Anticosti Aster

Photo: © Atlantic Canada Conservation Data Centre

Scientific name
Symphyotrichum anticostense

Taxon
Vascular Plants

COSEWIC Status
Special Concern

Canadian range
Quebec, New Brunswick

Reason for Designation

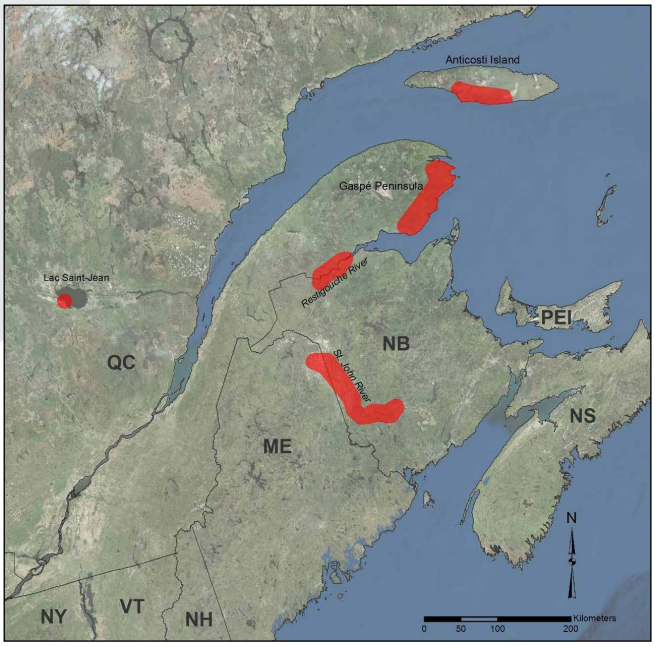
This clonal plant is restricted to calcareous shores of larger rivers (and occasionally lakes) in Eastern Québec and New Brunswick. At least 95% of its small global range occurs in Canada. Invasive species threaten habitat quality and there is some evidence that localized hybridization and deer browsing may minimally affect population persistence at local scales. Since the species' last assessment of Threatened in 2000, extensive searching resulted in the documentation of several new subpopulations. The subpopulations appear to be stable.

Wildlife Species Description and Significance

Anticosti Aster is a 10 to 75 cm tall, herbaceous species that spreads by long rhizomes to form loose clonal colonies. The stiff, narrowly linear leaves are somewhat leathery in texture, often arched, and have smooth or minutely toothed margins. Flowers are in long-stalked flower heads composed of purple ray (petal-like) florets and yellow disk florets. Anticosti Aster is a Holocene (<11,700 year old) species that originated by hybridization of New York Aster and Rush Aster. Identification based solely on morphology is not entirely reliable, particularly in New Brunswick due primarily to similarity with narrowleaved forms of New York Aster. It is of interest as a rare regional endemic species of postglacial origin that grows in association with many other plant species of conservation concern within regionally significant calcareous river shore communities.

Distribution

Anticosti Aster is a rare northeastern North American endemic species occurring in three distinct regions: 1) Anticosti Island, QC, 2) Lac Saint-Jean, QC and 3) the southern and eastern portions of the Gaspé Peninsula, QC, northwestern New Brunswick (Restigouche and Saint John river systems), and northeastern Maine (Aroostook River, a Saint John River tributary). Each of these distinct regions could represent an independent hybrid origin for the species, but there is currently insufficient evidence of genetic distinctiveness to warrant considering them as separate designatable units.



Distribution of Anticosti Aster (aerial imagery source: Esri World Imagery Basemap).

Habitat

Anticosti Aster is found on the open shores of larger rivers within the zone of annual flooding, and sometimes on similar lakeshores. It is strongly associated with underlying calcareous sedimentary bedrock and surface materials (mainly limestone). Plants are most often found on wide, low gradient rock, cobble, gravel and sand shores in unvegetated or sparsely vegetated areas between the highest and lowest water marks. At one site, Anticosti Aster has extensively colonized the gravelly roadside and railroad bed adjacent to a river, indicating potential to take advantage of disturbed habitats.

Biology

Anticosti Aster is a colonial perennial species, spreading vegetatively via rhizomes, with genetic individuals likely capable of persisting for many years. Lifespan of individual shoots or rhizome segments is unknown. It is likely dependent on insect pollination. It flowers from late July to late September and disperses seed from mid-August to late fall. Transport by water flow is likely the most significant mode of dispersal. Plants can probably produce flowers within the first year, but in the field, time to sexual maturity is likely greater.

Population Sizes and Trends

The total population of Anticosti Aster in Canada is roughly estimated at 410,000 to 1,063,000 stems, distributed at 18 subpopulations for which identification is considered reliable (1 at Lac Saint-Jean, 7 on Anticosti Island and 10 in the Gaspé Peninsula / western New Brunswick region). Collectively, subpopulations in the Gaspé / western New Brunswick region of occurrence contain at least 95% of the total known global population. The Restigouche River (NB and QC) supports the largest known occurrence (hundreds of thousands of stems), extending over roughly 80 km of river. Gaspé Peninsula's Grande Rivière, Bonaventure and Petit Pabos rivers are the next largest subpopulations (>68,000, >20,000 and >5000, respectively). All other known subpopulations are estimated at a few thousand stems or fewer. Subpopulations are not believed to have changed significantly since the last status assessment in 2000.

Threats and Limiting Factors

Historically, a substantial amount of potential habitat has been lost through construction of large dams in the Saint John River system, NB, and at Lac Saint-Jean, QC. Competition from exotic invasive plant species, particularly Reed Canary Grass (*Phalaris arundinacea*), represents a significant threat to subpopulations on New Brunswick's Saint John River. Invasive exotic plants may be impacting other subpopulations to a lesser degree, and this threat is likely to increase in severity and extent in the future. On Anticosti Island, browsing by over-abundant introduced White-tailed Deer appears to be having a considerable negative impact. Continued hybridization with New York Aster may be causing localized loss of genetic integrity in New Brunswick and Gaspé Peninsula subpopulations. Beach activity from nearby housing and cottage development is a moderate threat at the isolated Lac Saint-Jean population. Other postulated threats appear very minor. Habitat specificity is an important limiting factor for Anticosti Aster, as suitable habitat represents a very small portion of the landscape within the species' range.

Protection, Status, and Ranks

Anticosti Aster is a Schedule 1 species listed as Threatened under the federal *Species at Risk Act*. It is provincially Endangered and legally protected in New Brunswick under the New Brunswick *Species at Risk Act* and provincially Threatened and protected in Quebec under the *Loi sur les Espèces Menacées ou Vulnérables*. The species is ranked as globally Vulnerable (G3) with national status ranks of Vulnerable (N3) in Canada and Critically Imperiled (N1) in the United States, and subnational status ranks of Vulnerable (S3) in Quebec, Imperilled to Vulnerable (S2S3) in New Brunswick and Critically Imperiled (S1) in Maine.

Source: COSEWIC. 2017. COSEWIC assessment and status report on the Anticosti Aster *Symphyotrichum anticostense* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xiii + 58 pp.

For more information, please visit www.sararegistry.gc.ca.

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