Vascular Plant Survey of Grant-Kohrs Ranch National Historic Site

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In 1983 Peter M. Rice and Gary J. Ray conducted a baseline plant inventory of the Grant-Kohrs Ranch National Historic Site. At that time the ranch occupied only 216 acres and included the central area surrounding the main house and associated outbuildings, as well as pastures and a hayfield on the east side of the Clark Fork River, north of Cottonwood Creek. Subsequent acquisitions have enlarged the historic site to its current size of 1,618 acres. Those additional areas on the east bank include pastures, remnant prairie (now being irrigated with sewage effluent and used as pasture) and borrow pit wetlands to the north of the original boundary. West of the river riparian wetlands, flood-irrigated pastures and hayfields, and rangeland on dry upland benches are now included in the park boundary. In 2000-2001 Rice and Janet G. Hardin compiled a species list for the fenced 126 acre Clark Fork riparian zone as part of vegetation investigations in a natural resource damage assessment. Finally, in 2002 Rice and Hardin surveyed the upland grasslands, irrigation ditch system, sloughs, borrow pits, sewage effluent fields, and the strip of land currently leased by the Burlington Northern/Montana Western Railroad. Also examined were the submerged and emergent aquatic plants in beaver ponds, sloughs and ditches.

The 1983 and 2000-2001 surveys were conducted throughout the growing season. In 2002 field work began on May 6 and continued through August 28. That survey focused on three growth periods: spring ephemerals (May), peak biomass (early July), and warm season forbs (late August).

The species lists from 1983, 2000-2001, and 2002 were compiled in a Microsoft Access database and reformatted to match the table structures developed for the NPS Inventory and Monitoring Network. Nomenclature was updated by using the Integrated Taxonomic Information System (ITIS).

A total of 341 taxa have been identified on the Ranch -- 12 to the genus level and 329 to species. These vascular flora represent 210 genera and 59 families. The numbers of newly observed species in each year were: 159 (1983), 87 (2000), 16 (2001), and 79 (2002). Life-form categories include 5 spore-bearing taxa, 6 tree species, 29 shrub species, 67 graminoid (grass, sedge, rush) taxa, and 234 species of forbs. 86 species are exotic to North America and constitute 25% of the taxa. Of those exotic species, 11 are designated as noxious in the state of Montana, and a total of 57 species are considered noxious by various state and provincial governments in some portion of their North American distribution.

None of the plant species observed is considered rare to the point of being formally listed as a Species of Concern, Threatened or Endangered by the Montana Natural Heritage Program. However, the complex nature of the ranch landscape means that there are a few species that were observed in very small numbers or in very localized sites, and these have been described as "rare" in the Access database. The recent drought may have had an effect on the relative abundances of some of these species as observed in the last few years.

The number of taxa reflects the management history and complex environment encompassed by the ranch. These include areas highly impacted by humans and livestock (roads, railroads, borrow pits, home sites, corrals, pastures and hayfields), as well as areas in which recognizable native plant communities remain. The most complex and vegetatively diverse of these is the riparian zone. Despite the damaging impacts of mining wastes deposited from upstream, the riparian zone includes 185 plant taxa (54% of the species documented on the ranch) in 22 community types. It also supports the greatest concentration of exotic weeds. The dry upland benches of the west side have primarily been used for grazing, and retain much of the character of natural grassland communities. These are primarily the bluebunch wheatgrass/western wheatgrass habitat type and the bluebunch wheatgrass/Sandberg's bluegrass type (needle-and-thread grass phase). These community types also occur to a lesser degree east of the river, in the strip of land owned by the railroad and in the non-irrigated area between the Kohrs-Manning Ditch and the borrow pit (now a wetland). The fences around the riparian zone and the non-irrigated uplands help maintain these areas in a condition approaching the potential natural communities.

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PLANT SPECIES OF GRANT-KOHRS RANCH NHS

SPECIES	COMMON NAME	FAMILY	Native/Exotic
TREES			
Betula pendula	European white birch	Betulaceae	E (o)*
Fraxinus pennsylvanica	green ash	Oleaceae	N (o)
Juniperus scopulorum	Rocky Mountain juniper	Cupressaceae	N
Malus sp.	apple	Rosaceae	E (o)
Populus balsamifera ssp *trichocarpa* (*Populus trichocarpa*)	black cottonwood	Salicaceae	N
Populus tremuloides	quaking aspen	Salicaceae	N
SHRUBS			
Alnus incana	gray alder	Betulaceae	N
Amelanchier alnifolia	western serviceberry	Rosaceae	N
Artemisia frigida	fringed sagebrush	Asteraceae	N
Atriplex gardneri	Gardner's saltbush	Chenopodiaceae	N
Betula occidentalis	water birch	Betulaceae	N
Cercocarpus ledifolius	curl-leaf mountain mahogany	Rosaceae	N
Chrysothamnus viscidiflorus	Douglas rabbitbrush	Asteraceae	N
Cornus sericea (*C.stolonifera*)	redosier dogwood	Cornaceae	N
Dasiphora floribunda (*Potentilla fruticosa*)	shrubby cinquefoil	Rosaceae	N
Ericameria nauseosa (*Chrysothamnus nauseosus*)	rubber rabbitbrush	Asteraceae	N
Gutierrezia sarothrae	broom snakeweed	Asteraceae	N
Krascheninnikovia lanata (*Erotia lanata; Ceratoides lanata*)	winterfat	Chenopodiaceae	N
Lonicera utahensis	Utah honeysuckle	Caprifoliaceae	N
Lonicera x bella	Bell's honeysuckle	Caprifoliaceae	E (o)
Prunus virginiana	chokecherry	Rosaceae	N
Ribes aureum	golden currant	Grossulariaceae	N
Ribes oxyacanthoides (*R. setosum*)	Canadian gooseberry	Grossulariaceae	N
Rosa woodsii	Wood's rose	Rosaceae	N
Salix bebbiana	Bebb willow	Salicaceae	N
Salix boothii	Booth's willow	Salicaceae	N
Salix drummondiana	Drummond's willow	Salicaceae	N
Salix exigua	sandbar willow, coyote willow	Salicaceae	N
Salix geyeriana	Geyer willow	Salicaceae	N
Salix lucida ssp *lasiandra* (*S. lasiandra*)	Pacific willow	Salicaceae	N
Salix lutea	yellow willow	Salicaceae	N
Solanum dulcamara	bittersweet nightshade	Solanaceae	N
Symphoricarpos occidentalis	western snowberry	Caprifoliaceae	N
Syringa vulgaris	common lilac	Oleaceae	E (o)
Tetradymia canescens	spineless horsebrush	Asteraceae	N

GRAMINOIDS

Achnatherum hymenoides *(Oryzopsis hymenoides)*	Indian ricegrass	Poaceae	N
Agropyron cristatum	crested wheatgrass	Poaceae	E
Agrostis idahoensis	Idaho bentgrass	Poaceae	N
Agrostis stolonifera	redtop	Poaceae	E
Alopecurus aequalis	shortawn foxtail	Poaceae	N
Alopecurus pratensis	meadow foxtail	Poaceae	E
Aristida purpurea var. *longiseta* *(A. longiseta)*	red threeawn	Poaceae	N
Beckmannia syzigachne	slough grass	Poaceae	N
Bouteloua gracilis	blue grama	Poaceae	N
Bromus inermis	smooth brome	Poaceae	E
Bromus japonicus	Japanese brome	Poaceae	E
Bromus tectorum	downy brome	Poaceae	E
Calamagrostis canadensis	bluejoint reedgrass	Poaceae	N
Calamagrostis montanensis	plains reedgrass	Poaceae	N
Calamagrostis stricta ssp. *inexpansa* *(C. inexpansa)*	northern reedgrass	Poaceae	N
Carex aquatilis	water sedge	Cyperaceae	N
Carex atherodes	awned sedge	Cyperaceae	N
Carex bebbii	Bebb's sedge	Cyperaceae	N
Carex douglasii	Douglas' sedge	Cyperaceae	N
Carex duriuscula *(C. stenophylla)*	needleleaf sedge	Cyperaceae	N
Carex microptera	smallwing sedge	Cyperaceae	N
Carex nebrascensis	Nebraska sedge	Cyperaceae	N
Carex pellita *(C. lanuginosa)*	woolly sedge	Cyperaceae	N
Carex praegracilis	clustered field sedge	Cyperacea	N
Carex scirpoidea	Canadian single-spike sedge	Cyperaceae	N
Carex simulata	shortbeak sedge	Cyperaceae	N
Carex stipata	sawbeak sedge	Cyperaceae	N
Carex utriculata (*C. rostrata* var *utriculata*)	Northwest Territory sedge	Cyperaceae	N
Catabrosa aquatica	brookgrass	Poaceae	N
Dactylis glomerata	orchardgrass	Poaceae	N
Deschampsia caespitosa	tufted hairgrass	Poaceae	N
Eleocharis palustris	creeping spikerush	Cyperaceae	N
Elymus canadensis	Canada wildrye	Poaceae	N
Elymus caninus *(Agropyron caninum)*	bearded wheatgrass	Poaceae	N
Elymus elymoides ssp *elymoides* *(Sitanion hystrix)*	squirreltail	Poaceae	N
Elymus repens *(Agropyron repens*)	quackgrass	Poaceae	E
Festuca campestris *(F. scabrella)*	rough fescue	Poaceae	N
Festuca occidentalis	western fescue	Poaceae	N
Glyceria grandis	American mannagrass	Poaceae	N
Hesperostipa comata *(Stipa comata)*	needle-and-thread	Poaceae	N
Hierochloe odorata	sweetgrass	Poaceae	N
Hordeum jubatum	foxtail barley	Poaceae	N
Juncus balticus	Baltic rush	Juncaceae	N

Juncus filiformis	thread rush	Juncaceae	N
Juncus nodosus	knotted rush	Juncaceae	N
Koeleria macrantha *(K. cristata)*	prairie junegrass	Poaceae	N
Leymus cinereus *(Elymus cinereus)*	basin wildrye	Poaceae	N
Lolium pratense *(Festuca pratensis)*	meadow fescue	Poaceae	E
Muhlenbergia asperifolia	alkali muhly	Poaceae	N
Nassella viridula *(Stipa viridula)*	green needlegrass	Poaceae	N
Pascopyrum smithii *(Agropyron smithii)*	western wheatgrass	Poaceae	N
Phalaris arundinacea	reed canarygrass	Poaceae	E
Phleum pratense	timothy	Poaceae	E
Poa compressa	Canada bluegrass	Poaceae	E
Poa cusickii *(Poa fendleriana)*	Cusick's bluegrass	Poaceae	N
Poa pratensis	Kentucky bluegrass	Poaceae	E
Poa secunda *(Poa gracillima)*	Sandberg's bluegrass	Poaceae	N
Poa secunda ssp. *juncifolia* *(Poa juncifolia)*	Sandberg's bluegrass	Poaceae	N
Poa secunda (*P. sandbergii*)	Sandberg's bluegrass	Poaceae	N
Pseudoroegneria spicata *(Agropyron spicatum)*	bluebunch wheatgrass	Poaceae	N
Scirpus microcarpus	smallfruit bulrush	Cyperaceae	N
Schoenoplectus tabernaemontani *(Scirpus validus)*	softstem bulrush	Cyperaceae	N
Setaria viridis	green foxtail	Poaceae	E
Spartina gracilis	alkali cordgrass	Poaceae	N
Thinopyrum intermedium	intermediate wheatgrass	Poaceae	E

FORBS

Achillea millefolium	common yarrow	Asteraceae	N
Achillea ptarmica	sneezeweed	Asteraceae	E
Acroptilon repens *(Centaurea repens)*	Russian knapweed	Asteraceae	E
Agoseris glauca	pale agoseris	Asteraceae	N
Allium cernuum	nodding onion	Liliaceae	N
Allium textile	textile onion	Liliaceae	N
Allium schoenoprasum	wild chives	Liliaceae	N
Alisma plantago-aquatica	American waterplantain	Alismataceae	N
Alyssum alyssoides	yellow alyssum	Brassicaceae	E
Alyssum desertorum	desert alyssum	Brassicaceae	E
Amaranthus blitoides *(A. graecizans)*	prostrate pigweed	Amaranthaceae	N
Amaranthus retroflexus	redroot pigweed	Amaranthaceae	N
Androsace occidentalis	western rock jasmine	Primulaceae	N
Antennaria microphylla	littleleaf pussytoes	Asteraceae	N
Antennaria umbrinella	umber pussytoes	Asteraceae	N
Arabis holboellii	Holboell's rockcress	Brassicaceae	N
Arabis x divaricarpa	spreadingpod rockcress	Brassicaceae	N
Arenaria congesta	ballhead sandwort	Caryophyllaceae	N

Argentina anserina *(Potentilla anserina)*	silverweed cinquefoil	Rosaceae	N
Artemisia biennis	biennial wormwood	Asteraceae	N
Artemisia campestris	common sagewort	Asteraceae	N
Artemisia ludoviciana	Louisiana wormwood	Asteraceae	N
Asclepias speciosa	showy milkweed	Asclepiadaceae	N
Astragalus adsurgens	standing milkvetch	Fabaceae	N
Astragalus purshii	Pursh's milkvetch	Fabaceae	N
Atriplex patula	halberd-leaf orache	Chenopodiaceae	N
Barbarea vulgaris	yellow rocket	Brassicaceae	E
Besseya wyomingensis	Wyoming kittentail	Scrophulariaceae	N
Bidens cernua	nodding beggartick	Asteraceae	N
Callitriche stagnalis	pond water-starwort	Callitrichaceae	E
Camelina microcarpa	smallseed falseflax	Brassicaceae	E
Campanula rapunculoides	creeping bellflower	Campanulaceae	E
Campanula rotundifolia	bluebell	Campanulaceae	N
Capsella bursa-pastoris	shepherd's purse	Brassicaceae	E
Cardaria chalapensis	heartpod hoarycress	Brassicaceae	E
Cardaria draba	whitetop	Brassicaceae	E
Cardaria pubescens	globe-pod hoarycress	Brassicaceae	E
Carduus nutans	musk thistle	Asteraceae	E
Centaurea biebersteinii *(C. maculosa)*	spotted knapweed	Asteraceae	E
Cerastium fontanum ssp *vulgare* *(C. vulgatum)*	comon mouse-ear chickweed	Caryophyllaceae	E
Chamaesyce serpyllifolia *(Euphorbia serpyllifolia)*	thyme-leaf sandmat	Euphorbiaceae	N
Chamerion angustifolium *(Epilobium angustifolium)*	fireweed	Onagraceae	N
Chenopodium album	lambsquarters	Chenopodiaceae	E
Chenopodium glaucum	oak-leaf goosefoot	Chenopodiaceae	E
Chenopodium leptophyllum	slimleaf lambsquarters	Chenopodiaceae	N
Cicuta douglasii	water hemlock	Apiaceae	N
Cirsium arvense	Canada thistle	Asteraceae	E
Cirsium flodmanii	Flodman's thistle	Asteraceae	N
Cirsium undulatum	wavyleaf thistle	Asteraceae	N
Cirsium vulgare	bull thistle	Asteraceae	E
Cleome serrulata	Rocky Mountain beeplant	Capparaceae	N
Collomia linearis	slender-leaf collomia	Polemoniaceae	N
Convolvulus arvensis	field bindweed	Convolvulaceae	E
Crepis modocensis	common hawksbeard	Asteraceae	N
Crepis runcinata	dandelion hawksbeard	Asteraceae	N
Cryptantha interrupta	Elko cryptantha	Boraginaceae	N
Cynoglossum officinale	houndstongue	Boraginaceae	E
Delphinium nuttallianum var *nuttallianum*	Nuttall's larkspur	Ranunculaceae	N

Descurainia incana *(D. richardsonii)*	mountain tansymustard	Brassicaceae	N
Descurainia sophia	flixweed	Brassicaceae	E
Dodecatheon conjugens	Bonneville shootingstar	Primulaceae	N
Dodecatheon pulchellum	dark-throat shootingstar	Primulaceae	N
Douglasia montana	Rocky Mountain dwarf-primrose	Primulaceae	N
Draba nemorosa	woodland whitlowgrass	Brassicaceae	N
Draba verna	spring whitlowgrass	Brassicaceae	N
Elodea canadensis	broad waterweed	Hydrocharitaceae	N
Epilobium ciliatum (*E. ciliatum watsonii*)	fringed willowherb	Onagraceae	N
Epilobium minutum	chaparral willowherb	Onagraceae	N
Epilobium palustre	marsh willowherb	Onagraceae	N
Equisetum arvense	field horsetail	Equisetaceae	N
Equisetum fluviatile	water horsetail	Equisetaceae	N
Equisetum hyemale	horsetail	Equisetaceae	N
Equisetum laevigatum	smooth scouring-rush	Equisetaceae	N
Erigeron compositus	cutleaf daisy	Asteraceae	N
Erigeron glabellus	smooth fleabane	Asteraceae	N
Erigeron lonchophyllus	short-ray boreal-daisy	Asteraceae	N
Erigeron pumilus	shaggy fleabane	Asteraceae	N
Eriogonum umbellatum	sulfur buckwheat	Polygonaceae	N
Eurybia integrifolia *(Aster integrifolius)*	thickstem aster	Asteraceae	N
Erysimum inconspicuum	smallflower wallflower	Brassicaceae	N
Euphorbia esula	leafy spurge	Euphorbiaceae	E
Fritillaria pudica	yellow bells	Liliaceae	N
Gaillardia aristata	common gaillardia	Asteraceae	N
Galeopsis tetrahit	bristlestem hempnettle	Lamiaceae	E
Galium boreale	northern bedstraw	Rubiaceae	N
Galium trifidum	small bedstraw	Rubiaceae	N
Gaura coccinea	scarlet gaura	Onagraceae	N
Geum macrophyllum	large-leaf avens	Rosaceae	N
Geum triflorum	prairie smoke	Rosaceae	N
Glecoma hederacea	ground ivy	Lamiaceae	E
Glycyrrhiza lepidota	licorice	Fabaceae	N
Grindelia squarrosa	curlycup gumweed	Asteraceae	N
Gypsophila paniculata	baby's breath	Caryophyllaceae	E
Helianthus annuus	common sunflower	Asteraceae	N
Helianthus nuttallii	Nuttall's sunflower	Asteraceae	N
Heracleum maximum *(H. lanatum)*	cow parsnip	Apiaceae	N
Hesperis matronalis	dame's rocket	Brassicaceae	E
Heterotheca villosa (*Chrysopsis villosa)*	hairy goldenaster	Asteraceae	N
Heuchera parvifolia	little-leaf alumroot	Saxifragaceae	N
Hieracium umbellatum	narrowleaf hawkweed	Asteraceae	N
Hippuris vulgaris	common mare's-tail	Hippuridaceae	N
Hydrophyllum capitatum	ballhead waterleaf	Hydrophyllaceae	N
Hyoscyamus niger	henbane	Solanaceae	E
Ionactis alpina *(Aster scopulorum)*	crag aster	Asteraceae	N
Iris missouriensis	Rocky Mountain iris	Iridaceae	N
Kochia scoparia	kochia	Chenopodiaceae	E
Lactuca serriola	prickly lettuce	Asteraceae	E
Lactuca tatarica var *pulchella*			

(L. pulchella)	blue lettuce	Asteraceae	N
Lappula occidentalis			
(L. redowskii)	western sticktight	Boraginaceae	N
Lemna minor	common duckweed	Lemnaceae	N
Lepidium latifolium	perennial pepperweed	Brassicaceae	E
Lepidium perfoliatum	clasping pepperweed	Brassicaceae	E
Lesquerella alpina	alpine bladderpod	Brassicaceae	N
Lewisia rediviva	bitterroot	Portulacaceae	N
Linaria vulgaris	yellow toadflax	Scrophulariaceae	E
Linum perenne			
(L. lewisii)	blue flax	Linaceae	N
Lithospermum incisum	fringed gromwell	Boraginaceae	N
Lomatium triternatum	nineleaf biscuitroot	Apiaceae	N
Lupinus sericeus	silky lupine	Fabaceae	N
Lygodesmia juncea	skeletonweed	Asteraceae	N
Lysimachia thyrsiflora	tufted loosestrife	Primulaceae	N
Maianthemum stellatum			
(Smilacina stellata)	starry false Solomon's seal	Liliaceae	N
Medicago lupulina	black medick	Fabaceae	E
Medicago sativa	alfalfa	Fabaceae	E
Melilotus officinalis			
(includes *M. albus*)	yellow sweetclover	Fabaceae	E
Mentha arvensis	wild mint	Lamiaceae	N
Mertensia oblongifolia	oblongleaf bluebells	Boraginaceae	N
Mimulus guttatus	common monkeyflower	Scrophulariaceae	N
Musineon divaricatum	leafy musineon	Apiaceae	N
Myosotis scorpioides	common forget-me-not	Boraginaceae	E
Myosotis verna	spring forget-me-not	Boraginaceae	N
Myriophyllum sibiricum	shortspike watermilfoil	Halogaraceae	N
Nothocalais troximoides			
(*Microseris troximoides*)	false agoseris	Asteraceae	N
Oenothera villosa			
(*O. strigosa*)	hairy evening primrose	Onagraceae	N
Onobrychis viciifolia	sainfoin	Fabaceae	E
Opuntia polyacantha	plains pricklypear	Cactaceae	N
Orobanche ludoviciana	Louisiana broomrape	Orobanchaceae	N
Oxytropis besseyi	Bessey's locoweed	Fabaceae	N
Packera cana			
(Senecio canus)	woolly groundsel	Asteraceae	N
Penstemon eriantherus	fuzzytongue penstemon	Scrophulariaceae	N
Penstemon nitidus	waxleaf penstemon	Scrophulariaceae	N
Penstemon procerus			
var *procerus*	pincushion beardtongue	Scrophulariaceae	N
Petasites sagittatus	arrowleaf sweet coltsfoot	Asteraceae	N
Phacelia linearis	threadleaf phacelia	Hydrophyllaceae	N
Phlox hoodii ssp. *muscoides*			
(P. muscoides; P. bryoides)	moss phlox	Polemoniaceae	N
Phlox longifolia	longleaf phlox	Polemoniaceae	N
Plantago australis ssp *hirtella*			
(P. hirtella)	Mexican plantain	Plantaginaceae	N
Plantago eriopoda	saline plantain	Plantaginaceae	N
Plantago major	common plantain	Plantaginaceae	E
Plantago patagonica	woolly plantain	Plantaginaceae	N
Platanthera dilatata			
(Habenaria dilatata)	white bog orchid	Orchidaceae	N

Polygonum achoreum	striate knotweed	Polygonaceae	N
Polygonum amphibium var *emersum* (*P. coccineum*)	water smartweed	Polygonaceae	N
Polygonum aviculare	prostrate smartweed	Polygonaceae	E
Polygonum convolvulus	black bindweed	Polygonaceae	E
Polygonum douglasii	Douglas' knotweed	Polygonaceae	N
Polygonum lapathifolium	pale smartweed	Polygonaceae	E
Polygonum persicaria	ladysthumb	Polygonaveae	E
Potentilla gracilis	graceful cinquefoil	Rosaceae	N
Potentilla hippiana	woolly cinquefoil	Rosaceae	N
Potentilla pensylvanica	prairie cinquefoil	Rosaceae	N
Potentilla recta	sulphur cinquefoil	Rosaceae	E
Pyrola asarifolia	pink wintergreen	Ericaceae	N
Pyrrocoma integrifolia *(Haplopappus integrifolius)*	entire-leaved goldenweed	Asteraceae	N
Ranunculus acriformis	sharpleaf buttercup	Ranunculaceae	N
Ranunculus aquatilis	white water buttercup	Ranunculaceae	N
Ranunculus cymbalaria	alkali buttercup	Ranunculaceae	N
Ranunculus gmelinii	lesser yellow water buttercup	Ranunculaceae	N
Ranunculus longirostris *(R. aquatilis* var *aquatilis; R. subrigidus)*	longbeak watercrowfoot	Ranunculaceae	N
Ranunculus pensylvanicus	Pennsylvania buttercup	Ranunculaceae	N
Ranunculus repens	creeping buttercup	Ranunculaceae	E
Ranunculus sceleratus	celeryleaf buttercup	Ranunculaceae	N
Rorippa curvipes *(R. obtusa)*	blunt-leaf yellowcress	Brassicaceae	N
Rorippa nasturtium-aquaticum *(Nasturtium officinale)*	watercress	Brassicaceae	E
Rorippa sylvestris	creeping yellowcress	Brassicaceae	E
Rubus idaeus	American red raspberry	Rosaceae	N
Rumex acetosella	sheep sorrel	Polygonaceae	E
Rumex crispus	curly dock	Polygonaceae	E
Rumex maritimus	golden dock	Polygonaceae	N
Rumex obtusifolius	bitter dock	Polygonaceae	E
Rumex salicifolius var. *mexicanus* *(R. salicifolius* ssp *triangulivalvus)*	willow dock	Polygonaceae	N
Salsola tragus *(S. kali; S. iberica)*	prickly Russian thistle	Chenopodiaceae	E
Solanum dulcamara	bittersweet	Solanaceae	E
Schoenocrambe linifolia	flaxleaf plains mustard	Brassicaceae	N
Scutellaria galericulata	marsh skullcap	Lamiaceae	N
Senecio integerrimus	lambstongue groundsel	Asteraceae	N
Silene latifolia ssp *alba* *(Lychnis alba)*	bladder campion	Caryophyllaceae	E
Silene vulgaris *(S. cucubalus)*	bladder campion	Caryophyllaceae	E
Sisymbrium altissimum	Jim Hill mustard	Brassicaceae	E
Sisymbrium loeslii	false London rocket	Brassicaceae	E
Sisyrinchium idahoense	Idaho blue-eyed grass	Iridaceae	N
Sium suave	common waterparsnip	Apiaceae	N
Solidago canadensis	Canada goldenrod	Asteraceae	N
Solidago missouriensis	Missouri goldenrod	Asteraceae	N
Sonchus arvensis	perennial sowthistle	Asteraceae	E
Sphaeralcea coccinea	scarlet globemallow	Malvaceae	N
Stachys palustris	marsh hedgenettle	Lamiaceae	N

Stellaria longipes	longstalk starwort	Caryophyllaceae	N
Stenotus acaulis *(Haplopappus acaulis)*	stemless goldenweed	Asteraceae	N
Stuckenia filiformis *(Potamogeton filiformis)*	fineleaf pondweed	Potamogetonaceae	N
Stuckenia pectinatus *(Potamogeton pectinatus)*	sago pondweed	Potamogetonaceae	N
Symphyotrichum campestre *(Aster campestris)*	western meadow aster	Asteraceae	N
Symphyotrichum chilense *(Aster chilensis)*	Pacific aster	Asteraceae	N
Symphyotrichum falcatum *(Aster falcatus)*	white prairie aster	Asteraceae	N
Symphyotrichum laeve *(Aster laevis)*	smooth blue aster	Asteraceae	N
Symphyotrichum lanceolatum ssp *hesperium* *(Aster hesperius)*	white panicle aster	Asteraceae	N
Symphyotrichum spathulatum *(Aster occidentalis)*	western mountain aster	Asteraceae	N
Symphyotrichum ericoides var *pansum* *(Aster pansus)*	white heath aster	Asteraceae	N
Tanacetum vulgare	common tansy	Asteraceae	E
Taraxacum officinale	dandelion	Asteraceae	E
Thalictrum dasycarpum	purple meadowrue	Ranunculaceae	N
Thalictrum occidentale	western meadowrue	Ranunculaceae	N
Thlaspi arvense	field pennycress	Brassicaceae	E
Tragopogon dubius	western salsify	Asteraceae	E
Tragopogon pratensis	meadow salsify	Asteraceae	E
Trifolium longipes	longstalk clover	Fabaceae	N
Trifolium pratense	red clover	Fabaceae	E
Trifolium repens	white clover	Fabaceae	E
Triglochin maritimum	arrowgrass	Juncaginaceae	N
Typha latifolia	cattail	Typhaceae	N
Urtica dioica	stinging nettle	Urticaceae	N
Utricularia macrorhiza *(U. vulgaris)*	common bladderwort	Lentibulariaceae	N
Valeriana edulis	tobacco root	Valerianaceae	N
Verbascum thapsus	common mullein	Scrophulariaceae	E
Veronica anagallis-aquatica	water speedwell	Scrophulariaceae	E
Vicia americana	American vetch	Fabaceae	N
Vicia cracca	bird vetch	Fabaceae	E
Viola sp. *(V. nephrophylla?)*	violet	Violaceae	N
Zannichellia palustris	horned pondweed	Potamogetonaceae	N
Zigadenus elegans	mountain deathcamas	Liliaceae	N
Zigadenus venenosus	meadow deathcamas	Liliaceae	N
Zizia aptera	heart-leaf alexanders	Apiaceae	N

* (o) ornamental or found at sites of old structures

Project Summary
Rocky Mountains Cooperative Ecosystem Studies Unit

Project Title:
Grant Kohrs Ranch Vascular Plant Survey

Type of Project (circle one) Research (Biological Sciences)

Funding Agency:
National Park Service, Rocky Mountain Inventory and Monitoring Network

Effective Dates:
April 1, 2002 - April 1, 2003

Funding Amount:
$7,745

Investigators and Agency Representative:
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Project Abstract:
Grant Kohrs Ranch NHS is about 1500 acres of pastures, uplands and riparian areas along the Clark Fork River. Peter Rice will work with the National Park Service to survey vascular plant species on the Ranch to achieve a 90% completeness. Areas to be surveyed include:

UPLANDS: SW corner (north of Taylor Creel & west of Kohrs Ditch)
dry lands above west side hayfields
areas east of K-M Ditch, and east of railroad tracks (some now being irrigated with waste water)
area west of borrow pit (east of K-M Ditch)

DITCHES: Kohrs Ditch (west)
Kohrs-Manning Ditch (east)
Many weeds along the ditches.

RAILROAD TRACKS: Mix of weeds and "desirable" exotics.

This survey will be completed during a 2 ½ week period in the spring of 2002 with emphasis on identification of ephemerals and cool season plants. During the summer researchers will also survey for 2 ½ weeks to record warm season species.

Final Report(s):
For Text Report see following pages.
INVADERS Database http://invader.dbs.umt.edu

Keywords:

Grant Kohrs Ranch National Historic Site; vascular plants; inventory and monitoring

Vascular Plant Survey of Grant-Kohrs Ranch National Historic Site

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Division of Biological Sciences
University of Montana
October 31, 2002

In 1983 Peter M. Rice and Gary J. Ray conducted a baseline plant inventory of the Grant-Kohrs Ranch National Historic Site. At that time the ranch occupied only 216 acres and included the central area surrounding the main house and associated outbuildings, as well as pastures and a hayfield on the east side of the Clark Fork River, north of Cottonwood Creek. Subsequent acquisitions have enlarged the historic site to its current size of 1,618 acres. Those additional areas on the east bank include pastures, remnant prairie (now being irrigated with sewage effluent and used as pasture) and borrow pit wetlands to the north of the original boundary. West of the river riparian wetlands, flood-irrigated pastures and hayfields, and rangeland on dry upland benches are now included in the park boundary. In 2000-2001 Rice and Janet G. Hardin compiled a species list for the fenced 126 acre Clark Fork riparian zone as part of vegetation investigations in a natural resource damage assessment. Finally, in 2002 Rice and Hardin surveyed the upland grasslands, irrigation ditch system, sloughs, borrow pits, sewage effluent fields, and the strip of land currently leased by the Burlington Northern/Montana Western Railroad. Also examined were the submerged and emergent aquatic plants in beaver ponds, sloughs and ditches.

The 1983 and 2000-2001 surveys were conducted throughout the growing season. In 2002 field work began on May 6 and continued through August 28. That survey focused on three growth periods: spring ephemerals (May), peak biomass (early July), and warm season forbs (late August).

The species lists from 1983, 2000-2001, and 2002 were compiled in a Microsoft Access database and reformatted to match the table structures developed for the NPS Inventory and Monitoring Network. Nomenclature was updated by using the Integrated Taxonomic Information System (ITIS).

A total of 341 taxa have been identified on the Ranch -- 12 to the genus level and 329 to species. These vascular flora represent 210 genera and 59 families. The numbers of newly observed species in each year were: 159 (1983), 87 (2000), 16 (2001), and 79 (2002). Life-form categories include 5 spore-bearing taxa, 6 tree species, 29 shrub species, 67 graminoid (grass, sedge, rush) taxa, and 234 species of forbs. 86 species are exotic to North America and constitute 25% of the taxa. Of those exotic species, 11 are designated as noxious in the state of Montana, and a total of 57 species are considered

noxious by various state and provincial governments in some portion of their North American distribution.

None of the plant species observed is considered rare to the point of being formally listed as a Species of Concern, Threatened or Endangered by the Montana Natural Heritage Program. However, the complex nature of the ranch landscape means that there are a few species that were observed in very small numbers or in very localized sites, and these have been described as "rare" in the Access database. The recent drought may have had an effect on the relative abundances of some of these species as observed in the last few years.

The number of taxa reflects the management history and complex environment encompassed by the ranch. These include areas highly impacted by humans and livestock (roads, railroads, borrow pits, home sites, corrals, pastures and hayfields), as well as areas in which recognizable native plant communities remain. The most complex and vegetatively diverse of these is the riparian zone. Despite the damaging impacts of mining wastes deposited from upstream, the riparian zone includes 185 plant taxa (54% of the species documented on the ranch) in 22 community types. It also supports the greatest concentration of exotic weeds. The dry upland benches of the west side have primarily been used for grazing, and retain much of the character of natural grassland communities. These are primarily the bluebunch wheatgrass/western wheatgrass habitat type and the bluebunch wheatgrass/Sandberg's bluegrass type (needle-and-thread grass phase). These community types also occur to a lesser degree east of the river, in the strip of land owned by the railroad and in the non-irrigated area between the Kohrs-Manning Ditch and the borrow pit (now a wetland). The fences around the riparian zone and the non-irrigated uplands help maintain these areas in a condition approaching the potential natural communities.

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PLANT SPECIES OF GRANT-KOHRS RANCH NHS

SPECIES	COMMON NAME	FAMILY	Native/Exotic
TREES			
Betula pendula	European white birch	Betulaceae	E (o)*
Fraxinus pennsylvanica	green ash	Oleaceae	N (o)
Juniperus scopulorum	Rocky Mountain juniper	Cupressaceae	N
Malus sp.	apple	Rosaceae	E (o)
Populus balsamifera ssp *trichocarpa* (*Populus trichocarpa*)	black cottonwood	Salicaceae	N
Populus tremuloides	quaking aspen	Salicaceae	N
SHRUBS			
Alnus incana	gray alder	Betulaceae	N
Amelanchier alnifolia	western serviceberry	Rosaceae	N
Artemisia frigida	fringed sagebrush	Asteraceae	N
Atriplex gardneri	Gardner's saltbush	Chenopodiaceae	N
Betula occidentalis	water birch	Betulaceae	N
Cercocarpus ledifolius	curl-leaf mountain mahogany	Rosaceae	N
Chrysothamnus viscidiflorus	Douglas rabbitbrush	Asteraceae	N
Cornus sericea (*C.stolonifera*)	redosier dogwood	Cornaceae	N
Dasiphora floribunda (*Potentilla fruticosa*)	shrubby cinquefoil	Rosaceae	N
Ericameria nauseosa (*Chrysothamnus nauseosus*)	rubber rabbitbrush	Asteraceae	N
Gutierrezia sarothrae	broom snakeweed	Asteraceae	N
Krascheninnikovia lanata (*Erotia lanata; Ceratoides lanata*)	winterfat	Chenopodiaceae	N
Lonicera utahensis	Utah honeysuckle	Caprifoliaceae	N
Lonicera x bella	Bell's honeysuckle	Caprifoliaceae	E (o)
Prunus virginiana	chokecherry	Rosaceae	N
Ribes aureum	golden currant	Grossulariaceae	N
Ribes oxyacanthoides (*R. setosum*)	Canadian gooseberry	Grossulariaceae	N
Rosa woodsii	Wood's rose	Rosaceae	N
Salix bebbiana	Bebb willow	Salicaceae	N
Salix boothii	Booth's willow	Salicaceae	N
Salix drummondiana	Drummond's willow	Salicaceae	N
Salix exigua	sandbar willow, coyote willow	Salicaceae	N
Salix geyeriana	Geyer willow	Salicaceae	N
Salix lucida ssp *lasiandra* (*S. lasiandra*)	Pacific willow	Salicaceae	N
Salix lutea	yellow willow	Salicaceae	N
Solanum dulcamara	bittersweet nightshade	Solanaceae	N
Symphoricarpos occidentalis	western snowberry	Caprifoliaceae	N
Syringa vulgaris	common lilac	Oleaceae	E (o)
Tetradymia canescens	spineless horsebrush	Asteraceae	N

GRAMINOIDS

		Achnatherum hymenoides	
		(Oryzopsis hymenoides)	Indian ricegrass
		Poaceae	N
Agropyron cristatum	crested wheatgrass	Poaceae	E
Agrostis idahoensis	Idaho bentgrass	Poaceae	N
Agrostis stolonifera	redtop	Poaceae	E
Alopecurus aequalis	shortawn foxtail	Poaceae	N
Alopecurus pratensis	meadow foxtail	Poaceae	E
Aristida purpurea var. *longiseta*			
(A. longiseta)	red threeawn	Poaceae	N
Beckmannia syzigachne	slough grass	Poaceae	N
Bouteloua gracilis	blue grama	Poaceae	N
Bromus inermis	smooth brome	Poaceae	E
Bromus japonicus	Japanese brome	Poaceae	E
Bromus tectorum	downy brome	Poaceae	E
Calamagrostis canadensis	bluejoint reedgrass	Poaceae	N
Calamagrostis montanensis	plains reedgrass	Poaceae	N
Calamagrostis stricta ssp. *inexpansa*			
(C. inexpansa)	northern reedgrass	Poaceae	N
Carex aquatilis	water sedge	Cyperaceae	N
Carex atherodes	awned sedge	Cyperaceae	N
Carex bebbii	Bebb's sedge	Cyperaceae	N
Carex douglasii	Douglas' sedge	Cyperaceae	N
Carex duriuscula			
(C. stenophylla)	needleleaf sedge	Cyperaceae	N
Carex microptera	smallwing sedge	Cyperaceae	N
Carex nebrascensis	Nebraska sedge	Cyperaceae	N
Carex pellita			
(C. lanuginosa)	woolly sedge	Cyperaceae	N
Carex praegracilis	clustered field sedge	Cyperacea	N
Carex scirpoidea	Canadian single-spike sedge	Cyperaceae	N
Carex simulata	shortbeak sedge	Cyperaceae	N
Carex stipata	sawbeak sedge	Cyperaceae	N
Carex utriculata			
(*C. rostrata* var *utriculata*)	Northwest Territory sedge	Cyperaceae	N
Catabrosa aquatica	brookgrass	Poaceae	N
Dactylis glomerata	orchardgrass	Poaceae	N
Deschampsia caespitosa	tufted hairgrass	Poaceae	N
Eleocharis palustris	creeping spikerush	Cyperaceae	N
Elymus canadensis	Canada wildrye	Poaceae	N
		Elymus caninus	
(Agropyron caninum)	bearded wheatgrass	Poaceae	N
Elymus elymoides ssp *elymoides*			
(Sitanion hystrix)	squirreltail	Poaceae	N
		Elymus repens	
(Agropyron repens)	quackgrass	Poaceae	E
		Festuca campestris	
(F. scabrella)	rough fescue	Poaceae	N
Festuca occidentalis	western fescue	Poaceae	N
Glyceria grandis	American mannagrass	Poaceae	N
		Hesperostipa comata	
(Stipa comata)	needle-and-thread	Poaceae	N
Hierochloe odorata	sweetgrass	Poaceae	N
Hordeum jubatum	foxtail barley	Poaceae	N
Juncus balticus	Baltic rush	Juncaceae	N
Juncus filiformis	thread rush	Juncaceae	N

Juncus nodosus	knotted rush	Juncaceae	N
Koeleria macrantha			
(K. cristata)	prairie junegrass	Poaceae	N
Leymus cinereus			
(Elymus cinereus)	basin wildrye	Poaceae	N
Lolium pratense			
(Festuca pratensis)	meadow fescue	Poaceae	E
Muhlenbergia asperifolia	alkali muhly	Poaceae	N
Nassella viridula			
(Stipa viridula)	green needlegrass	Poaceae	N
Pascopyrum smithii			
(Agropyron smithii)	western wheatgrass	Poaceae	N
Phalaris arundinacea	reed canarygrass	Poaceae	E
Phleum pratense	timothy	Poaceae	E
Poa compressa	Canada bluegrass	Poaceae	E
Poa cusickii			
(Poa fendleriana)	Cusick's bluegrass	Poaceae	N
Poa pratensis	Kentucky bluegrass	Poaceae	E
Poa secunda			
(Poa gracillima)	Sandberg's bluegrass	Poaceae	N
Poa secunda ssp. *juncifolia*			
(Poa juncifolia)	Sandberg's bluegrass	Poaceae	N
Poa secunda			
(*P. sandbergii*)	Sandberg's bluegrass	Poaceae	N
Pseudoroegneria spicata			
(Agropyron spicatum)	bluebunch wheatgrass	Poaceae	N
Scirpus microcarpus	smallfruit bulrush	Cyperaceae	N
Schoenoplectus tabernaemontani			
(Scirpus validus)	softstem bulrush	Cyperaceae	N
Setaria viridis	green foxtail	Poaceae	E
Spartina gracilis	alkali cordgrass	Poaceae	N
Thinopyrum intermedium	intermediate wheatgrass	Poaceae	E

FORBS

Achillea millefolium	common yarrow	Asteraceae	N
Achillea ptarmica	sneezeweed	Asteraceae	E
Acroptilon repens			
(Centaurea repens)	Russian knapweed	Asteraceae	E
Agoseris glauca	pale agoseris	Asteraceae	N
Allium cernuum	nodding onion	Liliaceae	N
Allium textile	textile onion	Liliaceae	N
Allium schoenoprasum	wild chives	Liliaceae	N
Alisma plantago-aquatica	American waterplantain	Alismataceae	N
Alyssum alyssoides	yellow alyssum	Brassicaceae	E
Alyssum desertorum	desert alyssum	Brassicaceae	E
Amaranthus blitoides			
(A. graecizans)	prostrate pigweed	Amaranthaceae	N
Amaranthus retroflexus	redroot pigweed	Amaranthaceae	N
Androsace occidentalis	western rock jasmine	Primulaceae	N
Antennaria microphylla	littleleaf pussytoes	Asteraceae	N
Antennaria umbrinella	umber pussytoes	Asteraceae	N
Arabis holboellii	Holboell's rockcress	Brassicaceae	N
Arabis x divaricarpa	spreadingpod rockcress	Brassicaceae	N
Arenaria congesta	ballhead sandwort	Caryophyllaceae	N
Argentina anserina			
(Potentilla anserina)	silverweed cinquefoil	Rosaceae	N

Artemisia biennis	biennial wormwood	Asteraceae	N
Artemisia campestris	common sagewort	Asteraceae	N
Artemisia ludoviciana	Louisiana wormwood	Asteraceae	N
Asclepias speciosa	showy milkweed	Asclepiadaceae	N
Astragalus adsurgens	standing milkvetch	Fabaceae	N
Astragalus purshii	Pursh's milkvetch	Fabaceae	N
Atriplex patula	halberd-leaf orache	Chenopodiaceae	N
Barbarea vulgaris	yellow rocket	Brassicaceae	E
Besseya wyomingensis	Wyoming kittentail	Scrophulariaceae	N
Bidens cernua	nodding beggartick	Asteraceae	N
Callitriche stagnalis	pond water-starwort	Callitrichaceae	E
Camelina microcarpa	smallseed falseflax	Brassicaceae	E
Campanula rapunculoides	creeping bellflower	Campanulaceae	E
Campanula rotundifolia	bluebell	Campanulaceae	N
Capsella bursa-pastoris	shepherd's purse	Brassicaceae	E
Cardaria chalapensis	heartpod hoarycress	Brassicaceae	E
Cardaria draba	whitetop	Brassicaceae	E
Cardaria pubescens	globe-pod hoarycress	Brassicaceae	E
Carduus nutans	musk thistle	Asteraceae	E
Centaurea biebersteinii *(C. maculosa)*	spotted knapweed	Asteraceae	E
Cerastium fontanum ssp *vulgare* *(C. vulgatum)*	comon mouse-ear chickweed	Caryophyllaceae	E
Chamaesyce serpyllifolia *(Euphorbia serpyllifolia)*	thyme-leaf sandmat	Euphorbiaceae	N
Chamerion angustifolium *(Epilobium angustifolium)*	fireweed	Onagraceae	N
Chenopodium album	lambsquarters	Chenopodiaceae	E
Chenopodium glaucum	oak-leaf goosefoot	Chenopodiaceae	E
Chenopodium leptophyllum	slimleaf lambsquarters	Chenopodiaceae	N
Cicuta douglasii	water hemlock	Apiaceae	N
Cirsium arvense	Canada thistle	Asteraceae	E
Cirsium flodmanii	Flodman's thistle	Asteraceae	N
Cirsium undulatum	wavyleaf thistle	Asteraceae	N
Cirsium vulgare	bull thistle	Asteraceae	E
Cleome serrulata	Rocky Mountain beeplant	Capparaceae	N
Collomia linearis	slender-leaf collomia	Polemoniaceae	N
Convolvulus arvensis	field bindweed	Convolvulaceae	E
Crepis modocensis	common hawksbeard	Asteraceae	N
Crepis runcinata	dandelion hawksbeard	Asteraceae	N
Cryptantha interrupta	Elko cryptantha	Boraginaceae	N
Cynoglossum officinale	houndstongue	Boraginaceae	E
Delphinium nuttallianum var *nuttallianum*	Nuttall's larkspur	Ranunculaceae	N

Descurainia incana			
(D. richardsonii)	mountain tansymustard	Brassicaceae	N
Descurainia sophia	flixweed	Brassicaceae	E
Dodecatheon conjugens	Bonneville shootingstar	Primulaceae	N
Dodecatheon pulchellum	dark-throat shootingstar	Primulaceae	N
Douglasia montana	Rocky Mountain dwarf-primrose	Primulaceae	N
Draba nemorosa	woodland whitlowgrass	Brassicaceae	N
Draba verna	spring whitlowgrass	Brassicaceae	N
Elodea canadensis	broad waterweed	Hydrocharitaceae	N
Epilobium ciliatum			
(*E. ciliatum watsonii*)	fringed willowherb	Onagraceae	N
Epilobium minutum	chaparral willowherb	Onagraceae	N
Epilobium palustre	marsh willowherb	Onagraceae	N
Equisetum arvense	field horsetail	Equisetaceae	N
Equisetum fluviatile	water horsetail	Equisetaceae	N
Equisetum hyemale	horsetail	Equisetaceae	N
Equisetum laevigatum	smooth scouring-rush	Equisetaceae	N
Erigeron compositus	cutleaf daisy	Asteraceae	N
Erigeron glabellus	smooth fleabane	Asteraceae	N
Erigeron lonchophyllus	short-ray boreal-daisy	Asteraceae	N
Erigeron pumilus	shaggy fleabane	Asteraceae	N
Eriogonum umbellatum	sulfur buckwheat	Polygonaceae	N
	Eurybia integrifolia		
(Aster integrifolius)	thickstem aster	Asteraceae	N
Erysimum inconspicuum	smallflower wallflower	Brassicaceae	N
Euphorbia esula	leafy spurge	Euphorbiaceae	E
Fritillaria pudica	yellow bells	Liliaceae	N
Gaillardia aristata	common gaillardia	Asteraceae	N
Galeopsis tetrahit	bristlestem hempnettle	Lamiaceae	E
Galium boreale	northern bedstraw	Rubiaceae	N
Galium trifidum	small bedstraw	Rubiaceae	N
Gaura coccinea	scarlet gaura	Onagraceae	N
Geum macrophyllum	large-leaf avens	Rosaceae	N
Geum triflorum	prairie smoke	Rosaceae	N
Glecoma hederacea	ground ivy	Lamiaceae	E
Glycyrrhiza lepidota	licorice	Fabaceae	N
Grindelia squarrosa	curlycup gumweed	Asteraceae	N
Gypsophila paniculata	baby's breath	Caryophyllaceae	E
Helianthus annuus	common sunflower	Asteraceae	N
Helianthus nuttallii	Nuttall's sunflower	Asteraceae	N
Heracleum maximum			
(H. lanatum)	cow parsnip	Apiaceae	N
Hesperis matronalis	dame's rocket	Brassicaceae	E
Heterotheca villosa			
(*Chrysopsis villosa)*	hairy goldenaster	Asteraceae	N
Heuchera parvifolia	little-leaf alumroot	Saxifragaceae	N
Hieracium umbellatum	narrowleaf hawkweed	Asteraceae	N
Hippuris vulgaris	common mare's-tail	Hippuridaceae	N
Hydrophyllum capitatum	ballhead waterleaf	Hydrophyllaceae	N
Hyoscyamus niger	henbane	Solanaceae	E
	Ionactis alpina		
(Aster scopulorum)	crag aster	Asteraceae	N
Iris missouriensis	Rocky Mountain iris	Iridaceae	N
Kochia scoparia	kochia	Chenopodiaceae	E
Lactuca serriola	prickly lettuce	Asteraceae	E
Lactuca tatarica var *pulchella*			
(L. pulchella)	blue lettuce	Asteraceae	N

		Lappula occidentalis	
(L. redowskii)	western sticktight	Boraginaceae	N
Lemna minor	common duckweed	Lemnaceae	N
Lepidium latifolium	perennial pepperweed	Brassicaceae	E
Lepidium perfoliatum	clasping pepperweed	Brassicaceae	E
Lesquerella alpina	alpine bladderpod	Brassicaceae	N
Lewisia rediviva	bitterroot	Portulacaceae	N
Linaria vulgaris	yellow toadflax	Scrophulariaceae	E
Linum perenne			
(L. lewisii)	blue flax	Linaceae	N
Lithospermum incisum	fringed gromwell	Boraginaceae	N
Lomatium triternatum	nineleaf biscuitroot	Apiaceae	N
Lupinus sericeus	silky lupine	Fabaceae	N
Lygodesmia juncea	skeletonweed	Asteraceae	N
Lysimachia thyrsiflora	tufted loosestrife	Primulaceae	N
		Maianthemum stellatum	
(Smilacina stellata)	starry false Solomon's seal	Liliaceae	N
Medicago lupulina	black medick	Fabaceae	E
Medicago sativa	alfalfa	Fabaceae	E
Melilotus officinalis			
(includes *M. albus*)	yellow sweetclover	Fabaceae	E
Mentha arvensis	wild mint	Lamiaceae	N
Mertensia oblongifolia	oblongleaf bluebells	Boraginaceae	N
Mimulus guttatus	common monkeyflower	Scrophulariaceae	N
Musineon divaricatum	leafy musineon	Apiaceae	N
Myosotis scorpioides	common forget-me-not	Boraginaceae	E
Myosotis verna	spring forget-me-not	Boraginaceae	N
Myriophyllum sibiricum	shortspike watermilfoil	Halogaraceae	N
Nothocalais troximoides			
(*Microseris troximoides*)	false agoseris	Asteraceae	N
		Oenothera villosa	
(*O. strigosa*)	hairy evening primrose	Onagraceae	N
Onobrychis viciifolia	sainfoin	Fabaceae	E
Opuntia polyacantha	plains pricklypear	Cactaceae	N
Orobanche ludoviciana	Louisiana broomrape	Orobanchaceae	N
Oxytropis besseyi	Bessey's locoweed	Fabaceae	N
		Packera cana	
(Senecio canus)	woolly groundsel	Asteraceae	N
Penstemon eriantherus	fuzzytongue penstemon	Scrophulariaceae	N
Penstemon nitidus	waxleaf penstemon	Scrophulariaceae	N
Penstemon procerus			
var *procerus*	pincushion beardtongue	Scrophulariaceae	N
Petasites sagittatus	arrowleaf sweet coltsfoot	Asteraceae	N
Phacelia linearis	threadleaf phacelia	Hydrophyllaceae	N
Phlox hoodii ssp. *muscoides*			
(P. muscoides; P. bryoides)	moss phlox	Polemoniaceae	N
Phlox longifolia	longleaf phlox	Polemoniaceae	N
Plantago australis ssp *hirtella*			
(P. hirtella)	Mexican plantain	Plantaginaceae	N
Plantago eriopoda	saline plantain	Plantaginaceae	N
Plantago major	common plantain	Plantaginaceae	E
Plantago patagonica	woolly plantain	Plantaginaceae	N
		Platanthera dilatata	
(Habenaria dilatata)	white bog orchid	Orchidaceae	N
		Polygonum achoreum	striate knotweed
		Polygonaceae	N
Polygonum amphibium var *emersum*			
(*P. coccineum*)	water smartweed	Polygonaceae	N

Polygonum aviculare	prostrate smartweed	Polygonaceae	E
Polygonum convolvulus	black bindweed	Polygonaceae	E
Polygonum douglasii	Douglas' knotweed	Polygonaceae	N
Polygonum lapathifolium	pale smartweed	Polygonaceae	E
Polygonum persicaria	ladysthumb	Polygonaveae	E
Potentilla gracilis	graceful cinquefoil	Rosaceae	N
Potentilla hippiana	woolly cinquefoil	Rosaceae	N
Potentilla pensylvanica	prairie cinquefoil	Rosaceae	N
Potentilla recta	sulphur cinquefoil	Rosaceae	E
Pyrola asarifolia	pink wintergreen	Ericaceae	N
Pyrrocoma integrifolia *(Haplopappus integrifolius)*	entire-leaved goldenweed	Asteraceae	N
Ranunculus acriformis	sharpleaf buttercup	Ranunculaceae	N
Ranunculus aquatilis	white water buttercup	Ranunculaceae	N
Ranunculus cymbalaria	alkali buttercup	Ranunculaceae	N
Ranunculus gmelinii	lesser yellow water buttercup	Ranunculaceae	N
Ranunculus longirostris *(R. aquatilis* var *aquatilis; R. subrigidus)*	longbeak watercrowfoot	Ranunculaceae	N
Ranunculus pensylvanicus	Pennsylvania buttercup	Ranunculaceae	N
Ranunculus repens	creeping buttercup	Ranunculaceae	E
Ranunculus sceleratus	celeryleaf buttercup	Ranunculaceae	N
Rorippa curvipes *(R. obtusa)*	blunt-leaf yellowcress	Brassicaceae	N
Rorippa nasturtium-aquaticum *(Nasturtium officinale)*	watercress	Brassicaceae	E
Rorippa sylvestris	creeping yellowcress	Brassicaceae	E
Rubus idaeus	American red raspberry	Rosaceae	N
Rumex acetosella	sheep sorrel	Polygonaceae	E
Rumex crispus	curly dock	Polygonaceae	E
Rumex maritimus	golden dock	Polygonaceae	N
Rumex obtusifolius	bitter dock	Polygonaceae	E
Rumex salicifolius var. *mexicanus* *(R. salicifolius* ssp *triangulivalvus)*	willow dock	Polygonaceae	N
Salsola tragus *(S. kali; S. iberica)*	prickly Russian thistle	Chenopodiaceae	E
Solanum dulcamara	bittersweet	Solanaceae	E
Schoenocrambe linifolia	flaxleaf plains mustard	Brassicaceae	N
Scutellaria galericulata	marsh skullcap	Lamiaceae	N
Senecio integerrimus	lambstongue groundsel	Asteraceae	N
Silene latifolia ssp *alba* *(Lychnis alba)*	bladder campion	Caryophyllaceae	E
Silene vulgaris *(S. cucubalus)*	bladder campion	Caryophyllaceae	E
Sisymbrium altissimum	Jim Hill mustard	Brassicaceae	E
Sisymbrium loeslii	false London rocket	Brassicaceae	E
Sisyrinchium idahoense	Idaho blue-eyed grass	Iridaceae	N
Sium suave	common waterparsnip	Apiaceae	N
Solidago canadensis	Canada goldenrod	Asteraceae	N
Solidago missouriensis	Missouri goldenrod	Asteraceae	N
Sonchus arvensis	perennial sowthistle	Asteraceae	E
Sphaeralcea coccinea	scarlet globemallow	Malvaceae	N
Stachys palustris	marsh hedgenettle	Lamiaceae	N
Stellaria longipes	longstalk starwort	Caryophyllaceae	N
Stenotus acaulis *(Haplopappus acaulis)*	stemless goldenweed	Asteraceae	N
Stuckenia filiformis *(Potamogeton filiformis)*	fineleaf pondweed	Potamogetonaceae	N

		Stuckenia pectinatus	
(Potamogeton pectinatus)	sago pondweed	Potamogetonaceae	N
		Symphyotrichum campestre	
(Aster campestris)	western meadow aster	Asteraceae	N
		Symphyotrichum chilense	
(Aster chilensis)	Pacific aster	Asteraceae	N
Symphyotrichum falcatum			
(Aster falcatus)	white prairie aster	Asteraceae	N
		Symphyotrichum laeve	
(Aster laevis)	smooth blue aster	Asteraceae	N
Symphyotrichum lanceolatum ssp *hesperium*			
(Aster hesperius)	white panicle aster	Asteraceae	N
Symphyotrichum spathulatum			
(Aster occidentalis)	western mountain aster	Asteraceae	N
Symphyotrichum ericoides var *pansum*			
(Aster pansus)	white heath aster	Asteraceae	N
Tanacetum vulgare	common tansy	Asteraceae	E
Taraxacum officinale	dandelion	Asteraceae	E
Thalictrum dasycarpum	purple meadowrue	Ranunculaceae	N
Thalictrum occidentale	western meadowrue	Ranunculaceae	N
Thlaspi arvense	field pennycress	Brassicaceae	E
Tragopogon dubius	western salsify	Asteraceae	E
Tragopogon pratensis	meadow salsify	Asteraceae	E
Trifolium longipes	longstalk clover	Fabaceae	N
Trifolium pratense	red clover	Fabaceae	E
Trifolium repens	white clover	Fabaceae	E
Triglochin maritimum	arrowgrass	Juncaginaceae	N
Typha latifolia	cattail	Typhaceae	N
Urtica dioica	stinging nettle	Urticaceae	N
		Utricularia macrorhiza	
(U. vulgaris)	common bladderwort	Lentibulariaceae	N
Valeriana edulis	tobacco root	Valerianaceae	N
Verbascum thapsus	common mullein	Scrophulariaceae	E
Veronica anagallis-aquatica	water speedwell	Scrophulariaceae	E
Vicia americana	American vetch	Fabaceae	N
Vicia cracca	bird vetch	Fabaceae	E
Viola sp.			
(V. nephrophylla?)	violet	Violaceae	N
Zannichellia palustris	horned pondweed	Potamogetonaceae	N
Zigadenus elegans	mountain deathcamas	Liliaceae	N
Zigadenus venenosus	meadow deathcamas	Liliaceae	N
Zizia aptera	heart-leaf alexanders	Apiaceae	N

* (o) ornamental or found at sites of old structures