WETLAND PLANT FACT SHEET

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

Baltic Rush (*Juncus balticus*)

Baltic rush is a perennial, rhizomatous wetland plant. It is the most widespread and common rush found in the Great Basin and dry Intermountain regions. It is found at low to mid elevations and occasionally in subalpine and alpine sites. It grows in wet depressions, swales, moist meadows, sloughs, and around springs. Typical environmental conditions where it is most often found include areas that are flooded in spring and that dry out in fall. It is very drought tolerant and yet extremely flood tolerant. Soils range from silt and clays loams to coarse substrates and peat soils. The species can be found on soils that are acidic to neutral to alkaline and sodic. Baltic rush has been documented to fix atmospheric nitrogen which makes it important in the nutrient dynamics of wetland plant communities.

DESCRIPTION:

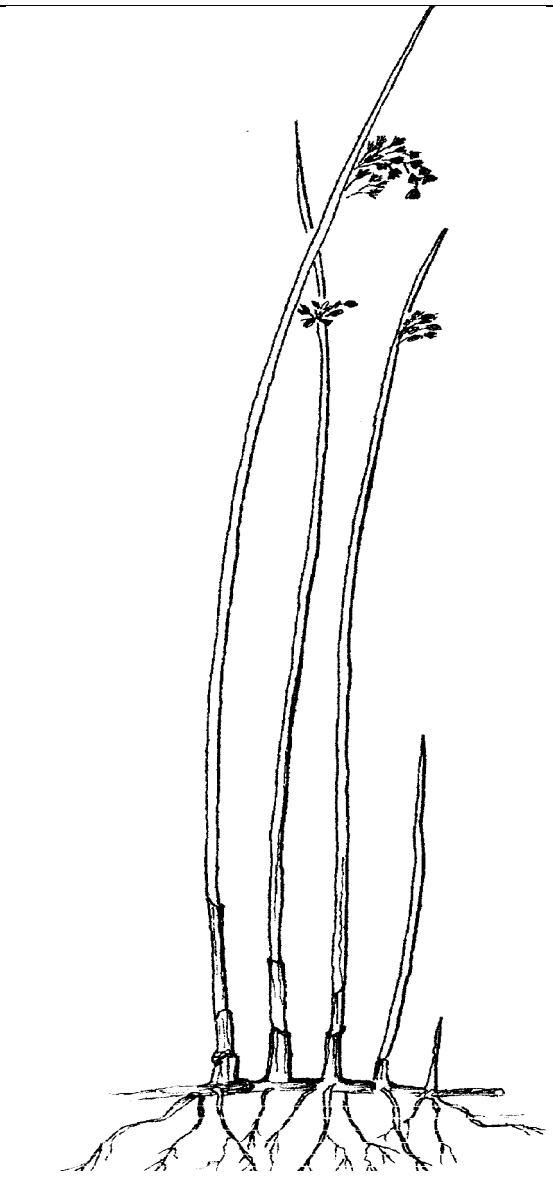
Habit **--** Forms dense stands with most of the roots in the upper 20 cm of the soil profile; a significant portion of the roots can go as deep as 40 cm.

Stems **--** Dark green, upright, 3-9 dm tall; wiry, round, 1.5-3 mm thick.

Leaves **--** Leaf sheaths are clustered at the base, 2-15 cm long, light to dark brown, and bladeless (or nearly so) except var. *mexicanus.* The lowest bract of the inflorescence is round (flattened in var. *mexicanus),* and 2-20 cm long. This bract appears to be a continuation of the stem.

Panicle-- Ten to 50 or more flowers in a loose to compact inflorescence up to 6 cm long. Flowers are sessile to pedicellate, each subtended by a pair of hyaline-scarious bracts. Tepals are 3.5-5 mm long. The 6 stamens have anthers 1.5-2.5 mm long.

Fruits **--** Brown, about the size of ground pepper (0.6-0.8 mm long). Found in a capsule.



(Drawing by G. Bentrup)

Distribution **--** Occurring throughout the Northern Hemisphere and South America. Also, common along the German shore of the Baltic Sea.

SEED COLLECTION:

Flowering period is late May to August, occasionally to September. Seed ripens in early to late August. Seeds may be collected by hand, using a pair of hand shears, or with a gas-powered handheld seed harvester. If seed is collected by hand, care should be taken not to loose the seed because it is so small. The seed sits in a open "capsule" and is easily lost in high winds or if something brushes against it. Collectors need to be aware that the seeds can be lost if they tip the "capsule" to the side before putting it into the collection bag. Many collectors think that pieces of the capsule are the seeds, but the real seeds look like ground pepper in the palm of the hand. The static charge associated with plastic collection bags will cause the seeds will cling to the sides of the bag and be difficult to remove. Use paper sacks when collecting this species.

CLEANING:

Run the collection through a hammermill to break up debris and knock the seeds loose. Use a 1\20 inch screen on the top and a solid sheet on the bottom of the seed cleaner. Adjust the air flow to blow off the chaff. The cleaning process can be speeded up by shaking the hammermilled collection to settle seed to the bottom of pan. The top portion of the chaff can then be discarded and the seed-rich mixture that is left in the bottom can be run through the seed cleaner.

PROPAGATION:

Special procedures **--** No special procedures required. Baltic Rush does not require wet prechilling or scarification. Soaking the seeds in water for 1-7 days will decrease the time the seed takes to sprout.

Greenhouse **--** Seeds need light, moisture, and heat for germination. Place seeds on soil surface and press in lightly to assure good soil contact. Do not cover the seed. Soil should be kept moist. Greenhouse should be kept hot (32°-38°C). Germination should begin within about 1 week. Maintain moisture until plants are to be transplanted. Young plants cannot withstand long periods without water while growing in the greenhouse.

Wild transplants **--** Wild plants can be collected and transplanted directly into the desired site. As long as no more than 4 dm^2**,** 13-15 cm deep, is removed from any 1 m^2 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 25-30 cm will fill in within one growing season. Soil should be kept from saturated conditions up to 8 cm of standing water. Fluctuating the water level during the establishment period may speed spread. Water levels can be managed to enhance spread and control weeds.

Maintenance **--** Soil should be kept saturated. Plants can handle 2.5-8 cm of standing water as long as the level fluctuates over 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:

Generally not a problem. Aphids will feed on the stems, but rarely cause significant damage. If an insect or disease problem is encountered in the greenhouse, treat as you would for any other plant species.

WILDLIFE AND LIVESTOCK USES:

Provides good cover and seeds for waterfowl, songbirds, and small mammals. Cattle generally do not graze it because its palatability is low. They will take it late in the season after the more palatable plants have been eaten.

ANTICIPATED CONSERVATION USES:

Erosion control, Constructed Wetland System applications, wildlife food and cover, wetland creation and restoration, and for improvement of plant diversity in wetland and riparian communities. Its dense root mass makes this species an excellent choice for soil stabilization on sites that are saturated with up to 8 cm of standing water. Baltic rush will typically increase in heavily grazed areas so it can provide erosion control in the absence of other riparian species. It has excellent potential for use on sites subjected to heavy trampling such as stockwater troughs and ponds. The rhizomes also form a matrix for many beneficial bacteria, making this plant an excellent addition for wastewater treatment.

RELEASED SELECTIONS:

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

Sterling Selection of Baltic Rush *(Juncus balticus),* Accession Number 9067411, for Land Resource Region (LRR) B East from Sterling Wildlife Management Area, just north of the town of Aberdeen, Bingham County, Idaho**.**

Roswell Selection of Baltic Rush *(Juncus balticus),* Accession Number 9057580, for Land Resource Region (LRR) B West from Roswell Wildlife Management Area, just west of the town of Roswell, Canyon County, Idaho**.**

Stillwater Selection of Baltic Rush *(Juncus balticus),* Accession Number 9057632, for Land Resource Region (LRR) D North from Stillwater National Wildlife Refuge, northwest of the town of Fallon, Churchill County, Nevada.

Railroad Valley Selection of Baltic Rush *(Juncus balticus),* Accession Number 9057641, for Land Resource Region (LRR) D South from Railroad Valley Wildlife Management Area, 10 miles southwest of Current, Nye 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.

Manning, M.E., S.R. Swanson, T. Svejcar, and J. Trent. 1989. Rooting characteristics of four Intermountain meadow community types. JRM 42(4), July, 1989. p. 309-312.