



**Natural Heritage
& Endangered Species
Program**

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Massachusetts Division of Fisheries & Wildlife

**Laurentian Bladderfern
Cystopteris laurentiana
(Weatherby) Blasdell**

State Status: **None**
Federal Status: **None**

Species Description: The Laurentian Bladderfern is a member of the “*Cystopteris fragilis*” complex; all are closely related species. It has been considered a hybrid in the past, as *C. x laurentiana*, but is now typically treated as a fertile allopolyploid resulting from a cross between Fragile Fern (*C. fragilis*) and Bulblet Fern (*C. bulbifera*). Synonyms for this species include *Cystopteris fragilis* var. *laurentiana* Weatherby and *Cystopteris x laurentiana* (Weatherby) Blasd.

This is an upright, tufted fern, with fronds up to 6 dm, including their stipes. The blades are bipinnate-pinnatifid, and are ovate to lanceolate, tapering abruptly to their tips. Like Bulblet Fern, the Laurentian Bladderfern stipe has glandular hairs, which are dense on all parts of the Bulblet Fern, but sparse on Laurentian Bladderfern. In addition, it rarely has bulbils; when present these are few, misshapen, and abortive.

Distribution and Abundance: In Massachusetts, Laurentian Bladderfern is only known from one location on a moist calcareous cliff. The size of the population is unknown. This species is known to occur from Newfoundland west to Minnesota and extends south to Pennsylvania. It is rare throughout its range. In New England, it is only known from Vermont, Massachusetts and Connecticut.

Habitat Description: Laurentian Bladderfern is found on vertical surfaces such as cliffs, ledges, and talus on high pH substrates, including limestone, dolomite and other calcareous and alkaline rocks. Associated herbaceous species observed in Massachusetts include *Saxifraga virginiana*, *Cystopteris fragilis*, *Aquilegia canadensis*, *Campanula rotundifolia*, *Dryopteris marginalis* and *Geranium robertianum*. Both *Tsuga canadensis* and *Hamamelis virginiana* grow over and shade the plants.

Threats: The primary threats to Laurentian Bladderfern are not well-defined, but may include changes to its primary habitat. This might include clear-cutting the forests near it, changes in the hydrology of its substrate, and, potentially, air pollution.

References:

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- NatureServe. 2015. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available <http://explorer.natureserve.org>. (Accessed: January 2, 2015, March 31, 2015).

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

Massachusetts Division of Fisheries & Wildlife

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