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Report on Rare and Unusual Plant Species Within the Dickey-Lincoln School Lakes Project Area

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REPORT ON RARE AND UNUSUAL PLANT SPECIES WITHIN THE DICKEY - LINCOLN SCHOOL LAKES PROJECT AREA

The St. John River in northern Maine has long been famous for the rare plants which occur along its banks and on the islands within the river. These plants include the following:

1. Pedicularis furbishiae S. Wats.
2. Carex josselynii (Fern.) Mackenz.
3. Castilleja septentrionalis Lindl.
4. Anemone multifida Poir.
5. Oxytropis johannensis Fern.
6. Primula mistassinica Michx.
7. Juncus alpinus Vill. and J. alpinus var. rariflorus Hartm.
8. Astragalus blakei Egglest.
9. Astragalus alpinus var. brunetianus Fern.
10. Hedysarum alpinum var. americanum Michx.
11. Tanacetum huronense var. johannense Fern.

Pedicularis furbishiae and Carex josselynii are endemic to the St. John River valley and are not found elsewhere. Astragalus blakei has been reported only from the St. John River and from northern Vermont. The remaining plants are boreal or arctic species which reach their southernmost limit in northern Maine or other northern states farther west. Some of these plants are wide ranging, extending from Labrador to Alaska and are not rare within the main area of their range.

Between June 27 and July 31, 1976 the Dickey-Lincoln School Lakes project area was surveyed for the presence of these eleven rare plants. Since all of them are restricted to river banks and islands, only these habitats were checked. A thorough survey of these areas was accomplished by the use of an army

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helicopter which was able to land in very small areas along the river bank and on most of the islands within the river both in the project area and below as far as Fort Kent. In addition to the St. John River, [redacted] the Big Black River, the Little Black River, and a portion of the Allagash River were also checked for the presence of these plants. A discussion of each of the eleven species and their occurance in the area surveyed follows:

1. Pedicularis furbishiae (Furbish Lousewort), named for the Maine botanist and artist Kate Furbish, has been found only along the banks of the St. John River in Maine and New Brunswick. There are specimens in the University of Maine Herbarium from Fort Kent, Frenchville and Fort Fairfield. These localities were visited during the survey period this summer but no plants of the lousewort were found. Pedicularis furbishiae however, was found at six localities within the township of Allagash which is within the impoundment area of the proposed Dickey-Lincoln School Lakes.

   The habitat of Pedicularis furbishiae is damp river bank areas above high water line. It occurs at the edge of woods where it gets some sun during the day, usually in the afternoon. The base of the plant is often shaded by other herbaceous species.

2. Carex josselynii (Josselyn's Sedge) was named in honor of John Josselyn, first Maine botanist and author of "New England's Rarities" which was printed in 1672. M. L. Fernald first treated this plant as a variety of Carex interior Bailey but later it was elevated to specific rank by K. K. Mackenzie. It has been collected along the St. John River between Fort Kent and St. Francis. It was not found during the survey this summer.

3. Castilleja septentrionalis (Northern Paintbrush) is found on gravelly or peaty soils from Labrador to Alberta and southward to northern Maine, northern Michican, northern Minnesota, South Dakota, Colorado and Utah.

In Maine it has been found along the St. John River, the Aroostook River and in 1892 on Mt. Katahdin. The Mt. Katahdin station, reported by F. P. Briggs, has never been relocated and the Aroostook River was searched this summer without finding the plant there.

Along the St. John River, Castilleja septentrionalis was found at fourteen localities but was not abundant at any of these. One of these localities was near the confluence of Nine Mile Brook and the St. John River which is above the proposed impoundment area. It was found below the impoundment area at Fort Kent but the greatest number of plants were found along the banks of the St. John River and on islands in the river in the townships of Allagash and St. Francis. It usually occurs high enough upon the banks or shores where it is not subject to frequent flooding.

4. Anemone multifida (Cut-leaved Anemone) is found locally on calcareous gravel and ledges from Newfoundland to Alaska and southward to northern Maine, northern New York, northern Michigan, South Dakota, New Mexico and California. In Maine it is a rare plant found only at several localities along the St. John River in the crevices of slaty ledges. It was found this summer at three localities below the proposed impoundment area in the townships of St. Francis, St. John and Frenchville. At the latter locality only two plants were observed.

5. Oxytropis johannensis (Field Oxytrope) is found on calcareous rocks and gravels from western Newfoundland to James Bay and south to Maine and Quebec. In Maine it is restricted to the St. John River valley between St. Francis and Frenchville. This summer the most extensive stands were found on several Canadian islands below the proposed Lincoln School dam site. It was also found on several American islands in the townships of

St. Francis, St. John and Fort Kent, all below the proposed Lincoln School dam site but where the plants would be influenced by fluctuating water levels resulting from the operation of the dam.

Oxytropis johannensis was also found on several slaty ledges along the south shore of the St. John River in the townships of St. Francis, St. John and Frenchville.

6. Primula mistassinica (Bird's-eye Primrose) occurs from Labrador to eastern Alaska and southward to central Maine, northern Michigan, central Iowa, southern Alberta and southern British Columbia. It has been found in Maine along the St. John and Aroostook Rivers in northern Maine and in 1891 it was collected at Foxcroft in central Maine. The latter station probably no longer exists.

Primula mistassinica grows along the St. John River on wet cobbly shores or in the crevices of wet ledges. It is a very tiny plant and is easily overlooked unless it is in flower. During the survey it was found at ten sites along the St. John River in the townships of Allagash, St. Francis and St. John. It was also found above the proposed impoundment area on cobbly shores and ledges below the confluence of the Northwest Branch and the Southwest Branch of the St. John River and below the confluence of Nine Mile Brook and the St. John River.

7. Juncus alpinus and its variety rariflorus (Alpine Rush) are arctic and boreal plants that extend southward to Maine, New York, Illinois, Minnesota, southern Alberta and Washington. In Maine they occur on calcareous wet shores along the St. John and Aroostook Rivers. This summer they were found at five localities in the townships of Allagash and St. Francis and at the same localities above the impoundment area where Primula mistassinica was found.

8. Astragalus blakei (Blake's Milk Vetch) named for its discoverer, Joseph

Blake, occurs locally on calcareous ledges, cliffs and Talus in northern Maine and northern Vermont. It was not found during the survey of the Dickey-Lincoln School Lakes project area.

9. Astragalus alpinus var. brunetianus (Alpine Milk Vetch) is a plant of calcareous ledges and gravels. It occurs in the Restigouche River system in Quebec and New Brunswick, the St. John River system in New Brunswick and Maine, along the Aroostook River in Maine, along the Kennebec River in Maine, and along the Connecticut River in New Hampshire and Vermont.

Astragalus alpinus var. brunetianus was certainly the most abundant of the eleven rare plants looked for this summer. Although it was not found above the proposed impoundment area it was found below the impoundment area both on islands and along the banks of the St. John River. It was recorded from a total of twenty eight localities from Allagash to Frenchville all of which would be subject to flooding when the river is high.

10. Hedysarum alpinum var. americanum recorded from twenty different sites in the St. John Valley during the course of the survey this summer. It was found on several islands both within and below the proposed impoundment area and along the banks of the St. John River from about two miles upstream from Chimenticook Stream to Frenchville. It was found growing higher up the river banks than Astragalus alpinus var. brunetianus where it would be less effected by flooding.

11. Tanacetum huronense var. johannense (Lake Huron Tansey) is found growing in gravels and sands of the St. John and Restigouche Rivers and their tributaries in Quebec, New Brunswick and Maine.

Next to Astragalus alpinus var. brunetianus, Tanacetum was encountered more commonly than any of the other rare plants. It was recorded from twenty-five

sites extending from Allagash to Frenchville, being most abundant on the islands both within and below the proposed impoundment area. Like Astragalus alpinus var. brunetianus, with which it is often associated, it occurs primarily on the lower part of the shores where it is subject to flooding during high water.

The Big Black River and the Little Black River, two major tributaries of the St. John River, were checked for the rare plants but none were found along their banks. Neither of these rivers have suitable habitats for these species. The Allagash River was checked for about a distance of a mile upstream from its confluence with the St. John River. A large stand of Hedysarum alpinum var. americanum was found growing along a gravelly shore and Primula mistassinica was found growing along a wet cobbly shore. This section of the Allagash River is within the proposed impoundment area.

Of the nine rare species found during the survey this summer only one, Pedicularis furbishiae, was restricted to the proposed impoundment area. It had not been collected from this area previously but had been collected further down the river in the townships of Fort Kent, Frenchville and Fort Fairfield. It is possible it no longer occurs in these areas and its disappearance may be a result of the alteration of its habitat. Much of the bank of the St. John River downstream from Allagash has been cleared or altered by farming and the building of dwellings. During the course of the survey this summer one stand of Pedicularis furbishiae in Allagash was eradicated as a result of bulldozing trees, brush, and rocks over the river bank to prepare a site for a house trailer.

The islands in the St. John River, both within the proposed impoundment area and below it were the best habitats for several of the rare plants

including Castilleja septentrionalis, Oxytropus johannensis, Astragalus alpinus var. brunetianus, Hedysarum alpinum var. americanum and Tanacetum huronense var. johannense. Oxytropus, Astragalus and Tanacetum were found most commonly on gravelly areas at the upstream ends of the islands where they would be frequently flooded when the river is high. Castilleja and Hedysarum were found mostly on higher areas of these islands where they would be less subject to frequent flooding. A number of these islands are within the proposed impoundment area and the ones downstream from the area would certainly be altered to some extent by the changing water levels resulting from the operation of the dam.

In addition to the eleven plants covered in the survey, several other plants, uncommon in Maine, were noted as occurring in the area. These included Parnassia glauca Raf. (Carolina Grass of Parnassus), Tofieldia glutinosa (Michx.) Pers. (Glutinous tofieldia), Lobelia kalmii L. (Kalm's Lobelia), Arnica mollis Hook. (Hairy Arnica) and Allium schoenoprasum var. sibiricum Hartm. (Chive). Parnassia glauca, Tofieldia glutinosa and Lobelia kalmii occur on wet cobbly shores and ledges along the St. John River where they are often associated with Primula mistassinica and Juncus alpinus. In Maine Parnassia is reported from only Aroostook and Somerset counties; Tofieldia is reported from only Aroostook, Somerset, Kennebec and Cumberland Counties; and Lobelia is reported from only Aroostook, Penobscot, Piscataquis, Somerset, Kennebec and Sagadahoc Counties. Arnica mollis was found in one locality above Seven Islands on ledges along the shore of the St. John River. It is reported from only Aroostook, Piscataquis, Somerset and Franklin Counties. Allium schoenoprasum var. sibiricum occurred rather frequently on ledges and wet cobbly areas along the shore of the St. John River and on the islands in the river from above Seven Islands to Frenchville. In Maine it has been reported from Aroostook, Penobscot, Piscataquis,

Richards.

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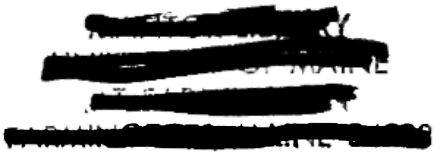
Somerset, Knox, Lincoln and Kennebec Counties but it is only common along the St. John River.



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