



Natural Heritage & Endangered Species Program

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Rigid Flax

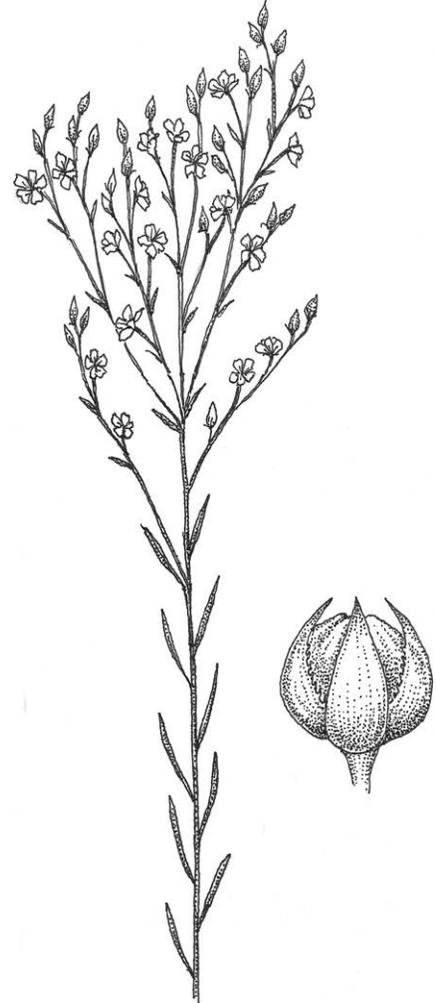
Linum medium (Planch.) Britt. var.
texanum (Planch.) Fern
State Status: Threatened
Federal Status: None

Description: Rigid Flax is a perennial herb of the flax family (Linaceae), with yellow five-petaled flowers borne on stiff, ascending branches. Plants grow 2 to 7 dm (~8–28 in.) in height. The flower petals are 4 to 8 mm long. The styles are distinct (i.e., not united at the base). The sepals are imbricate, and the inner ones have teeth with bulbous glandular tips along their edges. Leaves are entire, lance-shaped, and up to 2.5 cm (1 in.) long with the largest leaves towards the base of the plant. The upper leaves are alternate and usually have pointed tips, while those of the lowest nodes are opposite and blunt tipped. The sepals persist long after the petals have withered and subtend the small (2 mm), dry seed capsules. The species is most often found growing in barren, disturbed areas on sterile soil.

Aids to identification:

- Plants with stiffly ascending branches
- Densely leaved with 30 to 70 leaves below the inflorescence
- Lowest leaves opposite; upper leaves alternate
- Seed capsules more-or-less spherical with a flattened top
- Inner sepals with glandular teeth
- Most easily identified when fruit are present

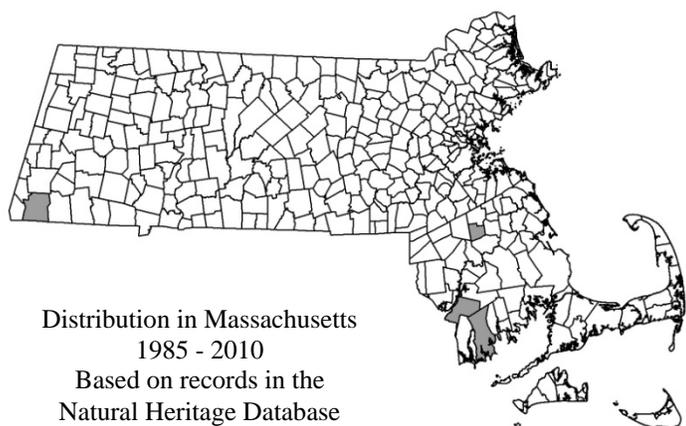
Similar species: Four yellow-flowered *Linum* species that might be mistaken for Rigid Flax occur in Massachusetts. Grooved Yellow Flax (*L. sulcatum* var. *sulcatum*) differs from the other three in that it is an annual and its styles are united at the base. Woodland Yellow Flax (*L. virginianum*) and Panicked Yellow Flax (*L. striatum*) differ from Rigid Flax in having more spreading branches and sepals lacking glandular teeth. Sandplain Flax (*Linum intercursum*; Special Concern) is very similar in form to Rigid Flax but the fruit capsule is egg-shaped with a pointed top, rather than spherical with a flattened top, as in Rigid Flax.



Rigid Flax - The illustration shows the stiff, ascending branches and the alternate upper leaves. In the inset, persistent sepals with glandular tips along the edges subtend the dry seed capsule. Illustration: Elizabeth Farnsworth.

Habitat in Massachusetts: In New England, this species typically inhabits sparsely vegetated mineral soils of clearings, fields, roadsides, and rights-of-way; soil moisture ranges from very dry to wet or seasonally flooded. Most documented Rigid Flax habitats in the state have been created or maintained via anthropogenic disturbance (e.g., utility right-of-way). Associated plant species include Broom-sedge Bluestem (*Andropogon virginicus*), Slender-leaved Flat-topped Goldenrod (*Euthamia caroliniana*), Switch-grass (*Panicum virgatum*), Long-leaved Panic-grass (*Panicum rigidulum* ssp. *pubescens*; Threatened), Forked Panic-grass (*Dichanthelium dichotomum*), Philadelphia Panic-grass (*Panicum philadelphicum* ssp. *philadelphicum*; Special Concern), Yellow Wild Indigo (*Baptisia tinctoria*), Large Cranberry (*Vaccinium macrocarpon*), and Brown Beak-sedge (*Rhynchospora capitellata*).

Range: Rigid Flax occurs in all the states east of the Mississippi River except New Hampshire. The western limit of its range extends from Texas and Oklahoma, north to Iowa, and Wisconsin. In Canada it is known only from Ontario.



Population status: Rigid Flax is listed under the Massachusetts Endangered Species Act as Threatened. 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. The distribution in Massachusetts is primarily eastern with a single Berkshire County outlier, in a barren area stripped of topsoil. This species is currently known from Berkshire, Bristol, and Plymouth Counties, and is historically known from Barnstable, Middlesex, Norfolk, and Suffolk Counties.

Threats/management recommendations:

Rigid Flax requires periodic disturbance to reduce competition and shading by woody plants, and possibly to expose mineral soil for improved germination and seedling establishment. Currently, Rigid Flax in Massachusetts is dependent upon anthropogenic disturbance such as mowing, cutting, and herbicide application for habitat creation and maintenance; however wildfire may have once filled this role and prescribed burning, when possible might be the best management tool. To avoid disruption of flowering and fruiting, vegetation control in Rigid Flax habitat should be conducted in early spring or late autumn. Management in areas adjacent to occupied sites could be effective in encouraging population expansion. Exotic plants known to invade dry, disturbed habitats, such as knapweeds (*Centaurea* spp.) are capable of dominating vegetation cover once they become established; therefore sites should be monitored for exotic plant invasions and if necessary a plan for control should be constructed. Additional threats include destructive habitat disturbance that damages plants or compacts soil, such as use of off-highway vehicles; such recreational access of habitat sites should be restricted. All active management of state-listed 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.

Flowering time in Massachusetts

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

Fruiting time in Massachusetts

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

For more information:

New York Natural Heritage Program. 1999. Conservation Guide for Southern Yellow Flax (*Linum medium* var. *texanum*). NYNHP, Albany, NY.