

Intermediate Wheatgrass Diversification Native Invaders

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Unlike crested wheatgrass stands, intermediate wheatgrass stands are in decline and amenable to invasion by native and alien species. We surveyed native species in intermediate wheatgrass stands to determine likely seed candidates to diversify these areas.



Pathogens sicken intermediate wheatgrass in areas. We are investigating the cause but suspect a common wheatgrass pathogen, *Pyrenophora trichostoma*.



Bare ground is abundant after sequential drought years and heavy ungulate use.

Species Found

Forbs

Bitterroot (*Lewisia rediviva*)
Woodland star (*Lithophragma parviflora*)
Yarrow (*Achillea millefolium*)
Arrowleaf balsamroot (*Balsamorhiza sagittata*)
Silky lupine (*Lupinus sericeus*)
Shaggy fleabane (*Erigeron pumilus*)
Nineleaf biscuitroot (*Lomatium triternatum*)
False dandelion (*Agoseris glauca*)
Blanketflower (*Gaillardia aristata*)
Bigseed biscuitroot (*Lomatium macrocarpum*)
Low pussytoes (*Antennaria dimorpha*)
Rosy pussytoes (*Antennaria rosea*)
Larkspur (*Delphinium bicolor*)
Cushion buckwheat (*Eriogonum ovalifolium*)
Field gromwell (*Lithospermum ruderale*)
Cutleaf daisy (*Erigeron compositus*)
Nuttall's violet (*Viola nuttallii*)
Woollypod milkvetch (*Astragalus purshii*)
Hairy milkvetch (*Astragalus inflexus*)
Wavy-leaf thistle (*Cirsium undulatum*)
Scouler's hawkweed (*Hieracium scouleri*)

Grasses

Bluebunch wheatgrass (*Agropyron spicatum*)
Sandberg's bluegrass (*Poa secunda*)
Idaho fescue (*Festuca idahoensis*)
Blue grama (*Bouteloua gracilis*)

Shrubs

Fringed sage (*Artemisia frigida*)
Wild tarragon (*Artemesia dracunculus*)
Rubber rabbitbrush (*Ericameria nauseosa*)
Green rabbitbrush (*Chrysothamnus viscidiflorus*)
Mountain sagebrush (*Artemisia tridentata* subsp. *vaseyana*)



Blanketflower (*Gaillardia aristata*)



Woollypod milkvetch (*Astragalus purshii*) is a common native invader in the intermediate wheatgrass stands.

We are excited to see balsamroot establishing and flowering in intermediate wheatgrass stands. Natural balsamroot establishment suggests we can drill-seed to facilitate establishment in areas where there is no seed source nearby.



Arrowleaf balsamroot (*Balsamorhiza sagittata*)



Arrowleaf balsamroot seedling are abundant near flowering adults.



Silky lupine (*Lupinus sericeus*) recruits naturally in intermediate and crested wheatgrass stands and is a good candidate for drill-seeding.



Lupine seedlings



Hairy milkvetch (*Astragalus inflexus*)



Rosy pussytoes (*Antennaria rosea*)



Bigseed biscuitroot (*Lomatium macrocarpum*)



Woodland star (*Lithophragma parviflorum*)



Larkspur (*Delphinium bicolor*)



Field gromwell (*Lithospermum ruderale*)



Leafy spurge is the salient invader. Leafy spurge control in intermediate wheatgrass stands is a priority again this year.



Sainfoin established after drill-seeding last fall. We are monitoring establishment success and forage production.