Economy Lake

KBA, Nova Scotia

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| Prototype Quillwort (*Isoetes prototypus*) |

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

, 45.48

/-63.859

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

|  |  |
| --- | --- |
|  | ● Species: Prototype Quillwort (*Isoetes prototypus*) |

1. **Status Summary:**

Economy Lake

qualifies as a candidate National

KBA for the following KBA criteria:

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|  | ● 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:**

Economy Lake is a small lake in Colchester County in northern Nova Scotia. Prototype Quillwort is typically found in lakes which are small, shallow, nutrient-poor, and spring-fed, growing at depths of between 1.5 and 2.5 m in soft, flocculent sediment (Source: COSEWIC 2005. COSEWIC assessment and status report on the prototype quillwort Isoetes prototypus in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 31 pp.). The shoreline and upland surrounding the lake is mostly undeveloped and completely provincially owned. The forested upland is composed of stands dominated by Balsam Fir, Red Maple, Red Spruce, Black Spruce, and Yellow Birch (NS Department of Natural Resources, Provincial Landscape Viewer). Economy River Wilderness Area (Nova Scotia Environment, Protected Areas Branch) lies less than 200m to the northwest.

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 |  |
| *Isoetes prototypus* | N2 (NatureServe) | A1b | 1011 | Number of localities |  | 1 | 12 | 1 | 2005 | |  | | 15 | 153 | 15 | 6.7 |

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| --- |
| 1Min. number of RUs is calculated as half the estimated population size given in the COSEWIC assessment and status report (COSEWIC 2005. COSEWIC assessment and status report on the prototype quillwort Isoetes prototypus in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 31 pp. ). Note: The number of RUs is likley higher as it is thought that Isoetes species undergo intergametophytic (i.e., sporophytic) selfing analogous to self-pollination in seed plants. . |
| 2Environment Canada. 2012. Management Plan for the Prototype Quillwort (Isoetes prototypus) in Canada. Species at Risk Act Management Plan Series. Environment Canada, Ottawa. iii + 16 pp. |
| 3Prototype Quillwort is known from 15 unconnected lakes in Canada. Despite an incomplete understanding of its full distribution, Prototype Quillwort seems genuninely restricted to known localities and not simply overlooked, as evidenced by the large number of surveys to detect the species in suitable habitat, see: Environment Canada. 2012. Management Plan for the Prototype Quillwort (Isoetes prototypus) in Canada. Species at Risk Act Management Plan Series. Environment Canada, Ottawa. iii + 16 pp. . |

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

A standardized buffer of 30m was applied to the lake to account for imprecisions in spatial data and inter-annual variation, as per the National KBA Standard for entirely aquatic trigger elements.

1. **Additional Site Information:**

|  |  |
| --- | --- |
| **Rationale for site nomination** | Prototype Quillwort is a small, submergent aquatic plant endemic to the Acadian region if North America and rare in all jurisdictions where it occurs. It is one of the rarest quillwort species with almost all its known occurrences and population in Canada. Prototype Quillwort has been observed at only 20 small, unconnected lakes globally: 15 in Canada and five in Maine (two of the Maine populations are now considered extirpated according to Maine Natural Areas Program (pers. comm. to S. Robinson, July 2020). Despite an incomplete understanding of its full distribution, it is thought that the occurrences of Prototype Quillwort are limited and not simply overlooked, as evidenced by the large number of surveys to detect the species in suitable habitat. (Source: Environment Canada. 2012. Management Plan for the Prototype Quillwort (Isoetes prototypus) in Canada. Species at Risk Act Management Plan Series. Environment Canada, Ottawa. iii + 16 pp.). |
| **Biodiversity elements that were assessed but did not meet KBA criteria** | *-* |
| **Other significant biodiversity elements** | - |
| **Percent of site covered by protected areas** | 0% - completely unprotected |
| **Customary jurisdiction at site** | - |
| **Ongoing conservation actions** | Legislation |
| **Ongoing threats** | Agriculture & aquaculture; Human intrusions & disturbance; Invasive & other problematic species, genes & diseases; Natural system modifications; Pollution |
| **Additional conservation actions needed** | Site/area protection; Resource & habitat protection; Awareness & communications |

**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?

