Belliveau Lake

KBA, Nova Scotia

|  |
| --- |
| Coastal Sweet Pepperbush (*Clethra alnifolia*) |

**Instructions for Reviewers**

1. Read through the “Summary of Proposed KBA” section.
2. Read the questions after the summary and provide answers in the specified spaces.
3. Once you are done, make sure to save your work under a new file name (your answers will be lost if saving back to the original file name).
4. For additional information, see:

* [What are KBAs and how are they assessed?](http://www.kbacanada.org/wp-content/uploads/2020/09/What-are-KBAs-and-how-are-they-assessed.pdf)
* [Instructions for reviewers](http://www.kbacanada.org/wp-content/uploads/2020/09/Instructions-for-reviewers.pdf)

# Summary of Proposed KBA

*Please note that this summary has been generated automatically, and as a result there may be species scientific names that are not italicized.*

1. **KBA Name:** Belliveau Lake
2. **Location (province or territory, mid-point lat/long):** Nova Scotia

, 44.331

/-66.049

1. **KBA Scope:** National
2. **Trigger Biodiversity Element(s):**

|  |  |
| --- | --- |
|  | ● Species: Coastal Sweet Pepperbush (*Clethra alnifolia*) |

1. **Status Summary:**

Belliveau Lake

qualifies as a candidate National

KBA for the following KBA criteria:

|  |  |
| --- | --- |
|  | ● A1a [criterion met by 1 species] - Site regularly holds ≥0.5% of the national population size AND ≥5 reproductive units of a Critically Endangered or Endangered species. |

1. **Site Description:**

Belliveau Lake is a medium-sized lake within the Meteghan River watershed in southwestern Nova Scotia. Sweet Pepperbush is limited to the acidic upper lakeshore and forest margins of the lake while Spotted Pondweed is an aquatic submergent of the lake.
Belliveau Lake is situated in the Western ecoregion of Nova Scotia in the Clare ecodistrict. The Western ecoregion is characterised as having a mild climate with early springs, warm summers and a longer growing season than the rest of Nova Scotia (Neily et. al., 2017). The forest surrounding the lake is composed of tolerant mixedwood (Service Nova Scotia Provincial Landscape Viewer [accessed June 2020]).
The upland is dissected by a few small local seasonal roads and most residential development is limited to the northeastern bay of Belliveau Lake. Small sections of this bay are provincially owned Crown land. About 10% of the Belliveau Lake population of Sweet Pepperbush is situated on this land and is likely to be included in new nature reserves (COSEWIC, 2014). The large island in the middle of the lake is owned by Nova Scotia Nature Trust (Belliveau Lake - La Grande Ile Conservation Lands).
For references see: BelliveauLakeKBAProposal\_supplement.docx

1. **Assessment Details - KBA Trigger Species:**

| **Species** | **Status** | **Criteria Met** | **# of Reproductive Units** | **Assessment Parameter** |  | **Site Estimate** | | | |  | **National Estimate** | | | **% of National Pop. at Site** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Min | Best | Max | Year | Min | Best | Max |
| *Clethra alnifolia* | N1 (NatureServe) | A1a | 51 | Number of mature individuals |  |  | 160702 |  | 2014 |  |  | 454713 |  | 35.3 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1The site exceeds the minimum number of RUs required to meet the criteria, see: COSEWIC. 2014. COSEWIC assessment and status report on the Sweet Pepperbush Clethra alnifolia in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xi + 41 pp. | | | | | | | | | | | | | | |
| 2Site population estimate is based on stem counts which are a suitable index for number of mature individuals. For more details see: COSEWIC. 2014. COSEWIC assessment and status report on the Sweet Pepperbush Clethra alnifolia in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xi + 41 pp . | | | | | | | | | | | | | | |
| 3National population estimate is based on stem counts which are a suitable index for number of mature individuals, see: COSEWIC. 2014. COSEWIC assessment and status report on the Sweet Pepperbush Clethra alnifolia in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xi + 41 pp . | | | | | | | | | | | | | | |

1. **Assessment Details – KBA Trigger Ecosystems:** None
2. **Delineation Rationale:**

Boundary is derived from a 5m vertical buffer of the lake polygon, using an Enhanced Digital Elevation Model (DP ME 55, Version 2, 2006) for the province of Nova Scotia. The vertical buffer was trimmed at a 300m horizontal distance from the lakeshore.

1. **Additional Site Information:**

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| --- | --- |
| **Rationale for site nomination** | Belliveau Lake hosts nationally significant populations of two rare plant species: Sweet Pepperbush and Spotted Pondweed. Sweet Pepperbush is a wetland shrub with showy, fragrant flowers with a Canadian distribution limited to six lakes in southwestern Nova Scotia. The main distribution of Sweet Pepperbush is the eastern United States, along the Atlantic Coastal Plain from Maine to Southern Texas (COSEWIC, 2014). Spotted Pondweed is a freshwater aquatic plant found mainly along the coastal plain from southern Maine to Florida and Alabama, with some inland occurrences in the southern US (NatureServe Explorer, 2020). In Canada, Spotted Pondweed is limited mostly to southwestern Nova Scotia in shallow waters of highly acidic, nutrient poor lakes and rivers (a historical record exists for Ontario but has not been observed since 1948 and may be extirpated there, [Environment Canada and Parks Canada Agency, 2016]). The disjunct populations of Sweet Pepperbush and Spotted Pondweed in southwestern Nova Scotia are part a group of unrelated plants referred to as Atlantic Coastal Plain Flora, that are rare or unknown elsewhere in Canada. Canadian populations of Sweet Pepperbush and Spotted Pondweed are isolated from the closest populations in the United Stares by 200+ km and are the northernmost worldwide, suggesting potential significance to the species’ range-wide genetic diversity (COSWEIC, 2014; Environment Canada and Parks Canada Agency, 2016). For references see: BelliveauLakeKBAProposal\_supplement.docx |
| **Biodiversity elements that were assessed but did not meet KBA criteria** | *Potamogeton pulcher* |
| **Other significant biodiversity elements** | none known |
| **Percent of site covered by protected areas** | 11-20% |
| **Customary jurisdiction at site** | - |
| **Ongoing conservation actions** | Awareness & communications; Site/area protection |
| **Ongoing threats** | Invasive & other problematic species, genes & diseases; Pollution; Residential & commercial development |
| **Additional conservation actions needed** | Site/area protection |

**Questions for Reviewers**

If you run out of space for any of your answers to questions 5-11, please expand the text box by clicking it and then pulling the bottom border downwards.

*Required information for review completion:*

1. Name 

2. Email address 

3. Phone number (optional) 

4. I understand and agree that my name and contact information may be provided to additional reviewers indicating that I provided a technical review of this KBA





5. Are the global values (or national, for national-scale KBAs) used in the threshold calculation accurate and adequately documented?





*Additional comments*

6. Are the site-level estimates for each assessment parameter accurate and adequately documented?







7. Is it reasonable to assume that the KBA trigger element (species or ecosystem) is present at the site and has been correctly identified?







8. Is the proposed KBA boundary appropriate and at a useful scale to focus conservation efforts?







9. If they have been provided, are the mapped distributions of the biodiversity elements realistic?







*Additional information for review:*

10. If you are familiar with the site, please comment on the site description and provide any other information that may help its documentation and conservation, including about:

* ongoing conservation actions being applied to the site
* conservation actions needed at the site
* additional biodiversity elements at the site
* relevant information about customary jurisdiction(s) of the site (i.e. traditional territories, landowners, etc.)
* threats to the persistence of biodiversity at the site (pertaining to the trigger species or in general)



11. Any other comments?

