Upper Saint John River (Medford to Aroostook)

KBA, New Brunswick

|  |
| --- |
| Furbish’s Lousewort (*Pedicularis furbishiae*) |

**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:** Upper Saint John River (Medford to Aroostook)
2. **Location (province or territory, mid-point lat/long):** New Brunswick

, 46.851

/-67.692

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

|  |  |
| --- | --- |
|  | ● Species: Pedicularis furbishiae (*Furbish’s Lousewort*) |

1. **Status Summary:**

Upper Saint John River (Medford to Aroostook)

qualifies as a candidate Global

KBA for the following KBA criteria:

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

1. **Site Description:**

The Saint John River is eastern Canada’s longest river running 673 km from northern Maine into western New Brunswick and flowing south to empty into the Atlantic Ocean via the Bay of Fundy. This nearly 3km stretch of the Saint John River from north of Medford to near the mouth of the Aroostook River in the south hosts several clusters of Furbish’s Lousewort. The shoreline habitat which hosts Furbish’s Lousewort are regularly affected by seasonal ice sour and flooding and an additional habitat along a railway embankment is present in this section of the river. This site overlaps the George M. Stirrett Nature Preserve (New Brunswick Nature Trust). This preserve was established specifically for the protection of Furbish’s Lousewort. Three other plant species of conservation concern have been recorded along the riverbank in this section of the Upper Saint John River: Butternut (Endangered), Black Ash (Threatened) and Anticosti Aster (Threatened) (AC CDC database, accessed December 2020). For references see: UpperSJR(MedfordAroostook)KBAProposal\_supplement.docx

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

| **Species** | **Status** | **Criteria Met** | **# of Reproductive Units** | **Assessment Parameter** |  | **Site Estimate** | | | |  | **Global Estimate** | | | **% of Global Pop. at Site** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Min | Best | Max | Year | Min | Best | Max |
| *Pedicularis furbishiae* | EN (IUCN); G1 (NatureServe) | A1a | 51 | Number of mature individuals |  | 74 | 862 | 97 | 2018 to 2020 |  | 2068 | 45343 | 7000 | 1.9 |

|  |
| --- |
| 1The site exceeds the minimum number of RUs required to meet the criteria, (AC CDC database, accessed February 2021). |
| 2The site has undergone targeted population counts in 2018, 2019 and 2020, with the number of individuals totalling 97, 74 and 89, respectively (AC CDC database, accessed February 2021). The minimum site estimate is the lowest of these three counts in 2019 and the maximum site estimate is the highest of these counts in 2018. The best site estimate is the average of these two numbers. . |
| 3The minimum and maximum global estimates for the number of mature individuals are taken from NatureServe Explorer population ranges for Maine (2000 to 6000) and New Brunswick (68 to 1000). The best estimate is the mean of the two values. See, NatureServe. 2020. NatureServe Explorer [web application]. NatureServe, Arlington, Virginia. Available [link](https://explorer.natureserve.org/.%20(Accessed:%20October%2015,%202020)). |

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

The KBA boundary is defined by the historical and extant records of Furbish’s Lousewort in this section of the Saint John River contained within a 100m buffer of the river edge. Due to the dynamic nature of the population biology of this species an extension of 1 km upstream and downstream were applied to the rivershore buffer. A small extension of the river buffer was made to adequately include the Aroostook sub-population (50m buffer of the rail line from the intersection with the 100m river buffer to the eastern shore of the rail bridge over the Aroostook River).

1. **Additional Site Information:**

|  |  |
| --- | --- |
| **Rationale for site nomination** | Furbish’s Lousewort is an herbaceous hemiparasitic perennial plant with a global distribution limited to a 225 km stretch of the Saint John River near the Maine and New Brunswick border (Environment Canada, 2010). Furbish’s Lousewort primarily occupies temporary habitats within the transition zone on the riverbank between the forested upper bank and the sparse herbaceous vegetation of the lower bank (COSEWIC, 2000). The riverbank is subject to frequent disturbance by high water and ice on the lower part of the riverbank and landslides on the upper portion of the riverbank. The population biology of Furbish’s Lousewort is dynamic with populations continually being destroyed and established in new sites. Furbish’s Lousewort reproduces exclusively by seed and most seedlings grow beneath or near the parent plant. The seeds can also be transported by water and are able to float in water for several days (COSEWIC, 2000). Due to the dynamic nature of its habitat the number of plants detected can vary from year to year. Despite the dynamic nature of the habitat and a lack of historical data, the population size and habitat availability of Furbish’s Lousewort is thought to be declining (Environment Canada, 2010). The population of Furbish’s Lousewort in this section of the river has had modern-day counts as high as 460 in 2001, but the latest surveys (2018, 2019 and 2020) have counted less than 100 individuals (AC CDC database, accessed February 2020).  For references see: UpperSJR(MedfordAroostook)KBAProposal\_supplement.docx |
| **Biodiversity elements that were assessed but did not meet KBA criteria** | *-* |
| **Other significant biodiversity elements** | • Butternut (Juglans cinerea, G4, N3N4, Endangered) • Black Ash (Fraxinus nigra, G5, NNR, Threatened, IUCN:CR) • Anticosti Aster (Symphyotrichum anticostense, G3, N3, Threatened) |
| **Percent of site covered by protected areas** | 1-10% |
| **Customary jurisdiction at site** | - |
| **Ongoing conservation actions** | None |
| **Ongoing threats** | Climate change & severe weather; Natural system modifications |
| **Additional conservation actions needed** | None |

**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?

