ROCKY MOUNTAIN ALPINE-MONTANE WET MEADOW

BETULA NANA SEASONALLY FLOODED SHRUBLAND ALLIANCE
Betula nana / Mesic Forbs - Mesic Graminoids Shrubbland

CALAMAGROSTIS CANADENSIS SEASONALLY FLOODED HERBACEOUS ALLIANCE
Calamagrostis canadensis - Carex scopulorum - Mertensia ciliata Herbaceous Vegetation
Calamagrostis canadensis Western Herbaceous Vegetation

CALTHA LEPTOSEPALA SATURATED HERBACEOUS ALLIANCE
Caltha leptosepala - Rhodiola rhodantha Herbaceous Vegetation
Caltha leptosepala Herbaceous Vegetation

CARDAMINE CORDIFOLIA SATURATED HERBACEOUS ALLIANCE
Cardamine cordifolia - Caltha leptosepala Herbaceous Vegetation
Cardamine cordifolia - Mertensia ciliata Herbaceous Vegetation

CAREX (LACHENALII, CAPILLARIS, ILLOTA) SEASONALLY FLOODED HERBACEOUS ALLIANCE
Carex capillaris - Polygonum viviparum Herbaceous Vegetation
Carex illota Herbaceous Vegetation

CAREX AQUATILIS SEASONALLY FLOODED HERBACEOUS ALLIANCE
Carex aquatilis - Polygono viviparum Herbaceous Vegetation
Carex aquatilis - Pedicularis groenlandica Herbaceous Vegetation

CAREX ARAPAHOENSIS HERBACEOUS ALLIANCE

CAREX DURIUSCULA HERBACEOUS ALLIANCE

CAREX LASIOCARPA SEASONALLY FLOODED HERBACEOUS ALLIANCE
Carex microptera Herbaceous Vegetation

CAREX LIMOSA SEASONALLY FLOODED HERBACEOUS ALLIANCE
Carex limosa Herbaceous Vegetation

CAREX MICROGLOCHIN SATURATED HERBACEOUS ALLIANCE
Carex microglochin Herbaceous Vegetation

CAREX MICROPTERA SEASONALLY FLOODED HERBACEOUS ALLIANCE
Carex microptera Herbaceous Vegetation

CAREX NEBRASCAENSIS SEASONALLY FLOODED HERBACEOUS ALLIANCE
Carex nebrascensis - Catabrosa aquatica Herbaceous Vegetation
Carex nebrascensis Herbaceous Vegetation

CAREX NIGRICANS SEASONALLY FLOODED HERBACEOUS ALLIANCE
Carex nigricans - Juncus drummondii Herbaceous Vegetation

CAREX PELLITA SEASONALLY FLOODED HERBACEOUS ALLIANCE
Carex pellita Herbaceous Vegetation

CAREX PRAEGRACILIS SEASONALLY FLOODED HERBACEOUS ALLIANCE
Carex praegracilis - Carex aquatilis Herbaceous Vegetation
Carex praegracilis Herbaceous Vegetation

CAREX PYRENAICA HERBACEOUS ALLIANCE
Carex pyrenaica Herbaceous Vegetation

CAREX SAXATILIS TEMPORARILY FLOODED HERBACEOUS ALLIANCE
Carex saxatilis Herbaceous Vegetation

CAREX SCOPULORUM SEASONALLY FLOODED HERBACEOUS ALLIANCE
Carex scopulorum - Caltha leptosepala Herbaceous Vegetation
Carex scopulorum - Elymus trachycaulus Herbaceous Vegetation
Overview: The Rocky Mountain Alpine-Montane Wet Meadow system includes high-elevation herbaceous-dominated communities found throughout the Rocky Mountain and Intermountain regions. These communities occur as large meadows in montane or subalpine valleys, as narrow strips bordering ponds, lakes, and streams, and along toeslope seeps. They are typically found on flat areas or gentle slopes, but may also occur on sub-irrigated sites with slopes up to 10%. In alpine regions, sites typically are small depressions located below late-melting snow patches or on snowbeds. Often alpine dwarf-shrublands, especially those dominated by Salix, are immediately adjacent to the wet meadows. Wet meadow ecological systems provide important water filtration, flow attenuation, and animal habitat.

Characteristic species: This system often occurs as a mosaic of several plant associations, often dominated by graminoids, such as Calamagrostis stricta, Carex illota, Carex microptera, Carex nigricans, Carex scopulorum, Carex utriculata, Carex vernacula, Deschampsia caespitosa, Eleocharis quinqueflora, and Juncus drummondii. Common forb species include Caltha leptosepala, Cardamine cordifolia, Phippsia algida, Rorippa alpina, Senecio triangularis, Trifolium parryi, and Trollius laxus. Within the elevational gradient covered by this system, some communities are typically confined to the alpine, while others are usually found only at montane elevations.

Environment: Occurrences range in elevation from montane to alpine (in Colorado from 7,000 to 11,800 ft; 2,100-3,600 m), and are found on wetter sites with very low-velocity surface and subsurface flows.
Wet meadows are tightly associated with snowmelt and typically not subjected to high disturbance events such as flooding. Moisture for these communities comes from groundwater, stream discharge, overland flow, overbank flow, and on-site precipitation. Salinity and alkalinity are generally low due to the frequent flushing of moisture through the meadow.

Soils typically possess a high proportion of organic matter, but this may vary considerably depending on the frequency and magnitude of alluvial deposition (Kittel et. al. 1999). Organic composition of the soil may include a thin layer near the soil surface or accumulations of highly sapric material of up to 4 ft (120 cm) thick. Soils may exhibit gleying and/or mottling throughout the profile.

**Dynamics:** Associations in this ecological system are adapted to soils that may be flooded or saturated throughout the growing season. They may also occur on areas with soils that are only saturated early in the growing season, or intermittently. Typically these associations are tolerant of moderate-intensity ground fires and late-season livestock grazing (Kovalchik 1987). Most appear to be relatively stable types, although in some areas these may be impacted by intensive livestock grazing.

**Variation:** Depending on the slope, topography, hydrology, soils and substrate, intermittent, ephemeral, or permanent pools may be present. These areas may support species more representative of purely aquatic environments. Standing water may be present during some or all of the growing season, with water tables typically remaining at or near the soil surface. Fluctuations of the water table throughout the growing season are not uncommon, however. On drier sites supporting the less mesic types, the late-season water table may be 3 ft (1m) or more below the surface.


<table>
<thead>
<tr>
<th><strong>Rank:</strong></th>
<th><strong>A</strong></th>
<th><strong>B</strong></th>
<th><strong>C</strong></th>
<th><strong>D</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1) CONDITION</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alteration due to increased or decreased drainage, clearing, mining, excessive livestock grazing, anthropogenic nutrient inputs, etc.</td>
<td>No or little evidence of alteration.</td>
<td>Easily restorable by ceasing such activities.</td>
<td>Extensive, but potentially restorable over several decades.</td>
<td>System remains fundamentally compromised despite restoration of some processes.</td>
</tr>
<tr>
<td>Exotic species</td>
<td>Absent or very few, with no or little potential for expansion.</td>
<td>Few present, little potential for expansion.</td>
<td>Likely to be present.</td>
<td>May be present in significant numbers.</td>
</tr>
<tr>
<td>Native species that increase with disturbance or changes in hydrology/nutrients <em>(e.g. Deschampsia cespitosa, Carex aquatilis)</em></td>
<td>Proportions typical of diverse communities.</td>
<td>Low in abundance, or restricted to disturbed or high-nutrient microsites that represent less than 5% of the total wetland area.</td>
<td>May be prominent, but diversity potentially restorable.</td>
<td>Prominent to dominant.</td>
</tr>
<tr>
<td><strong>2) LANDSCAPE CONTEXT</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Connectivity and natural processes</td>
<td>Connectivity of habitats allows natural processes and species migration to occur. There are no unnatural barriers present to inhibit movement of organisms and materials across system boundaries.</td>
<td>The landscape has high connectivity. There are few unnatural barriers present between patches of native vegetation that would inhibit species movement. Some natural processes on the landscape such as flooding, grazing, and fire may have altered frequencies or intensities.</td>
<td>Limited connectivity between the occurrence and important components of the surrounding landscape. Some barriers are present that inhibit movement of organisms and materials across the landscape. Natural processes (e.g., fire, flood) have either been eliminated or have greatly altered frequencies and intensities.</td>
<td>Connectivity almost nonexistent and natural processes severely altered. Restoration is not feasible within reason.</td>
</tr>
<tr>
<td>Sur rounding land</td>
<td>Uplands or any other system within the ground watershed are largely unaltered by urban or agricultural uses such as clearcuts, crop cultivation, land development, or heavy grazing (&gt;95% natural).</td>
<td>Uplands within ¼ mile of the occurrence have minimal urban or agricultural alteration (&gt;90% natural), with no major barriers to water or organism movement across the system boundaries.</td>
<td>Uplands surrounding occurrence are fragmented by urban or agricultural alteration (&gt;80% natural). Activities (development, clearcuts, heavy grazing, etc.) in surrounding uplands alter the hydrologic regime. Restoration of the hydrologic regime and species composition resembling the historic composition is feasible.</td>
<td>Uplands surrounding occurrence are mostly converted to agricultural or urban uses.</td>
</tr>
<tr>
<td><strong>3) SIZE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acres</td>
<td>&gt;25</td>
<td>5-25</td>
<td>0.5-5</td>
<td>&lt; 0.5</td>
</tr>
</tbody>
</table>