Fundy National Park

 KBA, New Brunswick

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| Eastern Waterfan (*Peltigera hydrothyria*), Roland's Sea-blite (*Suaeda rolandii* ) |

**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:** Fundy National Park
2. **Location (province or territory, mid-point lat/long):** New Brunswick

, 45.631

/-65.031

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

|  |  |
| --- | --- |
|  | ● Species: Eastern Waterfan (*Peltigera hydrothyria*), Roland's Sea-blite (*Suaeda rolandii* ) |

1. **Status Summary:**

Fundy National Park

qualifies as a candidate National

 KBA for the following KBA criteria:

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| --- | --- |
|  | ● 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. |
|  | ● A1b [criterion met by 1 species] - Site regularly holds ≥1% of the national population size AND ≥10 reproductive units of a Vulnerable species. |
|  |  |

1. **Site Description:**

Fundy National Park protects 207 km2 of land and waters along the northwestern branch of the Bay of Fundy in Southern New Brunswick. The park is part of two major environmental ecoregions: the Southern New Brunswick Uplands and the Fundy Coast. The upland sections of the park are composed of by Acadian forest and is dissected by two major river systems and their numerous associated streams. The Fundy Coast shoreline is a mix of tidal flats, rocky shores, saltmarsh and seaside cliffs. The Bay of Fundy experiences the highest tides in the world and during low tide extensive tidal flats are exposed. These tidal flats host abundant burrowing invertebrates which support vast numbers of shorebirds which congregate to feed on the invertebrates during migration.

There are records of five Threatened bird species in the park: Chimney Swift, Canada Warbler, Barn Swallow, Wood Thrush, Bank Swallow, Bicknell’s Thrush. Other species of conservation concern found within the park boundaries include several Endangered bat species (Northern Long-eared Myotis and Little Brown Myotis), three plant species (Robinson’s Hawkweed, Black Ash and White Ash) and other animal species (Atlantic Salmon, American Eel, Yellow-banded Bumblebee and Wood Turtle [introduced to the park]). Three observations of the regional endemic cuckoo bee, *Triepeolus brittaini*, are known from the park (AC CDC database, 2020).

For references see: FundyNationalParkKBAProposal\_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** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Value | Year |
| *Peltigera hydrothyria* | T (COSEWIC) | A1b | 101 | Number of mature individuals |  | 15632 | 2019 | 33113 | 47.2 |
| *Suaeda rolandii*  | N1 (NatureServe) | A1a | 54 | Number of localities |  | 15 | 2016 | 76 | 14.3 |

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| --- |
| 1The site exceeds the minimum number of RUs required to meet the criteria, see: Environment and Climate Change Canada, 2021. Recovery Strategy and Action Plan for the Eastern Waterfan (Peltigera hydrothyria) in Canada [Proposed]. Species at Risk Act Recovery Strategy Series. Environment and Climate Change Canada, Ottawa. viii + 45 pp. |
| 2Best estimate of number of mature individuas is based on estimated number of colonies (1005) given in: Environment and Climate Change Canada, 2021. Recovery Strategy and Action Plan for the Eastern Waterfan (Peltigera hydrothyria) in Canada [Proposed]. Species at Risk Act Recovery Strategy Series. Environment and Climate Change Canada, Ottawa. viii + 45 pp. plus the number of new records (558) found during targeted survyes in 2020 (AC CDC database, accessed January 2021). |
| 3Best estimate of number of mature individuals is based on estimated number of colonies (2083) given in: Environment and Climate Change Canada, 2021. Recovery Strategy and Action Plan for the Eastern Waterfan (Peltigera hydrothyria) in Canada [Proposed]. Species at Risk Act Recovery Strategy Series. Environment and Climate Change Canada, Ottawa. viii + 45 pp. plus the number of new records (1228) found during targeted survyes in 2020 (AC CDC database, accessed January 2021). |
| 4The site exceeds the minimum number of RUs required to meet the criteria. In 2016, surveys for the species counted at least 500 plants, source: AC CDC database, accessed January 2021. Note: the species is presumed self-fertile based on studies of similar taxa, see: Aluri, Jacob Solomon Raju & Kumar, Rajendra. (2016). On the reproductive ecology of Suaeda maritima, S. monoica and S. nudiflora (Chenopodiaceae). Journal of Threatened Taxa. 8. 8860. 10.11609/jott.2275.8.6.8860-8876. . |
| 5The species is known from one population within the park. Source: AC CDC database, accessed January 2021. |
| 6NatureServe data estimates a maximum of 20 occurences of this species globally, with 7 know extant populations in Canada. This number is given as the 'Best' estimate due to recent discoveries and historical status of some occurences, source: NatureServe. 2021. NatureServe Explorer [web application]. NatureServe, Arlington, Virginia. Available [link](https://explorer.natureserve.org/.%20%28Accessed%3A%20January%2025%2C%202021)). |

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

The KBA boundary is defined by an existing management boundary (Fundy National Park). The size of the management boundary is comparable to the spatial grouping of one of the trigger elements (Eastern Waterfan).

1. **Additional Site Information:**

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| --- | --- |
| **Rationale for site nomination** | Eastern Waterfan is a distinctive aquatic cyanolichen restricted to eastern North America. The entire Canadian population was known from 39 streams (one in Quebec, 26 in New Brunswick and 12 in Nova Scotia (Environment and Climate Change Canada, 2021), but recent targeted surveys in the summer of 2020 have found additional locations in New Brunswick (Colin Chapman, Atlantic Canada Conservation Data Centre, pers. comm. 2021). Eastern Waterfan grows on rocks at or below water level and appears to have very specific habitat of clear, cool, mineral-rich streams in a peri-humid climate with features that create protective eddies and backwaters (COSEWIC, 2013). This specific but not yet completely understood habitat appears to be relatively plentiful within Fundy National Park and an analysis and habitat model completed by Atlantic Canada Conservation Data Centre in 2021, indicated a clear increased likelihood for Eastern Waterfan to occur inside the park vs. 10 km buffer (Higgins et. al., 2021). Important metrics which contributed to these findings included low levels of disturbance and older forest stands, which in turn influence crown cover, stem density and canopy height. The population of Eastern Waterfan in Fundy National Park currently represents nearly half of the known Canadian population (AC CDC database, accessed March 2021). Roland's Sea-blite (Suaeda rolandii) is a globally rare annual plant of tidal flats and salt marshes. It has been recorded at less than 20 locations globally, but due to difficulties distinguishing it from similar species it is possible that this species is more frequent than presently known (NatureServe Explorer, 2021). Roland's Sea-blite has been reported in Magdalen Islands, Quebec (1 location – probably historic), New Brunswick, Nova Scotia, New York (6 extant locations) and New Jersey (1 location) (NatureServe United States EO database and NatureServe Explorer, 2021). Recent observations in Nova Scotia and New Brunswick have confirmed the species at 7 locations and these are now the only extant sites known in Canada (AC CDC database, 2020). One of the sites of Roland's Sea-blite in Fundy National Park and represents the largest of all known Canadian observations in recent years (David Mazerolle, Parks Canada, pers. comm., January 2021).For references see: FundyNationalParkKBAProposal\_supplement.docx |
| **Biodiversity elements that were assessed but did not meet KBA criteria** | *-* |
| **Other significant biodiversity elements** | • Northern Long-eared Myotis (Myotis septentrionalis, G1G2, N1N2, Endangered)• Little Brown Myotis (Myotis lucifugus, G3, N2N4B,NNRN,NNRM, Endangered)• Wood Turtle (Glyptemys insculpta, G3, N3, Endengered)• American Eel (Anguilla rostrata, G4, N2N4N,N2N4M, Threatened) • Chimney Swift (Chaetura pelagica, G4G5, N3B,N3M, Threatened)• Canada Warbler (Cardellina canadensis, G5, N3B,N3M, Threatened)• Barn Swallow (Hirundo rustica, G5, N3N4B,N3N4M, Threatened)• Wood Thrush (Hylocichla mustelina, G4, N4N5B,NUM, Threatened)• Bank Swallow (Riparia riparia, G5, N5B,N5M, Threatened)• Black Ash (Fraxinus nigra, G5, N5?, Threatened)• White Ash (Fraxinus americana, G5, N5?, Threatened)• Atlantic Salmon, Inner Bay of Fundy population (Salmo salar pop. 1, G5, N2, Endangered)• A Cuckoo Bee (Triepeolus brittaini, GU, NU)* Robinson’s hawkweed (*Hieracium robinsonii*, G3, N2)
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| **Percent of site covered by protected areas** | 100% - completely protected |
| **Customary jurisdiction at site** | - |
| **Ongoing conservation actions** | Site/area protection; Resource & habitat protection |
| **Ongoing threats** | Climate change & severe weather; Natural system modifications; Pollution |
| **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?

