460–8360'; JAC, PPH, TET, YEL [14] mmm, mmc, scs, str, wib.

*Agrostis humilis* Vasey [G,H] 7860–10100'; PPH, TET [10] alt, mm, mmm, mmc, sum, smc. [*Agrostis thurberiana* Hitchc.]

*Agrostis idahoensis* Nash [W,H] 7120–8680'; PPH, YEL [4] mm, mmm.

▶ < *Agrostis mertensii* Trin. [G] 10800–11320'; TET [2] alt, tas.

> *Agrostis oregonensis* Vasey [H] 8360'; PPH [1] wet.

*Agrostis scabra* Willd. [G,W,H,T] 6491–11320'; JAC, PPH, TET, YEL [23] alt, mm, mmm, scs, tas, wet.

● *Agrostis stolonifera* L. [G,W,T] 6680–7340'; JAC, YEL [8] aqu, str.

*Agrostis variabilis* Rydb. [G,W,H] 6880–10640'; PPH, TET, YEL [9] alt, clf, mmm, scs, tas.

*Alopecurus aequalis* Sobol. var. *aequalis* [G,W,H,T] 6400–8360'; JAC, PPH, YEL [11] aqu, mmm, wet.

*Alopecurus alpinus* J. E. Sm. [G,W] 6845–7400'; JAC, YEL [2] aqu, dis. [*Alopecurus borealis* Trin.]

◀ ● *Alopecurus pratensis* L. [G,H] 6790–8320'; JAC, PPH [7] aqu, dis, mm, mmm.

▶ ● *Arrhenatherum elatius* (L.) Beauv. ex J. & K. Presl var. *elatius* [G] 6790'; JAC [2] dis.

● *Bromus arvensis* L. [G] 6400–6938'; JAC [3] dis, sas, sps. [*Bromus japonicus* Thunb. ex J. A. Murray]

*Bromus carinatus* H. & A. [G,W,H] 6700–9060'; JAC, PPH, TET, YEL [38] bua, mm, mmm, sas, scs, sum.

*Bromus ciliatus* L. [G,W,H] 6680–8885'; JAC, PPH, TET [21] mm, mmm, mmc, scs, str.

● *Bromus inermis* Leys. ssp. *inermis* [G,W,H] 6551–7580'; JAC, PPH [8] bua, dis, mm, mmm.

*Bromus inermis* Leys. var. *pumpellianus* (Scribn.) C.L. Hitchc. [G] 6800–8000'; JAC, TET [4] mmc, wet, wib.

*Bromus porteri* (J.M. Coult) Nash [G,H] 6760–7390'; JAC, PPH, TET [4] mmc, sas, scs, wib. [*Bromus anomalus* Rupr. ex Fourn.]

● *Bromus racemosus* L. [G] 6750–7000'; JAC [1] mmc, mog. [*Bromus commutatus* Schrad.]

● *Bromus tectorum* L. [G,H] 6551–7160'; JAC [13] bua, dis, mmc, mm, sas, sps.

*Bromus vulgaris* (Hook.) Shear [G] 7090–7115'; TET [2] bua, str.

*Calamagrostis canadensis* (Michx.) Beauv. [G,W,H,T] 6460–10250'; JAC, PPH, TET, YEL [29] alt, aqu, bua, mm, mmm, mmc, sum, wib.

*Calamagrostis koelerioides* Vasey [G] 6852'; TET [1] mmc.

- *Calamagrostis montanensis* Scribn. ex Vasey [G] 7366'; TET [1] bua.
- Calamagrostis purpurascens* R. Br. var. *purpurascens* [G,H] 9740–10350'; TET [6] alt, sps.
- Calamagrostis rubescens* Buckl. [G,W,H] 6920–8360'; JAC, PPH, YEL [4] mmc.
- Calamagrostis scopulorum* Jones [H] 7740'; PPH [1] scs.
- Calamagrostis stricta* (Timm) Koeler ssp. *stricta* [G,W,H,T] 6460–7390'; JAC, PPH, YEL [7] aqu, bua, mmm, str, wet.
- Calamagrostis stricta* (Timm) Koeler ssp. *inexpansa* (A. Gray) C.W. Greene [G,H] 7120–8885'; PPH, TET [2] mmc. [*Calamagrostis inexpansa* A. Gray]
- Cinna latifolia* (Trev. ex Goepp.) Griseb. [G,W,H] 7230–7740'; PPH, TET, YEL [5] mmc, scs, str.
- *Dactylis glomerata* L. [G,W,H] 6400–6930'; JAC, PPH, YEL [7] dis, mm, mmm.
- Danthonia californica* Boland. [G] 6880'; JAC [1] mmm.
- Danthonia intermedia* Vasey [G,W,H] 6700–10305'; JAC, PPH, TET, YEL [9] alt, mm, mmc, sas, sum.
- Danthonia unispicata* (Thurb.) Munro ex Macoun [G] 6573–6970'; JAC [8] sas.
- Deschampsia cespitosa* (L.) Beauv. [G,W,H] 6770–11320'; JAC, PPH, TET, YEL [33] alt, aqu, mmm, sum, tas, wib.
- Deschampsia elongata* (Hook.) Munro [G,H] 7580–8320'; PPH, TET [5] dis, mm, mmm, scs, wib.
- Dichanthelium acuminatum* (Sw.) Gould & Clark var. *acuminatum* [W] 6840–6859'; YEL [2] str, wet.
- *Elymus alaskanus* (Scribn. & Merr.) A. Löve ssp. *latiglumis* (Scribn. & J. G. Sm.) A. Löve [G] 9060–10795'; TET [4] alt, mm, sps. [Not recognized by Dorn]
- ◀ *Elymus albicans* (Scribn. & Sm.) Löve [G] 6900'; JAC [1] sps. [*Elymus albicans* var. *griffithsii* (Scribn. & Sm. ex Piper) Dorn]
- Elymus elymoides* (Raf.) Swezey ssp. *elymoides* [G,W,H] 6700–7920'; JAC, PPH, TET, YEL [10] bua, mm, mmc, sas.
- Elymus elymoides* (Raf.) Swezey ssp. *brevifolius* (J. G. Sm.) Barkw. [G,H] 6400–8600'; JAC, PPH, TET [5] mmc, sps.
- Elymus glaucus* Buckl. ssp. *glaucus* [G,W,H,T] 6795–9400'; JAC, PPH, TET, YEL [24] alt, mm, mmm, mmc, str, sum.
- Elymus lanceolatus* (Scribn. & Sm.) Gould ssp. *lanceolatus* [G,H] 6560–7367'; JAC [4] bua, mmc, sas.
- Elymus scribneri* (Vasey) Jones [G] 10000–11320'; TET [3] alt, tas.
- Elymus trachycaulus* (Link) Gould ex Shinners ssp. *trachycaulus* [G,W,H] 6760–10450'; JAC, PPH, TET, YEL [40] alt, dis, mm, mmc, scs, sps, sum, wib.
- Festuca brachyphylla* Schult. ex Schult. & Schult. ssp. *coloradensis* Frederiksen [G] 8878–10640'; TET [7] alt, mmm, tas.
- Festuca idahoensis* Elmer ssp. *idahoensis* [G,H] 6560–8400'; JAC, PPH [8] bua, mm, mmc.
- ◀ *Festuca minutiflora* Rydb. [G] 11320'; TET [1] alt, tas.
- Festuca saximontana* Rydb. var. *saximontana* [G,W,H] 6700–10350'; JAC, PPH, TET, YEL [11] alt, dis, mm, sas, tas.
- Glyceria borealis* (Nash) Batch. [G,H,T] 6515–7550'; JAC, PPH, YEL [4] aqu, mmm, wet.
- Glyceria grandis* Wats. [G,W] 6680–7390'; JAC, YEL [6] aqu, mmm, str, wet.
- Glyceria striata* (Lam.) Hitchc. [G,W,H,T] 6860–7780'; JAC, PPH [13] str, wet. [*Glyceria elata* (Nash ex Rydb.) Jones]
- Hesperostipa comata* (Trin. & Rupr.) Barkworth ssp. *comata* [G] 6900–7160'; JAC [2] sps.
- Hesperostipa comata* (Trin. & Rupr.) Barkworth ssp. *intermedia* (Scribn. & Tweedy) Barkw. [G] 6400–6900'; JAC [4] mmc, sas.
- Hierochloë odorata* (L.) Beauv. [G,W,H] 6880–8270'; PPH, TET, YEL [5] mm, mmm, str, wib.
- Hordeum brachyantherum* Nevski [G,H] 6770–7780'; JAC, PPH [10] mmm, scs, str, wib.
- Hordeum jubatum* L. [G] 6845'; JAC [1] dis.
- Koeleria macrantha* (Ledeb.) Schult. [G,W,H] 6550–9300'; JAC, PPH, TET, YEL [23] asf, bua, mm, mmc, sps.
- Leucopoa kingii* (Wats.) W. A. Weber [G] 7200–9530'; TET [12] alt, clf, mmc, sum, sps.
- Melica bulbosa* Geyer ex Porter & Coult. [G,H] 7300–8130'; JAC, PPH [6] mm, mmc.
- Melica spectabilis* Scribn. [G,W,H] 6551–8720'; JAC, PPH, TET, YEL [41] asf, bua, dis, mm, mmm, mmc, sas, sum.
- *Melica subulata* (Griseb.) Scribn. var. *pammelii* (Scribn.) C.L. Hitchc. [G,H] 6795–7960'; JAC, PPH, TET [9] bua, mm, mmc, str. [*Melica subulata*]
- Muhlenbergia andina* (Nutt.) Hitchc. [G,W] 6840–6905'; JAC, YEL [3] str.
- Muhlenbergia asperifolia* (Nees & Meyen ex Trin.) Parodi [W] 6859'; YEL [1] str.
- Muhlenbergia filiformis* (Thurb. ex Wats.) Rydb. [G,W,H,T] 6460–8320'; JAC, PPH, TET, YEL [15] dis, mm, mmm, str, wet.
- *Muhlenbergia mexicana* (L.) Trin. [W] 6840'; YEL [1] str, wet.
- Muhlenbergia richardsonis* (Trin.) Rydb. [G,W,H,T] 7250'; PPH [1] scs.
- Nassella viridula* (Trin.) Barkworth [G] 6700–6900'; JAC [1] sas.
- Phalaris arundinacea* L. [G] 6563–6980'; JAC [4] aqu, str.
- Phleum alpinum* L. [G,H] 7000–10305'; JAC, PPH, TET [22] alt, mmm, mmc, sum, wet, wib.
- *Phleum pratense* L. [G,H] 6597–8915'; JAC, PPH, TET [17] bua, dis, mmm, mmc, mos, sps, sas, wib.
- Piptatherum exiguum* (Thurb.) Dorn [G,H] 7560–9200'; PPH, TET [3] mmc, sps.
- Poa abbreviata* R. Br. ssp. *pattersonii* (Vasey) A. Löve & D. Löve & Kapoor [G] 8975–10795'; TET [4] alt, mm, sps. [*Poa pattersonii* Vasey]
- Poa alpina* L. [G,H] 6770–10390'; JAC, PPH, TET [29] alt, clf, scs, sum, tas, wib.
- *Poa annua* L. [G] 6680–8420'; JAC, TET [4] mmm, str.
- *Poa bulbosa* L. [G] 6520–6570'; JAC [1] dis.
- *Poa compressa* L. [G] 6400–6900'; JAC [3] dis, wet.
- Poa cusickii* Vasey ssp. *epilis* (Scribn.) W. A. Weber [G,H] 8915–10600'; PPH, TET [7] alt, clf, sum, tas.
- Poa cusickii* Vasey ssp. *pallida* Soreng [G] 9060–9800'; TET [2] sum, tas.
- Poa fendleriana* (Steud.) Vasey [G,H] 6758–10305'; JAC, PPH, TET [15] alt, mm, mmm, mmc, mos, sas, tas.
- Poa leptocoma* Trin. [G,H] 6790–10350'; JAC, PPH, TET [7] aqu, mm, mmm, mmc, tas.
- Poa nemoralis* L. ssp. *interior* (Rydb.) W.A. Weber [G,H,T] 6515–10040'; JAC, PPH, TET, YEL [12] alt, mmc, scs, sps, sum, tas, wib. [*Poa interior* Rydb.]



*Poa palustris* L. [G,W,T] 6400–7785'; JAC, PPH, TET, YEL [16] bua, mmm, mmc, str, wet.

● *Poa pratensis* L. [G,W,H,T] 6400–10795'; JAC, PPH, TET, YEL [40] bua, dis, mm, mmm, mmc, mos, sas, scs, sps, sum, wib.

*Poa reflexa* Vasey & Scribn. ex Vasey [G,W,H] 6980–10640'; JAC, PPH, TET, YEL [23] alt, aqu, mm, mmm, mmc, mos, scs, str.

*Poa secunda* Presl [G,W,H] 6520–11320'; JAC, PPH, TET, YEL [57] alt, bua, mm, mmm, mmc, mos, sas, sps, tas wet. [*Poa nevadensis* Vasey ex Scribn.] [*Poa secunda* varieties] [*Poa gracillima* Vasey]

*Poa wheeleri* Vasey [G,W,H] 6551–10295'; JAC, PPH, TET, YEL [57] alt, bua, mm, mmm, mmc, sas, smc, str.

*Pseudoroegneria spicata* (Pursh) A. Löve ssp. *spicata* [G,H] 6560–9300'; JAC, TET [14] alt, bua, mm, mmc, sas, sps. [*Elymus spicatus* (Pursh) Gould]

× *Pseudelymus xsaxicola* (Scrib. & J.G. Sm.) Barkworth & D.R. Dewey [G] 10480'; TET [1] alt. [*Elymus xsaxicolus*]

● *Schedonorus phoenix* (Scop.) Holub [H] 7255'; PPH [1] mm. [*Festuca arundinacea* Schreb.]

● *Thinopyrum intermedium* (Host) Barkworth & D.R. Dewey [G] 7340'; TET [1] mm, mos. [*Elymus hispidus* (Opiz) Melderis var. *hispidus*]

*Trisetum spicatum* (L.) Richt. [G,W,H] 6780–11320'; JAC, PPH, TET, YEL [37] alt, mm, mmm, mmc, scs, str, tas.

*Trisetum wolfii* Vasey [H] 7300–8680'; PPH [3] mmm, str.

*Vahlodea atropurpurea* (Wahlenb.) Fr. ex Hartm. [G,H] 8680–10640'; PPH, TET [5] alt, clf, smc, str. [*Deschampsia atropurpurea* (Wahl.) Scheele]

### Polemoniaceae

*Collomia linearis* Nutt. [G,W,H] 6400–9130'; JAC, PPH, TET, YEL [43] asf, bua, mm, mmm, mmc, mos, sas, scs, sum.

► *Collomia tenella* A. Gray [G,H] 7040–8640'; JAC, PPH, TET [4] mm, mos, sps.

*Ipomopsis aggregata* (Pursh) V. Grant var. *aggregata* [G,H] 6551–8880'; JAC, PPH, TET [27] bua, mm, mmc, sas, scs, sps, sum.

*Lathrocasis tenerrima* (A. Gray) L. A. Johnson [G,H] 6700–7440'; JAC, PPH [4] mmc, mos, sas.

*Leptosiphon nuttallii* (A. Gray) J.M. Porter & L. Johnson ssp. *nuttallii* [G] 8300–9635'; TET [5] mm, sps, tas.

*Leptosiphon septentrionalis* (Mason) J.M. Porter & L.A. Johnson [G,H] 6551–8500'; JAC, PPH, TET [26] bua, mm, mmm, mmc, sas.

*Linanthus pungens* (Torr.) J. M. Porter & L.A. Johnson [G,H] 6560–8320'; JAC [9] mmc, sas, sps.

*Microsteris gracilis* (Hook.) Greene var. *gracilis* [G] 6700'; JAC [1] sas.

*Microsteris gracilis* (Hook.) Greene var. *humilior* (Hook.) Cronq. [G] 6520–7000'; JAC [6] dis, sas, sps, str.

*Phlox hoodii* Richards. [G,H] 6597–8878'; JAC, TET [5] clf, sas, sps.

*Phlox longifolia* Nutt. ssp. *longifolia* [G,H] 6397–8640'; JAC, PPH [11] bua, mmc, sas.

*Phlox multiflora* A. Nels. [G,W,H] 6760–10795'; JAC, PPH, TET, YEL [13] alt, clf, mmm, sas, sps.

*Phlox pulvinata* (Wherry) Cronq. [G] 8500–9640'; TET [2] sps, sum.

*Polemonium occidentale* Greene ssp. *occidentale* [G] 7185'; TET [1] wib.

*Polemonium pulcherrimum* Hook. ssp. *pulcherrimum* [G,H] 6700–8400'; JAC, PPH [3] scs, sum.

*Polemonium viscosum* Nutt. [G] 8878–10600'; TET [8] alt, sps, tas.

### Polygonaceae

*Eriogonum brevicaulum* Nutt. var. *laxifolium* (T. & G.) Reveal [H] 10040'; TET [1] alt.

*Eriogonum flavum* Nutt. var. *piperi* (Greene) Jones [H] 8450'; PPH [1] mm.

*Eriogonum ovalifolium* Nutt. var. *purpureum* (Nutt.) Durand [G] 9300–10875'; TET [6] alt, tas.

*Eriogonum umbellatum* Torr. var. *umbellatum* [G,H] 6806–6865'; JAC [2] sas, sps.

*Eriogonum umbellatum* Torr. var. *majus* Hook. [G,W,H] 6551–10480'; JAC, PPH, TET, YEL [44] bua, dis, mmc

*Oxyria digyna* (L.) Hill [G,H] 7210–10800'; TET, YEL [14] alt, clf, tas.

*Polygonum amphibium* L. var. *stipulaceum* Coleman [G,W,H,T] 6400–7549'; JAC, PPH, YEL [10] aqu, wet.

*Polygonum aviculare* L. [G] 6680'; JAC [1] mmm.

*Polygonum bistortoides* Pursh [G,H] 6607–10795'; JAC, PPH, TET [20] alt, clf, mmm, mmc, sps, tas.

*Polygonum douglasii* Greene var. *douglasii* [G,W,H,T] 6400–8915'; JAC, PPH, TET, YEL [26] aqu, mm, mmm, mmc, sas, sps, str, wib.

*Polygonum lapathifolium* L. [G] 6845'; JAC [1] wet.

*Polygonum minimum* Wats. [G] 7360'; TET [1] sps.

*Polygonum polygaloides* Wall. ex Meisn ssp. *confertiflorum* (Nutt. ex Piper) J.C. Hickman [G,H] 6900–7980'; JAC, PPH [3] dis, wet. [*Polygonum kelloggii* Greene var. *confertiflorum* (Nutt. ex Piper) Dorn]

*Polygonum polygaloides* Wall. ex Meisn ssp. *kelloggii* (Greene) J.C. Hickman [G,H] 6700–8680'; JAC, PPH [4] dis, mmm. [*Polygonum kelloggii* Greene var. *kelloggii*]

*Polygonum viviparum* L. [G] 7185–10255'; TET [5] alt, clf, scs, wib.

● *Rumex acetosella* L. [G] 6551–7000'; JAC [7] sas, sps.

► *Rumex aquaticus* L. var. *fenestratus* (Greene) Dorn [W] 6810'; YEL [1] wet.

● *Rumex crispus* L. [G,W,T] 6400–6980'; JAC, YEL [3] aqu, str, wet.

*Rumex maritimus* L. [G] 6680–6975'; JAC [3] mmm, wet. [*Rumex maritimus* var. *fueginus* (Phil.) Dusen]

*Rumex paucifolius* Nutt. [G,W,H] 6397–10100'; JAC, PPH, TET, YEL [26] asf, bua, mm, mmm, sas, smc, wib.

*Rumex salicifolius* Weinm. var. *mexicanus* (Meisn.) C.L. Hitch. [G] 6400–6868'; JAC [2] str. [*Rumex salicifolius* var. *trian-gulivalvis* (Danser) C.L. Hitch.]

### Portulacaceae

*Cistanthe umbellata* (Torr.) Hershkovitz var. *caudicifera* (A. Gray) Kartesz & Gandhi [H] 9590'; PPH [1] sum. [*Cistanthe umbellata*]

*Claytonia lanceolata* Pall. ex Pursh var. *lanceolata* [G,W,H] 6594–9640'; JAC, PPH, TET, YEL [25] dis, mm, mmm, mmc, sas, smc, sps, str.

*Claytonia megarhiza* (A. Gray) Parry ex Wats. var. *megarhiza* [G] 11320'; TET [1] alt.  
*Lewisia pygmaea* (A. Gray) Robins. var. *pygmaea* [G,H] 6700–10305'; JAC, PPH, TET, YEL [11] alt, mm, sas, smc, sps, str.  
*Lewisia triphylla* (Wats.) Robins. [G,H] 7000–9530'; PPH, TET [7] mm, mmc, sps, sum.  
*Montia chamissoi* (Ledeb. ex Spreng.) Greene [G,W] 6850–7185'; JAC, TET, YEL [4] mmm, str, wib.

### Potamogetonaceae

*Potamogeton alpinus* Balbis [G,W,T] 6680–7340'; JAC, JDR, YEL [3] aqu, mmm.  
*Potamogeton epihydrys* Raf. [T] 6460'; YEL [1] aqu.  
*Potamogeton foliosus* Raf. [G,W] 6820–6900'; JAC, YEL [4] aqu, str, wet.  
*Potamogeton natans* L. [T] 7348'; YEL [1] wet.  
*Potamogeton richardsonii* (Benn.) Rydb. [G] 6845–6935'; JAC [2] aqu.  
*Stuckenia pectinata* (L.) Boerner [G] 6680'; JAC [1] aqu.

### Primulaceae

*Androsace filiformis* Retz. [G,W,H] 7159–8320'; JAC, PPH, YEL [7] mmm, str, wib.  
*Androsace septentrionalis* L. ssp. *subulifera* (A. Gray) G.T. Robbins [G,W,H] 6607–10600'; JAC, PPH, TET, YEL [35] alt, asf, bua, dis, mm, mmm, mmc, sas, sps.  
*Dodecatheon conjugens* Greene ssp. *conjugens* [G] 6889–8000'; JAC, TET [2] sas, str.  
*Dodecatheon pulchellum* (Raf.) Merr. ssp. *pulchellum* [G,H] 6790–10305'; JAC, PPH, TET [11] alt, mm, mmm, sps, smc, tas, wib.  
*Primula paryi* A. Gray [G] 9607–10640'; TET [6] alt, clf, str, sum, tas.

### Ranunculaceae

*Aconitum columbianum* Nutt. ssp. *columbianum* [G,W,H] 6900–10100'; JAC, PPH, TET, YEL [21] mmm, smc, str, wib.  
*Actaea rubra* (Ait.) Willd. [G,H] 6800–7598'; JAC, TET [14] mmc, str.  
*Anemone multifida* Poir. var. *multifida* [G,H] 6640–7200'; JAC, TET [6] asf, mmc, wib.  
*Anemone multifida* Poir. var. *tetonensis* (Porter ex Britton) C.L. Hitchc. [G,H] 6760–10040'; JAC, TET [13] alt, sps, sum, tas. [*Anemone tetonensis* Porter ex Britton.]  
*Aquilegia coerulea* James var. *coerulea* [G,H] 6800–10350'; JAC, PPH, TET [17] clf, mmc, sps, str, sum, tas.  
*Aquilegia flavescens* Wats. var. *flavescens* [G,H] 6760–9590'; JAC, PPH, TET [8] mmc, str, tas.  
 ▶ > *Aquilegia formosa* Fisch. ex DC. [G] 6800'; JAC [1] str.  
*Caltha leptosepala* DC. ssp. *leptosepala* [G,H] 8270–10305'; PPH, TET [5] bua, mm, mmc, sum.  
*Clematis hirsutissima* Pursh var. *hirsutissima* [G,H] 6806–9635'; JAC, TET, YEL [11] bua, mmm, mmc, sum, tas, sps.  
*Clematis occidentalis* (Hornem.) DC. var. *grosseserrata* (Rydb.) J. Pringle [G,H] 6800–7440'; JAC, PPH, TET [10] mmc, str.  
 ◀ *Delphinium bicolor* Nutt. [G,H] 6594–8310'; JAC, PPH, TET [14] mm, mmc, sas, sps.  
 × *Delphinium xburkei* Greene [G] 6880'; JAC [1] mmm. [*Delphinium burkei*]

*Delphinium glaucum* Wats. [G,H] 7255–9140'; PPH, TET [7] mm, sum, wib.  
*Delphinium nuttallianum* Pritz. ex Walp. [G,W,H] 6397–8300'; JAC, PPH, TET, YEL [25] asf, dis, mm, mmc, sas.  
 × *Delphinium xoccidentale* (Wats.) Wats. [G,H] 6930–7740'; PPH, TET [3] mm. [*Delphinium occidentale*]  
*Myosurus minimus* L. [H] 7780'; PPH [1] mmm.  
*Ranunculus acriformis* A. Gray var. *montanensis* (Rydb.) Benson [G] 6720–7080'; JAC [5] mmm, str, wib.  
 ◀ *Ranunculus adoneus* A. Gray [G] 7598–10324'; TET [6] alt, mmc.  
 ▶ *Ranunculus alismifolius* Geyer ex Benth. var. *alismifolius* [G] 6880'; JAC [1] mmm. [*Ranunculus alismifolius* var. *hartwegii* (Greene) Jeps.]  
*Ranunculus alismifolius* Geyer ex Benth. var. *davisii* Benson [H] 8320'; PPH [1] mmm.  
 ◀ *Ranunculus alismifolius* Geyer ex Benth. var. *montanus* Wats. [G] 7360'; JAC [1] mmm.  
*Ranunculus cymbalaria* Pursh [G] 6563–6790'; JAC [2] aqu, mmm. [*Ranunculus cymbalaria* var. *cymbalaria*] [*Ranunculus cymbalaria* var. *saximontanus* Fern.]  
*Ranunculus eschscholtzii* Schlecht. var. *eschscholtzii* [G,H] 7600–10305'; PPH, TET [10] alt, clf, mmc, str, wet.  
*Ranunculus eschscholtzii* Schlecht. var. *trisectus* (Eastw.) Benson [G,H] 8915–10640'; PPH, TET [9] alt, mm, mmc, sum.  
*Ranunculus flammula* L. var. *filiformis* (Michx.) Hook. [G,W] 6860–7160'; JAC, YEL [4] aqu, scs. [*Ranunculus flammula* var. *reptans* (L.) Meyer.]  
*Ranunculus glaberrimus* Hook. var. *ellipticus* (Greene) Greene [G,W] 6900–8400'; JAC, TET, YEL [4] mm, mmm.  
*Ranunculus gmelinii* DC. [G,H] 6980–7550'; JAC, TET [2] aqu, mmm.  
 ◀ *Ranunculus hyperboreus* Rottb. [W] 7186'; YEL [1] wet.  
*Ranunculus inamoenus* Greene var. *inamoenus* [G,W,H] 6790–8270'; JAC, PPH, TET, YEL [10] mm, mmm, str.  
*Ranunculus jovis* A. Nels. [G,W] 7320–9740'; TET, YEL [5] dis, sps, smc.  
*Ranunculus macounii* Britt. [G,W] 6563–6900'; JAC, YEL [2] wet.  
*Ranunculus orthorhynchus* Hook. var. *orthorhynchus* [W] 6900'; YEL [1] mmc. [*Ranunculus orthorhynchus* var. *platyphyllus* A. Gray]  
 ▶ *Ranunculus pensylvanicus* L. f. [G,T] 6400–6880'; JAC, YEL [2] mmm, wet.  
 ▶ *Ranunculus pygmaeus* Wahlenb. var. *pygmaeus* [G] 10480'; TET [1] alt, clf.  
 ▶ ● *Ranunculus repens* L. [G] 6850'; JAC [1] mmm.  
*Ranunculus sceleratus* L. var. *multifidus* Nutt. [G] 6845'; JAC [1] wet.  
*Ranunculus trichophyllus* Chaix. var. *trichophyllus* [G,W] 6563–7200'; JAC, YEL [3] str, wet. [*Ranunculus aquatilis* L. var. *difusus* With.]  
*Ranunculus uncinatus* D. Don ex G. Don var. *uncinatus* [G,H] 6850–8120'; JAC, PPH [3] mmm.  
*Ranunculus uncinatus* D. Don ex G. Don var. *parviflorus* (Torr.) Benson [G,H,T] 6400–7785'; JAC, PPH, TET, YEL [16] mmm, str, wet. [*Ranunculus uncinatus*]  
*Thalictrum fendleri* Engelm. ex A. Gray [G,W,H] 6780–8880'; JAC, PPH, TET [14] mmc, str, sum, wib.

- Thalictrum occidentale* A. Gray [G,W,H] 6816–8450'; JAC, PPH, TET, YEL [9] mm, mmc, str.
- Thalictrum sparsiflorum* Turcz. ex Fisch. & Mey. var. *saximontanum* Boivin [T] 6460–7340'; YEL [2] mmm, str.
- ◀ *Thalictrum venulosum* Trel. [G,W] 7280–7600'; TET, YEL [2] mm, mmc.
- Trollius laxus* Salisb. ssp. *albiflorus* (A. Gray) A. Löve & D. Löve & Kapoor [G,W,H,T] 6900–10100'; [14] mm, mmm, mmc, str, smc. [*Trollius albiflorus* (A. Gray) Rydb.]
- Rhamnaceae**
- Ceanothus velutinus* Dougl. ex Hook. [G,H] 6800–8280'; JAC, PPH, TET, YEL [15] mmc, mos, sps, str.
- Rhamnus alnifolia* L'Her. [G] 6680–6854'; JAC, TET [2] mmm, mmc, str.
- Rosaceae**
- Amelanchier alnifolia* (Nutt.) Nutt. ex Roem. var. *alnifolia* [G,H] 6551–8300'; JAC, PPH, TET [18] asf, bua, mm, mmc, mos, sas.
- Amelanchier pumila* (Torr. & A. Gray) Nutt. ex Roem. [G,H,T] 6479–8080'; JAC, PPH, TET, YEL [15] mm, mmc, sas, sps, wet. [*Amelanchier alnifolia* (Nutt.) Nutt. ex Roem. var. *pumila* (T. & G.) A. Nels.]
- ◀ *Amelanchier utahensis* Koehne [G,H] 6820–8000'; JAC, PPH, TET [8] mm, mmc, mos, sas, sps, wib.
- Argentina anserina* (L.) Rydb. [G,W] 6700–6900'; JAC, YEL [3] wet.
- Comarum palustre* L. [W,H,T] 6400–7550'; PPH, YEL [13] mmm, wet. [*Potentilla palustris* (L.) Scop.]
- Dasiphora fruticosa* (L.) Rydb. [G,W,H] 6400–9300'; JAC, PPH, TET, YEL [24] asf, mm, mmm, sas, sps, str, wib.
- Dryas octopetala* L. ssp. *hookeriana* (Juz.) Hulten [G] 10198–10795'; TET [2] alt.
- Fragaria vesca* L. [G,H] 6800–8000'; JAC, PPH, TET [17] mm, mmc.
- Fragaria virginiana* Duchesne [G,W,H] 6607–9635'; JAC, PPH, TET, YEL [36] asf, bua, mm, mmm, mmc, str.
- *Geum aleppicum* Jacq. [G,W] 6790–6859'; JAC, YEL [2] str.
- Geum macrophyllum* Willd. var. *perincisum* (Rydb.) Raup [G,W,H,T] 6680–8320'; [31] JAC, PPH, TET, YEL mmm, mmc, mog, str, wet.
- Geum rossii* (R. Br.) Ser. var. *turbinatum* (Rydb.) C.L. Hitchc. [G] 8980–10800'; TET [4] alt, sum, tas.
- Geum triflorum* Pursh var. *ciliatum* (Pursh) Fass. [G,W,H] 6560–7200'; JAC, TET [15] asf, bua, mm, mmm, sas.
- Ivesia gordonii* (Hook.) T. & G. [G,H] 9640–10040'; TET [4] alt, sps.
- Petrophytum caespitosum* (Nutt.) Rydb. var. *caespitosum* [G,H] 9320–10040'; TET [2] alt, clf. [*Petrophyton caespitosum*]
- ◀ • *Potentilla argentea* L. [G] 6551–6880'; JAC [3] dis, sas.
- ◀ *Potentilla arguta* Pursh [G,H] 6640–10450'; JAC, PPH, TET, YEL [22] mm, mmc, sas, scs, str, wet.
- Potentilla brevifolia* Nutt. ex T. & G. [G] 9590'; TET [1] alt.
- Potentilla diversifolia* Lehm. var. *diversifolia* [G,W,H] 6680–10795'; JAC, PPH, TET, YEL [25] alt, mm, mmm, mmc, smc, str.
- Potentilla diversifolia* Lehm. var. *perdissecta* (Rydb.) C.L. Hitchc. [G] 8775–10795'; TET [6] alt, tas.
- Potentilla flabellifolia* Hook. ex T. & G. [G] 9140–10305'; TET [5] alt, sum.
- Potentilla glandulosa* Lindl. ssp. *glabrata* (Rydb.) D.D. Keck [H] 7140'; PPH [1] mmc. [*Potentilla glandulosa* var. *intermedia* (Rydb.) C.L. Hitchc.]
- Potentilla glandulosa* Lindl. ssp. *pseudorupestris* (Rydb.) Keck [G,H] 6800–9485'; PPH, TET [18] mm, mmm, smc, sps, sum.
- Potentilla gracilis* Dougl. ex Hook. var. *brunnescens* (Rydb.) C.L. Hitchc. [G,H] 6720–8320'; JAC, PPH, TET [9] asf, mm, mmm, sas.
- Potentilla gracilis* Dougl. ex Hook. var. *fastigiata* (Nutt.) S. Watson [G,W,H] 6573–8120'; JAC, PPH, TET, YEL [16] dis, mm, mmc, sas, wib.
- Potentilla gracilis* Dougl. ex Hook. var. *flabelliformis* (Lehm.) Nutt. ex T. & G. [G] 6551–6960'; JAC [3] mmc, sas.
- *Potentilla hookeriana* Lehm. [G] 9385'; TET [1] alt, tas.
- Potentilla norvegica* L. [G,W,T] 6333–7366'; JAC, TET, YEL [11] dis, mmm, sas, wet.
- ◀ *Potentilla ovina* Macoun ex Macoun var. *ovina* [G] 9300–9607'; TET [2] alt, clf.
- Potentilla pectinifolia* Rydb. [H] 6940'; PPH [1] mm. [*Potentilla gracilis* Dougl. ex Hook. var. *elmeri* (Rydb.) Jeps.]
- Potentilla pensylvanica* L. [G] 6597'; JAC [1] sps.
- Potentilla pulcherrima* Lehm. [G,H] 6551–8885'; JAC, PPH, TET [17] bua, mm, mmc, sas, str, sum, wib. [*Potentilla gracilis* Dougl. ex Hook. var. *pulcherrima* (Lehm.) Fern.]
- Potentilla rubricaulis* Lehm. [G] 6597–8040'; JAC, TET [2] mog, sps.
- Prunus virginiana* L. var. *melanocarpa* (A. Nels.) Sarg. [G,H] 6597–8720'; JAC, PPH, TET, YEL [27] bua, dis, mm, mmm, mmc, mos, sas, sps.
- Purshia tridentata* (Pursh) DC. [G,H] 6397–6970'; JAC [17] dis, mmc, sas, sps.
- *Rosa acicularis* Lindl. ssp. *sayi* (Schwein.) W.H. Lewis [G] 6938'; JAC [1] sps. [*Rosa sayi* Schwein.]
- Rosa nutkana* Presl var. *hispida* Fern. [G] 6806'; JAC [1] mm, sps.
- Rosa woodsii* Lindl. [G,H] 6400–7691'; JAC, TET [3] mmc.
- Rubus idaeus* L. ssp. *strigosus* (Michx.) Focke [G,H] 6573–8885'; JAC, TET [9] mm, mmc, sps, tas.
- Rubus parviflorus* Nutt. var. *parviflorus* [G] 6573–7200'; JAC, TET [8] mos, str.
- Sibbaldia procumbens* L. [G,H] 8680–10795'; PPH, TET [18] alt, mm, smc, sum, tas.
- Sorbus scopulina* Greene var. *scopulina* [G,H] 6800–8000'; JAC, PPH, TET [8] mm, mmc, mos, sps.
- Spiraea betulifolia* Pall. var. *lucida* (Dougl. ex Hook.) C.L. Hitchc. [G,W,H,T] 6597–8885'; JAC, PPH, TET, YEL [13] mmc, sps, wet.
- Spiraea splendens* Baumann ex K. Koch [G] 6816–8985'; JAC, TET [4] asf, str.
- Rubiaceae**
- Galium aparine* L. [G] 6551–7934'; JAC, TET [4] sas, mm, mos.
- Galium bifolium* Wats. [G,H] 6520–8915'; JAC, PPH, TET, YEL [38] mm, mmm, mmc, sas, sps, str.
- Galium boreale* L. [G,W,H,T] 6560–8140'; JAC, PPH, TET, YEL [25] bua, mmm, mmc, mos, wet.

*Galium trifidum* L. ssp. *trifidum* [G,H,T] 7340–8360'; PPH, TET, YEL [6] mmm, mmc, scs, wet.  
*Galium trifidum* L. ssp. *subbiflorum* (Wieg.) Piper [G,W,H,T] 6400–8360'; JAC, PPH, YEL [17] mmm, wet, wib. [*Galium trifidum*]  
*Galium triflorum* Michx. [G,H,T] 6460–7840'; JAC, PPH, TET, JDR; [15] mmm, mmc, wet.  
 > *Kelloggia galioides* Torr. [G] 7210'; TET [1] tas.

### Salicaceae

*Populus angustifolia* James [G,H] 6400–8280'; JAC, PPH, TET [21] dis, mmc, sas, scs, str.  
*Populus balsamifera* L. ssp. *balsamifera* [G,H] 6520–7934'; JAC, PPH, TET [13] mos, sps, str, wet.  
 ► *Populus balsamifera* L. ssp. *trichocarpa* (Torr. & A. Gray ex Hook) Brayshaw [G] 7109'; TET [1] tas. [*Populus balsamifera*]  
*Populus tremuloides* Michx. [G,H,T] 6540–9189'; JAC, PPH, TET, YEL [47] asf, bua, mm, mmm, mmc, mos, sas, smc, sps, str.  
*Salix barclayi* Anderss. [H] 7000–7580'; JAC, PPH [3] mmm, mos, wet.  
*Salix bebbiana* Sarg. [G,H] 6520–7180'; JAC [7] sas, sps, str, wet.  
*Salix boothii* Dorn [G,W,H,T] 6551–10250'; JAC, PPH, TET, YEL [19] mm, mmm, scs, str, wet, wib.  
 ◀ *Salix brachycarpa* Nutt. var. *brachycarpa* [G] 9635'; TET [1] sps, sum.  
*Salix cascadenis* Ckll. [G] 9520–10800'; TET [6] alt, clf.  
*Salix drummondiana* Barr. ex Hook. [G,W,H,T] 6515–9020'; JAC, PPH, TET, YEL [8] mmm, wet, wib.  
*Salix eastwoodiae* Ckll. ex Heller [G,H] 7600–9607'; PPH, TET [10] mm, mmm, smc, str, sum, wet.  
*Salix exigua* Nutt. var. *exigua* [H,T] 6900–8120'; PPH, YEL [2] str.  
*Salix farriarum* Ball [H] 6900–8120'; JAC, PPH [3] mmc, mos.  
 ► • *Salix fragilis* L. [G] 6520–6570'; JAC [1] dis  
*Salix geyeriana* Anderss. [G,T] 6333–6816'; JAC, YEL [6] mmm, sas, str, wib.  
*Salix glauca* L. var. *villosa* (D. Don ex Hook.) Anderss. [G] 6800–10305'; TET [7] alt, mm, sps, str, tas. [*Salix glauca* var. *villosa* Anderss.]  
*Salix lemmonii* Bebb [G,W] 6551–7360'; JAC, YEL [12] mmm, str, wet.  
*Salix lucida* Muhl. ssp. *caudata* (Nutt.) E. Murray [G,T] 6800–7340'; JAC, YEL [2] str. [*Salix lasiandra* Benth. var. *caudata* (Nutt.) Sudw.]  
*Salix melanopsis* Nutt. [G,H] 6397–7620'; JAC, PPH [6] scs, str, wib.  
*Salix nivalis* Hook. [G] 9320–10795'; TET [6] alt, clf, sps. [*Salix reticulata* L. var. *nana* Anderss.]  
*Salix petrophila* Rydb. [G] 9240–10795'; TET [6] alt, clf, sum. [*Salix arctica* Pall. var. *petraea* (Anderss.) Bebb]  
*Salix planifolia* Pursh ssp. *planifolia* [W,T] 6333–6527'; YEL [5] wet.  
*Salix scouleriana* Barr. ex Hook. [G,H,T] 6500–8000'; JAC, YEL [7] mmc, sas, str, wet.  
*Salix tweedyi* (Bebb ex Rose) Ball [G] 7670'; TET [1] mmc.  
*Salix wolfii* Bebb [G,W,H] 6750–8985'; JAC, PPH, TET, YEL [11] mmm, str, wet, wib. [*Salix wolfii* var. *idahoensis* Ball] [*Salix wolfii* var. *wolfii*]

### Santalaceae

*Comandra umbellata* (L.) Nutt. ssp. *pallida* (A. DC.) Piehl [G,H] 6400–7367'; JAC, TET [11] asf, bua, mos, sas, sps.

### Saxifragaceae

*Heuchera parvifolia* Nutt. ex T. & G. [G] 6597–8915'; JAC, TET [8] bua, mmc, sps.  
*Lithophragma glabrum* Nutt. [G,W,H] 6594–9530'; JAC, PPH, TET, YEL [8] mm, mmc, sps, sum.  
*Lithophragma parviflorum* (Hook.) Nutt. ex T. & G. [G,H] 6720–8100'; JAC, PPH, TET [18] mm, mmm, mos, sps, str, sum.  
 ► *Lithophragma tenellum* Nutt. [G] 6758–6820'; JAC [1] sps.  
*Mitella pentandra* Hook. [G,H] 6816–9140'; JAC, PPH, TET [10] mmm, str.  
*Mitella stauropetala* Piper var. *stauropetala* [G,H] 6760–8085'; JAC, PPH, TET [7] mmc, str, tas.  
*Parnassia fimbriata* Konig var. *fimbriata* [G,W,H] 7090–10060'; PPH, TET, YEL [10] alt, clf, mmc, str, wet.  
 < *Parnassia kotzebuei* Cham. ex Spreng. [G] 9520'; TET [1] alt, clf.  
*Parnassia palustris* L. var. *montanensis* (Fern. & Rydb.) C.L. Hitchc. [G] 6820'; JAC [1] str.  
*Parnassia palustris* L. var. *parviflora* (DC.) B. Boivin [W,H] 6880–7360'; PPH, YEL [4] scs, str. [*Parnassia parviflora* DC.]  
*Saxifraga bronchialis* L. ssp. *austromontana* (Wieg.) Piper [G] 7210–10800'; TET [14] alt, clf, mmc, sps, str, tas.  
 ► *Saxifraga caespitosa* L. ssp. *monticola* (Small) A.E. Porsild [G] 10198–10795'; TET [2] alt, tas. [*Saxifraga caespitosa*]  
*Saxifraga occidentalis* Wats. [G] 7000–10305'; TET [9] alt, smc, sps, str.  
*Saxifraga odontoloma* Piper [G,W,H] 6573–9800'; JAC, PPH, TET [18] alt, mmm, str, tas, wet.  
*Saxifraga oppositifolia* L. [G] 10198–10795'; TET [2] alt.  
*Saxifraga rhomboidea* Greene [G] 9740–10795'; TET [2] alt.  
*Saxifraga rivularis* L. [G] 8980–10640'; TET [6] alt, clf, str, tas. [*Saxifraga rivularis* varieties]  
*Saxifraga subpetalata* E. Nels. [G,H] 6880–9200'; JAC, PPH, TET, YEL [5] mmm, str.  
*Telesonix heucheriformis* Rydb. [G,H] 8878–10255'; TET [9] alt, clf, tas.

### Scheuchzeriaceae

> *Scheuchzeria palustris* L. [T] 6491–6500'; YEL [1] wet.

### Scrophulariaceae

*Besseyia wyomingensis* (A. Nels.) Rydb. [G] 8160–8915'; TET [2] sps, sum.  
*Castilleja angustifolia* (Nutt.) G. Don var. *dubia* A. Nels. [G] 7367'; JAC [1] sps.  
*Castilleja flava* Wats. var. *flava* [G,H] 6400–9640'; JAC, TET [6] asf, sas, sps.  
*Castilleja linariifolia* Benth. [G,W,H] 6400–8360'; JAC, PPH, TET, YEL [12] mmc, sas, scs, sps, wet.  
*Castilleja miniata* Dougl. ex Hook. ssp. *miniata* [G,W,H,T] 6770–10640'; JAC, PPH, TET, YEL [43] alt, bua, mm, mmc, scs, str, tas, wib.  
 × *Castilleja miniata* Dougl. ex Hook. × *C. sulphurea* Rydb. [W] 6840–6905'; YEL [2] str, wet. [*Castilleja xporterae* Ckll; not recognized by Dorn]

- ◀ *Castilleja pallescens* (A. Gray) Greenm. var. *pallescens* [G] 6560'; JAC [1] bua.
- Castilleja pilosa* (Wats.) Rydb. var. *longispica* (A. Nels.) N. Holmgren [G] 6400–7000'; JAC [12] sas, sps.
- Castilleja pulchella* Rydb. [G] 9600–10324'; TET [5] alt, sps, tas.
- Castilleja rhexiifolia* Rydb. [G,H] 8400–10305'; PPH, TET [3] alt, str, sum. [*Castilleja rhexiifolia* Rydb.]
- Castilleja sulphurea* Rydb. [G,H] 7340–10600'; TET [11] mm, mos, smc, sum.
- Collinsia parviflora* Lindl. [G,W,H] 6397–8975'; JAC, PPH, TET, YEL [41] bua, dis, mm, mmm, mmc, sas, sps, sum.
- ▲● *Linaria dalmatica* (L.) Mill. ssp. *dalmatica* [G] 6400'; JAC [1] sas.
- ▲● *Linaria vulgaris* Mill. [G,T,Y] 6460–7366'; JAC, TET, YEL [6] bua, dis, mm, wet.
- Mimulus guttatus* DC. [G,W,H] 6563–8885'; JAC, PPH, TET, YEL [16] mmm, str, wet, wib.
- Mimulus lewisii* Pursh [G,W,H] 7120–10640'; PPH, TET, YEL [14] alt, mmm, scs, str, tas.
- Mimulus moschatus* Dougl. ex Lindl. var. *moschatus* [G,W,H,T] 6400–8360'; JAC, PPH, YEL [15] mmm, mmc, str, wet.
- Mimulus tilingii* Regel var. *tilingii* [H,T] 6333–8320'; PPH, YEL [6] mmm, scs, str, wet.
- ◀ *Mimulus washingtonensis* Gandog. [G] 7000–8953'; TET [3] clf, sps. [*Mimulus patulus* Penn.]
- Orthocarpus luteus* Nutt. [G,W,H] 6810–7580'; JAC, PPH, TET, YEL [6] dis, mm, mmm, wet, wib.
- Orthocarpus tolmiei* H. & A. [G] 8400–8885'; TET [1] mm.
- Pedicularis bracteosa* Benth. var. *paysoniana* (Penn.) Cronq. [G,W,H] 6750–9660'; JAC, PPH, TET, YEL [25] dis, mm, mmm, mmc, sas, smc.
- Pedicularis contorta* Benth. var. *contorta* [G] 10198–10795'; TET [1] alt.
- Pedicularis groenlandica* Retz. [G,H] 6854–10305'; JAC, PPH, TET [23] mm, mmm, scs, smc, str, sum, wib.
- Pedicularis parryi* A. Gray ssp. *purpurea* (Parry) G.D. Carr [G] 8980'; TET [1] alt.
- Pedicularis racemosa* Dougl. ex Benth. ssp. *alba* Penn. [G,W,H,T] 6460–10450'; JAC, PPH, TET, YEL [19] bua, mm, mmc, mos, smc, sum.
- Penstemon attenuatus* Dougl. ex Lindl. var. *pseudoprocerus* (Rydb.) Cronq. [G,H] 7210–10600'; PPH, TET [11] alt, mm, mmc, smc, sps, sum, tas.
- Penstemon cyananthus* Hook. [G] 7691–9300'; TET [4] clf, sum, sps.
- Penstemon cyaneus* Penn. [G,H] 7200–8400'; JAC, PPH, TET [8] mm, mmc, mos, sps.
- Penstemon deustus* Dougl. ex Lindl. var. *deustus* [G] 6806–9200'; JAC, TET [4] mos, sps, tas.
- Penstemon montanus* Greene var. *montanus* [G,H] 8878–10000'; PPH, TET [6] alt, sps, tas.
- Penstemon procerus* Dougl. ex Grah. var. *procerus* [G,H] 6400–8270'; JAC, PPH, TET [11] asf, mm, mmm, sas, scs.
- Penstemon radicosus* A. Nels. [G,H] 6560–7367'; JAC [5] bua, mmc, sps.
- Penstemon subglaber* Rydb. [G] 6400–6938'; JAC [3] sps.
- Penstemon whippleanus* A. Gray [G,H] 6770–10350'; JAC, PPH, TET [10] mmm, mmc, scs, smc, sps, sum, tas.
- Scrophularia lanceolata* Pursh [G] 6760–8500'; TET [5] mmc, mos, tas.
- *Verbascum thapsus* L. [G,W] 6790–6840'; JAC, YEL [2] dis.
- Veronica americana* Schwein. ex Benth. [G,W,H,T] 6460–10100'; JAC, PPH, TET, YEL [20] dis, mmm, smc, str, wib.
- Veronica anagallis-aquatica* L. [G] 6680'; JAC [1] str.
- ◀● *Veronica biloba* L. [G,H] 6640–8720'; JAC, PPH [5] dis, sps.
- ◀● *Veronica officinalis* L. [G] 6760'; JAC [1] dis.
- Veronica peregrina* L. ssp. *xalapensis* (H.B.K.) Pennell [G] 6700–6900'; JAC [2] dis, sas.
- Veronica scutellata* L. [T] 6400–6527'; YEL [2] wet.
- Veronica serpyllifolia* L. ssp. *humifusa* (Dicks.) Syme [G,H] 6700–8680'; JAC, PPH, TET, YEL [11] mmm, mmc, sas, str, wet, wib.
- Veronica wormskjoldii* R. & S. [G,W,H] 7580–10640'; PPH, TET, YEL [17] alt, clf, mmm, str, wet.
- Sparganiaceae**
- Sparganium angustifolium* Michx. [G,W,H,T] 6500–8065'; JAC, PPH, YEL [8] aqu, str, wet.
- *Sparganium emersum* Rehm. [G,T] 6400–6980'; JAC, YEL [4] aqu.
- Typhaceae**
- Typha latifolia* L. [W] 6810'; YEL [1] wet.
- Urticaceae**
- Urtica dioica* L. ssp. *gracilis* (Aiton.) Seland. [G,H] 6520–7350'; JAC, TET [10] mmc, mos, str. [*Urtica dioica* var. *procer* (Muhl. ex Willd.) Wedd.]
- Valerianaceae**
- Valeriana acutiloba* Rydb. var. *pubicarpa* (Rydb.) Cronq. [G] 9300'; TET [1] clf, sps.
- Valeriana dioica* L. var. *sylvatica* Wats. [H] 7560'; PPH [1] mmm, str.
- Valeriana edulis* Nutt. ex T. & G. var. *edulis* [G,H] 6720–9300'; JAC, PPH [11] mmm, mm, sps, wib.
- Valeriana occidentalis* Heller [G,W,H] 6520–9140'; JAC, PPH, TET, YEL [41] asf, bua, mm, mmm, mmc, mos, sas.
- Verbenaceae**
- Verbena bracteata* Cav. ex Lag. & Rodr. [G] 6700–6900'; JAC [4] dis, sas, wet.
- Violaceae**
- Viola adunca* Sm. [G,W,H] 6640–8100'; JAC, PPH, TET, YEL [21] asf, bua, mm, mmm, mmc.
- Viola macloskeyi* Lloyd ssp. *pallens* (Banks ex Ging.) M.S. Baker [G,H,T] 6460–8975'; JAC, PPH, TET, YEL [10] mm, mmm, str, wet.
- Viola nephrophylla* Greene [G,H] 7560–8400'; PPH, TET [2] clf, str, wet.
- Viola orbiculata* Geyer ex Holz. [G,H] 6760–8040'; PPH, TET [2] mm, str.
- Viola palustris* L. [G,H] 7360–9140'; JAC, PPH, TET [7] mmm, smc, str.
- Viola praemorsa* Dougl. ex Lindl. ssp. *linguifolia* (Nutt.) M.S. Baker & J.C. Clausen ex M. Peck [G,W,H] 6720–8975'; JAC, PPH, TET, YEL [20] bua, dis, mm, mmm, mmc, mos, sas, smc, str. [*Viola praemorsa* var. *altior* Blank.]

- Viola purpurea* Kellogg ssp. *venosa* (Wats.) M.S. Baker & J.C. Clausen [G,H] 6790–9635'; JAC, PPH, TET [19] mm, sas, smc, sps, sum.
- > *Viola renifolia* A. Gray [G] 6980–7080'; JAC [1] wet. [*Viola renifolia* var. *brainerdii* (Greene) Fern.]
- ◀ *Viola vallicola* A. Nels. [G,H] 6594–9660'; JAC, PPH, TET [8] mm, mmc, sps, wet.

**Viscaceae**

- Arceuthobium americanum* Nutt. ex Engelm. [G,W,T] 6460–7040'; JAC, YEL [7] mmc.

**Zannichelliaceae**

- Zannichellia palustris* L. [W] 6820'; YEL [4] aqu.

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