

# WETLAND PLANT FACT SHEET

INTERAGENCY  
RIPARIAN/WETLAND PROJECT  
USDA-NRCS  
Plant Materials Center  
Aberdeen, Idaho 83210

## Creeping Spikerush (*Eleocharis palustris*)

Creeping Spikerush is a perennial, heavily rhizomatous wetland plant that is found from low to mid elevations. It grows in wet meadows, irrigation ditches, springs, seepage areas, freshwater marshes, rivers, and along lake shores. It is a pioneering species that populates mud flats very quickly as the water draws down. It can grow in areas that are flooded in the spring and saturated in the fall. It can grow in flooded conditions where the water is up to 1 m deep for most of the growing season. It is an obligate wetland plant. It grows on fine textured soils in neutral to alkaline or saline conditions. It spreads rapidly by rhizomes and occasionally from seed. It will spread by rhizomes into areas that are too deep for seedling establishment. It will develop a thick root mass that is resistant to compaction and erosion. However, its roots grow less deeply than Nebraska sedge. It can fix atmospheric nitrogen and make it available to other plants in the wetland community through recycling.

### DESCRIPTION:

**Habit** -- Dense root mass that extends deeper than 40 cm in the soil profile. Stems singular or in small clusters. Will continue to grow if the water rises slowly.

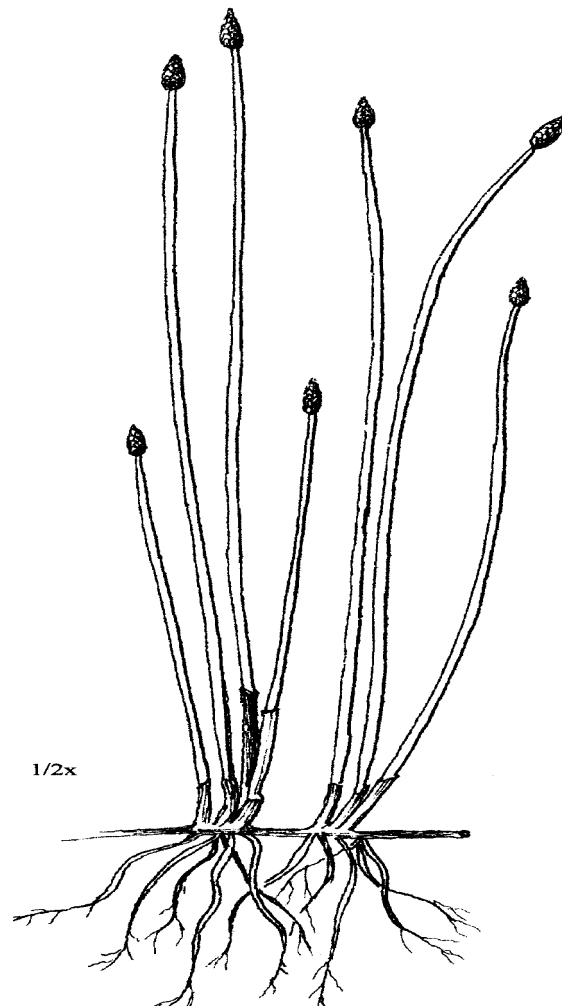
**Stems** -- Upright, round, may reach 1.2 m in height (height is dependent on the depth of water in the growing environment).

**Leaves** -- Reduced to sheaths clustered at the base of the stems.

**Spikes**-- Flowers borne in a terminal spikelet, 1 flower per scale, 2 stigmas.

**Fruits** -- Yellow to brown lenticular achenes, 1.5-2.5 mm long, including the tubercle, subtended by up to 8 bristles.

**Distribution** -- From the West Coast of the US, east to the upper peninsula of Michigan and south to Louisiana.



(Drawing by G. Bentrup)

## HYDROLOGY:

Grows on sites that are either permanently or seasonally flooded. The plants can grow and thrive in permanent water up to 1 m deep; they can also survive in areas where the water table drops to 30 cm below the surface late in the season. Creeping spikerush grows in areas where the plants can be totally inundated for up to 3-4 months.

## SEED COLLECTION:

Plants typically flower from June through September. Seeds ripen in late August to October. Seeds are held tightly in the seedhead for a long period of time. They may be collected by hand stripping the seed from the plant or clipping the seedhead using a pair of hand shears. A power seed harvester may also be used.

## CLEANING:

A hammermill is used to break up large debris and knock the seed loose from the stem. Cleaning can be accomplished using a seed cleaner with a No. 12 top screen and a solid bottom screen. Screens should be sized so desired seeds will fall through and debris and weed seeds are removed. Air velocity should be adjusted so chaff is blown away. Air flow and screen size may require adjustments to optimize the cleaning process for a given situation and seed lot.

## PROPAGATION:

**Special procedures** -- The germination rate may be enhanced by lightly scarifying the seed and then wet prechilling the seed in a mixture of water and sphagnum moss at 2°C for 30-45 days.

**Greenhouse** -- Seeds need light, moisture, and heat for germination. Place seeds on surface of soil and press

in lightly to assure good soil contact. Do not cover seed. Soil should be kept moist. Greenhouse should be kept hot (32°-38°C). Germination should begin within about 1-2 weeks. Maintain moisture until plants are transplanted.

**Wild transplants** -- Wild plants can be collected and transplanted directly into the desired site. As long as no more than 4 dm<sup>2</sup>, 13-15 cm deep, is removed from any 1 m<sup>2</sup> area, the hole will fill in within one growing season. Care should be taken not to collect plants from weedy areas as these weeds can be relocated to the transplant site, and the hole left at the collection site may fill with undesirable species.

## ESTABLISHMENT AND MAINTENANCE OF STANDS:

**Establishment** -- Planting plugs (either from the greenhouse or wild transplants) is the surest way to establish a new stand of this species. Plug spacing of 30-45 cm will fill in within one growing season. Soil should be kept saturated. Allow no more than 8 cm of standing water at any time during the first growing season. Fluctuating the water level during the establishment year will increase the spread. Water levels should be managed to enhance rhizome spread.

**Maintenance** -- Standing water should be no deeper than 1 m and should fluctuate occasionally down to saturated conditions throughout the growing season. If deeper water levels are desirable, increase the depth slowly over the course of the growing season. This species can tolerate periods of drought and total inundation. Water levels can be managed to either enhance or reduce spread as well as control terrestrial weeds.

## **INSECT AND DISEASE PROBLEMS:**

Few insect or disease problems have been encountered in the greenhouse. Aphids will feed on the stems, but little or no damage has been noted and the vigor of the plant has not been affected.

## **WILDLIFE AND LIVESTOCK USES:**

Creeping spikerush has moderately high protein content in the spring and good digestibility. The tops are heavily grazed by both livestock and big game animals, especially after the seeds have ripened. Produces nesting cover for waterfowl. The seeds are eaten by ducks and the shoots are grazed by geese.

## **ANTICIPATED CONSERVATION USES:**

Erosion control, Constructed Wetland System applications, wildlife food and cover, wetland creation and restoration, and improvement of plant diversity in wetland and riparian communities. Its dense root mass makes this species an excellent choice for soil stabilization in riparian and wetland sites. The rhizomes also form a matrix for many beneficial bacteria, making this plant an excellent choice for wastewater treatment.

## **RELEASED SELECTIONS:**

The Interagency Riparian/Wetland Plant Development Project released four performance tested ecotypes for sites within its service area in 1997. The following is a list of those Selected releases:

**Mud Lake Selection of Creeping Spikerush** (*Eleocharis palustris*), Accession Number 9067389, for Land Resource Region (LRR) B East from Mud Lake Wildlife Management Area, just north of the town of Terreton, Jefferson County, Idaho.

## **C J Strike Selection of Creeping**

**Spikerush** (*Eleocharis palustris*),

Accession Number 9057585, for Land Resource Region (LRR) B West from C J Strike Wildlife Management Area, near the town of Bruneau, Owyhee County, Idaho.

## **Malheur Selection of Creeping**

**Spikerush** (*Eleocharis palustris*),

Accession Number 9057607, for Land Resource Region (LRR) D North from Malheur National Wildlife Refuge, south of the town of Burns, Harney County, Oregon.

## **Ruby Lake Selection of Creeping**

**Spikerush** (*Eleocharis palustris*),

Accession Number 9067387, for Land Resource Region (LRR) D South from Ruby Lake National Wildlife Refuge, near the town of Ruby Lake, Elko County, Nevada.

## **REFERENCES:**

Hurd, E.G., N.L. Shaw, and L.C. Smithman. 1992. Cyperaceae and Juncaceae -- selected low-elevation species. Proceedings of Symposium on Ecology, Management, and Restoration of Intermountain Annual Rangelands, Boise, ID. May 18-22, 1992. p.380-383.

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