

Species Listing PROPOSAL Form:

Listing Endangered, Threatened, and Special Concern Species in Massachusetts

Scientific name: *Linum intercursum*

Current Listed Status (if any): SC

Common name: Sand Plain Flax

Proposed Action: Add the species, with the status of: _____

Change the scientific name to: _____

 Remove the species

Change the common name to: _____

 Change the species' status to: _____

(Please justify proposed name change.)

Proponent's Name and Address:

Bryan A. Connolly
 Massachusetts State Botanist
 Natural Heritage & Endangered Species Program
 Division of Fisheries and Wildlife
 100 Hartwell St. Suite 230, W. Boylston, MA 01583.

Phone Number: 508-389-6344

E-mail: bryan.a.connolly@state.ma.us

Fax: 508-389-7890

Association, Institution or Business represented by proponent:

Proponent's Signature:



Date Submitted:

5/30/14

Please submit to: Natural Heritage & Endangered Species Program, Massachusetts Division of Fisheries & Wildlife, 1 Rabbit Hill Road, Westborough, MA 01581

Justification

Justify the proposed change in legal status of the species by addressing each of the criteria below, as listed in the Massachusetts Endangered Species Act (MGL c. 131A) and its implementing regulations (321 CMR 10.00), and provide literature citations or other documentation wherever possible. Expand onto additional pages as needed but make sure you address all of the questions below. The burden of proof is on the proponent for a listing, delisting, or status change.

(1) Taxonomic status. Is the species a valid taxonomic entity? Please cite scientific literature.

YES

Linum intercursum E.P.Bicknell Bull. Torrey Bot. Club 1912, xxxix. 418.

(2) Recentness of records. How recently has the species been conclusively documented within Massachusetts?

2013

(3) Native species status. Is the species indigenous to Massachusetts?

YES

(4) Habitat in Massachusetts. Is a population of the species supported by habitat within the state of Massachusetts? YES

(5) **Federal Endangered Species Act status.** Is the species listed under the federal Endangered Species Act? If so, what is its federal status (Endangered or Threatened)

NO

(6) Rarity and geographic distribution.

(a) Does the species have a small number of occurrences (populations) and/or small size of populations in the state? Are there potentially undocumented occurrences in the state, and if so, is it possible to estimate the potential number of undocumented occurrences?

There are 21 current populations of this plant in Massachusetts and four that are recently historic, there are as many as 55 subpopulations within the 21 current populations. Five populations are ranked A, AB, or B, and are likely to persist into the foreseeable future. There is approximately 5,612 mapped acres of habitat for this species in Massachusetts. There is likely to be several undocumented populations. *Linum intercursum* is a diminutive plant that is only visible for a few weeks a year in flower. Additionally, there is a common congener that can be confused with this species. There could be as many as 10 undocumented populations. Personal communication with field biologists working on the Cape and Islands believe this species is common and field forms are often not filled out for this plant, it is likely more wide spread.

(b) What is the extent of the species' entire geographic range, and where within this range are Massachusetts populations (center or edge of range, or peripherally isolated)? Is the species a state or regional endemic?

Globally *Linum intercursum* is ranked as G4 or apparently secure. It is known to occur from Tennessee, Alabama, and South Carolina along the coastal plain north to Massachusetts. There is a disjunct population in Indiana. Massachusetts is the northern edge of its range.

(7) Trends.

(c) Is the species decreasing (or increasing) in state distribution, number of occurrences, and/or population size? What is the reproductive status of populations? Is reproductive capacity naturally low? Has any long-term trend in these factors been documented?

In Massachusetts the range of this species has been restricted to Plymouth, Barnstable, Dukes, and Nantucket counties. Populations generally appear to be stable. Populations known in the early 1980's are still generally extant at present. One 1928 population was rediscovered this past year in 2013.

(8) Threats and vulnerability.

(d) What factors are driving a decreasing trend, or threatening reproductive status in the state? Please identify and describe any of the following threats, if present: habitat loss or degradation; predators, parasites, or competitors; species-targeted taking of individual organisms or disruption of breeding activity.

Succession and development are possible threats to some populations of this taxon. Though, several populations are found on protected land on both Cape Cod and the Islands that are currently being managed with controlled burns or mowing. This species thrives with disturbance and can be found on power line rights of way, along airport runways, and roadsides.

(e) Does the species have highly specialized habitat, resource needs, or other ecological requirements? Is dispersal ability poor?

Linum intercursum can be found in a variety of sandy early successional habitats. It is known from sandplain/grasslands, dry roadsides, airports, openings in maritime shrub lands and pitch pine forests, power line rights of way, and sandy cemeteries.

Conservation goals.

What specific conservation goals should be met in order to change the conservation status or to remove the species from the state list? Please address goals for any or all of the following:

(a) State distribution, number of occurrences (populations), population levels, and/or reproductive rates

Delist at current population numbers, if populations or occurrences decline by more than 30% the species should be re-listed.

(b) Amount of protected habitat and/or number of protected occurrences

Part of a minimum of 12 populations

(c) Management of protected habitat and/or occurrences

Under current management levels this plant is likely to persist into the foreseeable future.

Literature cited, additional documentation, and comments.

Gleason, H. A. and A. Cronquist. 1991. Manual of Vascular Plants of Northeastern United States and Adjacent Canada, 2nd ed. The New York Botanical Garden, Bronx, NY.

Haines, A. 2011. Flora Novae Angliae: a manual for the identification of native and naturalized higher vascular plants of New England. Yale University Press, New Haven, CT.

The International Plant Names Index [web application]. 2014. Plant Name Query. Published on the Internet <http://www.ipni.org> [accessed 21 March 2014].

NatureServe. 2014. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available <http://explorer.natureserve.org>. (Accessed: March 5, 2014).

New York Natural Heritage Program. 2013. Online Conservation Guide for *Linum intercursum*. Available from: <http://www.acris.nynhp.org/guide.php?id=9165>. Accessed March 10th, 2014.

USDA, NRCS. 2014. The PLANTS Database (<http://plants.usda.gov>, 10 March 2014). National Plant Data Team, Greensboro, NC 27401-4901 USA