

# Plants for Solving Resource Problems

## Hardstem Bulrush

**S**pecies: *Schoenoplectus acutus*  
Common Name: Hardstem Bulrush

**Plant Symbol:** SCACA  
**Accession Numbers:** Camas Selection (9057643), Hagerman Selection (9057597), Ogden Bay Selection (9067393) and Stillwater Selection (9057634)

**Source:** The Aberdeen PMC has released four performance tested ecotypes of hardstem bulrush from the PMC service area. The Camas Selection was collected from the Camas National Wildlife Refuge near Hamer, Idaho. It was selected for use in Land Resource Region (LRR) B East. The Hagerman Selection was selected for use in LRR B West. It was collected from the Hagerman Wildlife Management Area near Hagerman, Idaho. The Ogden Bay Selection comes from Ogden Bay Wildlife Management Area, west of Ogden, Utah and was selected for use in LRR D South. The Stillwater Selection was selected for use in LRR D North. The collection site was the Stillwater National Wildlife Refuge near Fallon, Nevada.

**Method of Selection:** Twenty six hardstem bulrush collections from the Aberdeen PMC Service Area were evaluated from 1991 to 1995. All collections were evaluated for survival, vigor, overall growth and spread, potential seed production, and above ground biomass production. The PMC released one selection from each LRR in the PMC service area. The released selections are the accessions with the best overall rating against others from within its respective LRR.



**Hardstem bulrush**

**Description:** Hardstem bulrush is a perennial, strongly rhizomatous, obligate wetland plant that is found at low to mid elevations (below 7500 feet) in marshes and along shorelines. Stems are upright, gray to green, round, 1-2 cm (1/2-1 inch) thick and 1-3 m (3-9 feet) tall. Leaves are few and short, found at the base, commonly with a well developed sheath. Flowers are a terminal spike made up of up to 50 or more spikelets which may be on a short pedicel or sessile. The spike is exceeded by a 3-10 cm lateral bract. Seeds are dark brown, lenticular achenes, up to 2.5 mm long.

Hardstem bulrush is found widespread throughout North America, but is most common in the West.

**Use:** Hardstem bulrush 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. Plants spread rapidly by rhizomes and will develop a thick root mass that is resistant to compaction, wave action and erosion. The rhizomes also form a matrix for many beneficial bacteria making this plant an excellent choice for wastewater management applications.

**Insect and Disease Problems:** There are no known problems with insects or diseases. Aphids will feed on the stems, but little or no damage has been noted, and the vigor of the plants has not been affected.

**Environmental Considerations:** These selected class releases are from a species native to the Intermountain West and have no known negative impacts on wild or domestic animals.

**Area of Adaptation:** Hardstem bulrush is generally found in areas of standing water ranging from 10 cm (5 inches) to more than 2.5 m (8 feet) deep. It will not tolerate long periods of deep water. It will grow and spread on soils that range from peat to alkaline silts and coarse substrates.

**Soil Adaptation:** Plants grow in saturated, fine to coarse textured soils in neutral to alkaline or saline conditions (pH 7 to 8 and EC <14).

**Planting and Harvesting:** Plantings are recommended using greenhouse grown materials. Germination rates can be enhanced by stratifying seed in a mixture of water and sphagnum moss at 2°C (35°F) for 30 to 45 days. Seed requires light, moisture and heat for germination. For greenhouse propagation, place seed on soil surface and press in lightly to assure good soil contact. Do not cover seed. Soil should be kept

moist, and the greenhouse should be kept hot, 32 to 38°C (90 to 100°F). Germination should begin within one to two weeks. Maintain soil moisture until transplanting. Plugs should be transplanted at 30 to 45 cm (12 to 18 in) spacing. This allows plants to fill in interspaces within one growing season. Fluctuating water levels during the establishment year will facilitate spreading. Standing water should fluctuate throughout the growing season to control terrestrial weeds but should be kept less than 1 meter (3 feet) deep. If deeper water is desired the depth can be increased slowly over the season. Seed can be collected by hand stripping or clipping with hand shears.

**Seed Maintenance:** Generation 0 (G0) seed is maintained at Aberdeen PMC. Later generation seed (ie G1) is not produced, maintained or available through the USDA-NRCS Plant Materials Center. To make collections of these hardstem bulrush releases, contact the appropriate managing agency at the original collection site.

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