











## Wetland Plant Guide

Species	Stem Characteristics	Color	Hydrologic Tolerance	Planting Specifications	NOTES:
Nebraska Sedge ( <i>Carex nebrascensis</i> )  <small>PHOTO: Sheri Hagwood @ USDA-NRCS PLANTS Database</small> 	8"-18", stems are erect and triangular, 3-12 mm wide	Blue green - dark green	Saturated soils - 12" of inundation, can tolerate prolonged inundation as long as there are periods when the soil is dry in the same growing season	<b>Bare Root Plants</b> - Soils should be kept saturated with no more than 1"- 2" of standing water until the plants are rooted and over 15" tall. Fluctuating water levels during the establishment year will facilitate spreading. <b>WETLAND SOD</b> mixes containing <i>Carex nebrascensis</i> can be planted in depths up to 6" and can tolerate prolonged inundation and depths up to 9" after the first growing season.	<i>Carex nebrascensis</i> is an excellent plant for bio-engineering applications. It has over 1 mile of roots per cubic foot of soil, which makes it an excellent species for soil stabilization on wetland and streambank sites. Shoots and seeds are eaten by waterfowl, small mammals and birds. Nebraska sedge is suitable for erosion control, constructed wetland system applications, wildlife food and cover, wetland restoration and creation and improvement of plant diversity in wetland and riparian communities. It grows in dense, rhizomatous stands and under the right conditions can outcompete reed canarygrass. <i>Carex nebrascensis</i> performs well on alkaline soils. (USDA-Plants; USFS-FEIS)
Woolly Sedge ( <i>Carex lanuginosa</i> ) / <i>Carex pellita</i>  <small>PHOTO: Illinois Wildflowers Databas</small> 	6"-18", stems are erect and triangular, 2.2-4.5 mm wide	Light to medium green	Saturated soils - 12" of inundation, can tolerate prolonged inundation as long as there are periods when the soil is dry in the same growing season	<b>Bare Root Plants</b> - Soils should be kept saturated with no more than 1"- 2" of standing water at any time until the plants are rooted and over 15" tall. Fluctuating water levels during the establishment year will facilitate spreading. <b>WETLAND SOD</b> mixes containing <i>Carex pellita</i> can be planted in depths up to 6" and can tolerate prolonged inundation and depths up to 12" after the first growing season.	<i>Carex pellita</i> is commonly found wetland shorelines and streambanks. Its seeds are eaten by waterfowl, sora and yellow rails, swamp and tree sparrows, snipe, and other songbirds. It is commonly associated with calcareous soils and is suitable for wetland, stream and vegetated swale applications. <i>Carex pellita</i> performs well on alkaline soils. (USDA-Plants; USFS-FEIS)
Beaked Sedge ( <i>Carex utriculata</i> )  <small>PHOTO: Kitty Kohout @ UW - Stevens Point Herbarium Databas</small> 	10"- 24", stems erect and triangular, 4.5-12 mm wide	Pale to medium green	Saturated soils - 12" of inundation, can tolerate prolonged inundation as long as there are periods when the soil is dry in the same growing season	<b>Bare Root Plants</b> - Soils should be kept saturated with no more than 1"- 2" of standing water at any time until the plants are rooted and over 15" tall. Fluctuating water levels during the establishment year will facilitate spreading. <b>WETLAND SOD</b> mixes containing <i>Carex utriculata</i> can be planted in depths up to 9" and can tolerate prolonged inundation after the first growing season.	<i>Carex utriculata</i> has a dense network of rhizomatous roots and forms a thick sod mat that is highly resistant to erosion and is effective in stabilizing streambanks. The closely crowded erect stalks of beaked sedge are also useful in trapping sediment in runoff and keeping it from depositing in streams. It is grazed by moose, elk, mule deer, bison, grizzly bears, sandhill cranes and other waterbird species. <i>Carex utriculata</i> can tolerate alkaline soils. (USDA-Plants; USFS-FEIS)
Water Sedge ( <i>Carex aquatilis</i> )  <small>PHOTO: Andrew Hipp@ UW - Stevens Point Herbarium Databas</small> 	6"- 24", stems erect and triangular, 2-7 mm wide	Green	Saturated soils - 18" of inundation, can tolerate prolonged inundation as deep as 15"	<b>Bare Root Plants</b> - Soils should be kept saturated with no more than 1"- 2" of standing water at any time until the plants are rooted and over 15" tall. Fluctuating water levels during the establishment year will facilitate spreading. <b>WETLAND SOD</b> mixes containing <i>Carex aquatilis</i> can be planted in depths up to 9" and can tolerate prolonged inundation after the first growing season.	<i>Carex aquatilis</i> is sod-forming with an extensive network of vertical and horizontal long, stout rhizomes interspersed with expansive meshes of fine roots. It is an excellent species for stabilizing streambanks and wetland sites. <i>Carex aquatilis</i> provides forage and cover for birds, small mammals and ungulates, and is often found adjacent to waterways supporting trout. The dense sod created by water sedge hangs over streambanks, creating valuable cover and shade for fish. (USDA-Plants; USFS-FEIS)
Arctic Rush ( <i>Juncus arcticus</i> )  <small>PHOTO: Pat Porter - Alberta Government</small> 	8"- 24", stems erect and round, 2-4 mm wide	Dark green	Moist soils - 6" of inundation, can tolerate prolonged inundation as long as there are periods when the soil is dry in the same growing season	<b>Bare Root Plants</b> - Soils should be kept saturated with no more than 1"- 2" of standing water at any time until the plants are rooted and over 15" tall. Fluctuating water levels during the establishment year will facilitate spreading. Top growth dieback is common in bare root plants after planting, shoots re-sprout from the base. <b>WETLAND SOD</b> mixes containing <i>Juncus arcticus</i> can be planted in depths up to 6" and can tolerate prolonged inundation after the first growing season.	<i>Juncus arcticus</i> is an excellent reclamation plant and is relatively easy to establish. It is listed as a valuable source of food for mallard, northern pintail, gadwall, American wigeon, green-winged, blue-winged, and cinnamon teal, northern shoveler, gadwalls, redhead, American coot, pied-billed grebe, and ruddy ducks. It is an important cover species for a variety of small birds, upland game birds, birds of prey, and waterfowl. An extensive study of small impoundments in southeastern Alberta, an area dubbed the "duck factory" of North America, found that 62% of all waterfowl species located their nests in Baltic rush communities. <i>Juncus arcticus</i> tolerates alkaline soils. (USDA-Plants; USFS-FEIS)

## Wetland Plant Guide

Species	Stem Characteristics	Color	Hydrologic Tolerance	Planting Specifications	NOTES:
Panicked Bulrush ( <i>Scirpus microcarpus</i> )  <small>PHOTO: plants.montara.com</small>	24"- 36", stems erect and sedge-like, 5-15 mm wide	Green	Saturated soils - 18" of inundation, can tolerate prolonged inundation as deep as 15"	<u>Bare Root Plants</u> - Soils should be kept saturated with no more than 6" of standing water at any time until the plants are rooted and over 15" tall. Fluctuating water levels during the establishment year will facilitate spreading. <u>WETLAND SOD</u> mixes containing <i>Scirpus microcarpus</i> can be planted in depths up to 10" and can tolerate depths up to 12" after the first growing season.	<i>Scirpus microcarpus</i> provides food and cover for fish, waterbirds, song birds, small mammals and ungulates. It grows in dense stands and can triple its bio-mass annually. It is an excellent alternative to cattail and adds similar structure without taking over wetland systems. It is a very attractive landscaping plant with a showy inflorescence. <i>Scirpus microcarpus</i> can tolerate alkaline soils.
Creeping Spikerush ( <i>Eleocharis palustris</i> )  <small>PHOTO: Carl Famer @ plant-identification.co.uk</small>	6"- 18", stems erect and round, 2-4 mm wide	Medium to dark green	Saturated soils - 12" of inundation, can tolerate prolonged inundation as long as there are periods when the soil is dry in the same growing season	<u>Bare Root Plants</u> - Soils should be kept saturated with no more than 1"- 2" of standing water at any time until the plants are rooted and over 15" tall. Fluctuating water levels during the establishment year will facilitate spreading. <u>WETLAND SOD</u> mixes containing <i>Eleocharis palustris</i> can be planted in depths up to 9" and can tolerate prolonged inundation and depths up to 12" after the first growing season.	<i>Eleocharis palustris</i> is excellent for erosion control, constructed wetland system applications, wildlife food and cover, wetland restoration and creation and improvement of plant diversity in wetland and riparian communities. Plants spread rapidly by rhizomes and will develop a thick root mass that is resistant to compaction and erosion. The rhizomes also form a matrix for many beneficial bacteria making this plant an excellent choice for wastewater management applications. The tops are heavily grazed by big game animals, especially after the seeds have ripened. It produces nesting cover for waterfowl and ducks eat the seeds and graze the shoots. (USDA-Plants; USFS-FEIS)
Hardstem Bulrush ( <i>Schoenoplectus acutus</i> )  <small>PHOTO: Intermountain Aquatics</small>	12"- 60", AVG 36", stems erect and round, blades 2-4 mm wide	Dark green	6" - 30" of inundation, can tolerate prolonged inundation and seasonal drawdowns	<u>Bare Root Plants</u> - Soils should be kept saturated with no more than 6" of standing water at any time until the plants are rooted and over 15". Fluctuating water levels during the establishment year will facilitate spreading. <u>WETLAND SOD</u> mixes containing <i>Schoenoplectus acutus</i> can be planted in depths up to 12" and can tolerate depths up to 24" after the first growing season.	<i>Schoenoplectus acutus</i> can be used for constructed wetland system applications, wildlife food and cover, erosion control, wetland creation and restoration, and for improving plant diversity in wetland and riparian communities. Its dense root mass makes this species an excellent choice for soil stabilization. Its above ground biomass will provide protection from erosive wave action and stream currents that erode shorelines or streambanks. The rhizomes also form a matrix for many beneficial bacteria, making this plant an excellent choice for wastewater treatment. <i>Schoenoplectus acutus</i> provides food and cover for fish, waterbirds, song birds, small mammals and ungulates. It is an excellent alternative to cattail and adds similar structure without being as invasive. (USDA-Plants; USFS-FEIS)
Tufted Hairgrass ( <i>Deschampsia cespitosa</i> )  <small>PHOTO: www.pepiniererustique.com</small>	8"-48", AVG 30", bunch grass	Green to yellow	Seasonally moist soils	<u>Seed</u> - Seed in the fall onto moist soils. <u>Plants</u> - Soils should be kept saturated through the first growing season. <u>WETLAND SOD</u> mixes containing <i>Deschampsia cespitosa</i> should be planted on moist soils. Supplemental irrigation may be necessary to insure that the sod does not dryout in the first growing season.	<i>Deschampsia cespitosa</i> provides forage for a broad range of wildlife and birds. It is a good soil stabilizer and can grow on disturbed and mined sites. It is a showy bunch grass and is very visible in late summer. It is green in early summer and changes to a light yellow by late summer. It grows with other wet meadow species including <i>Calamagrostis canadensis</i> , <i>Hordeum jubatum</i> and <i>Juncus balticus</i> . <i>Deschampsia cespitosa</i> tolerates acidic and alkaline soils.
Mannagrass ( <i>Glyceria grandis</i> )  <small>PHOTO: Bill Cox</small>	24"-48", AVG 36", bunch grass	Green to yellow	Moist soils - 4" of inundation, can tolerate prolonged inundation as long as there are periods when the soil is dry in the same growing season	<u>Plants</u> - Soils should be kept saturated through the first growing season. <u>WETLAND SOD</u> mixes containing <i>Glyceria grandis</i> should be planted on moist soils. Supplemental irrigation may be necessary to insure that the sod does not dryout in the first growing season.	<i>Glyceria grandis</i> is a rapidly establishing native species suitable for restoration of the edges of marshes, ponds, and streams, and other wetland plant communities where an herbaceous understory is desired. It has versatility for use along creeks and ditch bottoms where exposure may vary from full sun to dense shade, thereby improving soil stability beyond the use of woody plants alone. The seed is food for waterfowl and birds while the foliage and tall stems provide good wildlife cover. Foliage is seasonally grazed at a light to heavy rate by deer, muskrat, and bears. Elk can make minor use of it as well. Mannagrass may be applicable to seeding mixtures targeted to improve species richness and exclude reed canarygrass ( <i>Phalaris arundinacea</i> ) prior to its invasion. This species has a large spreading inflorescence that makes it ideal for landscaping applications. (USDA-Plants)