Upper Saint John River (Grand Falls)

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 (Grand Falls)
2. **Location (province or territory, mid-point lat/long):** New Brunswick

, 47.063

/-67.77

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

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

1. **Status Summary:**

Upper Saint John River (Grand Falls)

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. The most northern population of Furbish’s Lousewort in Canada occurs along the banks of the Saint John River in a stretch between the US and Canadian border and the Grand Falls dam. The shoreline in this section of the river has steep banks with a which are regularly affected by seasonal ice sour and flooding. The substrate of the rivershore at this site is composed of well drained, sandy or gravelly calcareous soil and the plants here are shaded most of the day by topography of the river and the forest on the upper slope (COSEWIC, 2000). Along this section of the river, the forested shoreline buffer extends from 40m to over 100m inland from the water edge. The river shoreline and adjacent upland becomes more heavily developed approaching the Grand Falls Generating Station dam. Two other species of conservation concern have been recorded along the riverbank in this section of the Upper Saint John River: Butternut (Endangered) and the Black Ash (Threatened) (AC CDC database, accessed December 2020). For references see: UpperSJR(GrandFalls)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 |  | 71 | 942 | 116 | 2018 and 2019 |  | 2068 | 45343 | 7000 | 2.1 |

|  |
| --- |
| 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 and 2019 with the number of individuals totalling 71 and 116 respectively (AC CDC database, accessed February 2021). 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.

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 Grand Falls population of Furbish’s Lousewort has had modern-day counts as high as 298 in 2001, but the latest surveys (2018, 2019) have counted less than 120 individuals (AC CDC database, accessed February 2020).  For references see: UpperSJR(GrandFalls)KBAProposal\_supplement.docx |
| **Biodiversity elements that were assessed but did not meet KBA criteria** | *-* |
| **Other significant biodiversity elements** | • Butternut (Juglans cinerea, G3, N2, Endangered) • Black Ash (Fraxinus nigra, G5, N5, Threatened, IUCN:CR) |
| **Percent of site covered by protected areas** | 0% - completely unprotected |
| **Customary jurisdiction at site** | - |
| **Ongoing conservation actions** | Site/area management; Awareness & communications; Species management |
| **Ongoing threats** | Climate change & severe weather; Energy production & mining; Natural system modifications |
| **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?

