



Natural Heritage & Endangered Species Program

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Massachusetts Division of Fisheries & Wildlife

Sea Lyme-grass *Leymus mollis* ssp. *mollis* (Trin.) Pilg.

State Status: **Endangered**

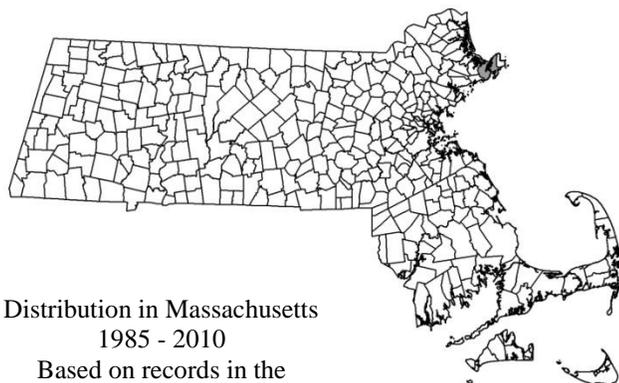
Federal Status: **None**

DESCRIPTION: Sea Lyme-grass is a robust perennial grass (family Poaceae) of seaside dunes, with glaucous leaves and a stout, dense-flowering spike. It grows in clumps above the high tide line, originating from long, robust rhizomes that spread out under the sand, anchoring the grass and stabilizing dunes.

AIDS TO IDENTIFICATION: Sea Lyme-grass ranges from 50 to 150 cm in height (20–60 in.). The stem is hairy beneath the inflorescence, which is a spike. The spike is dense, 1 to 2 cm ($\frac{1}{3}$ – $\frac{3}{4}$ in.) wide, and 10 to 30 cm (4–12 in.) long, surpassing the foliage. Spikelets are arranged two per node, with each bearing three to six florets. The glumes and lemmas are pubescent. A fine, waxy coating gives the plant a whitish (glaucous) tinge, as on a cabbage leaf. The 6 to 15 mm wide leaves are crowded at the bottom of the stem with their lower parts overlapping as they sheath the stem.



Sea Lyme-grass in its sandy dune habitat. The adjacent trail shows the danger from trampling. Photos: Jennifer Garrett, NHESP.



Distribution in Massachusetts
1985 - 2010
Based on records in the
Natural Heritage Database

A Species of Greatest Conservation Need in the Massachusetts State Wildlife Action Plan

Massachusetts Division of Fisheries & Wildlife

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SIMILAR SPECIES: The widespread Beach Grass (*Ammophila breviligulata*), a frequent associate, is not glaucous, and has narrower leaf blades (4–8 mm). In addition, the inflorescence is compact but branched (i.e., a panicle, not a spike), and the spikelets have only one floret.

HABITAT IN MASSACHUSETTS: Sea Lyme-grass is found on sandy beaches, often just above the highest high tide line and usually seaward from Beach Grass. Other associates include Beach Pea (*Lathyrus japonica*), Poison Ivy (*Toxicodendron radicans*), Rugosa Rose (*Rosa rugosa*), Staghorn Sumac (*Rhus typhina*), Seaside Goldenrod (*Solidago sempervirens*), ragweeds (*Ambrosia* spp.), and mustards (*Brassica* spp.).

RANGE: Distributed on coasts from Iceland to eastern Asia. In North America, it is found on the northern Pacific and Atlantic coasts south to Massachusetts and California as well as the Arctic coast. Sea Lyme-grass also occurs on the shores of the Great Lakes.

POPULATION STATUS IN MASSACHUSETTS: Sea Lyme-grass is listed under the Massachusetts Endangered Species Act as Endangered. All listed species are protected from killing, collecting, possessing, or sale and from activities that would destroy habitat and thus directly or indirectly cause mortality or disrupt critical behaviors. It is currently known from Essex County, and is historically known from Barnstable and Dukes Counties.

MANAGEMENT RECOMMENDATIONS:

Trampling by foot traffic or off-road vehicles, scouring by storm surges, beach erosion, and competition from non-native and native plants due to fire exclusion are the major threats to this species. Sites where dunes are unable to migrate landward in response to sea level rise are particularly vulnerable.

Locations that receive heavy recreational use should be carefully monitored for plant damage or soil disturbance. Trails near any Sea Lyme-grass populations should be re-routed and informal trails should be blocked with fencing or signage.

Sites should be evaluated for the need for beach stabilization through planting of other dune species. Sites should be monitored for competition from exotic plants and aggressive or tall native plants; if exotic or native plants are crowding and out-competing this species, a plan should be developed, in consultation with the Massachusetts Natural Heritage & Endangered Species Program, to remove the competitors. All active management of rare plant populations (including invasive species removal) is subject to review under the Massachusetts Endangered Species Act, and should be planned in close consultation with the Massachusetts Natural Heritage & Endangered Species Program.

Mature florets present in Massachusetts

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

REFERENCE:

Higman, P.J., and M.R. Penskar. 1999. Special plant abstract for *Leymus mollis* (American dune wild-rye). Michigan Natural Features Inventory, Lansing, MI. 2 pp.

Updated 2015

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