

3.4 – Provincially rare vascular plants of the Grand Lake Meadows PBA

Ten S1 species (including one new to the province), two S1S2 and twenty-four S2 species of vascular plants were found within the boundaries of the Grand Lake Meadows PBA, as listed in Table 45. The following section provides further information on all of these rare species, including their habitat preferences and distribution within our study area.

Table 45 - Rare (S1, S1S2 and S2) vascular plants found in the PBA and described in section 3.4.

Section	Species	English name	French Name
New species			
3.4.1	<i>Potamogeton pusillus ssp. gemmiparus</i>	Small Pondweed	Potamot nain
S1 species			
3.4.2	<i>Bidens discoidea</i>	Swamp Beggar-Ticks	Bident discoïde
3.4.3	<i>Eriophorum gracile</i>	Slender Cotton-Grass	Linaigrette grêle
3.4.4	<i>Myriophyllum heterophyllum</i>	Broadleaf Water-milfoil, Two-leaf Water-milfoil	Myriophylle
3.4.5	<i>Utricularia gibba</i>	Humped Bladderwort	Utriculaire a bosse
3.4.6	<i>Najas gracillima</i>	Thread-Like Naiad	Naias gracile
3.4.7	<i>Nuphar rubrodisca</i>	Red-Disk Pond-Lily	Nénuphar à disque rouge
3.4.8	<i>Cinna arundinacea</i>	Stout Wood Reedgrass	Cinna roseau
3.4.9	<i>Heteranthera dubia</i>	Grassleaf Mud-plantain	Hétéranthere litigieuse
3.4.10	<i>Ranunculus flabellaris</i>	Yellow Water-Crowfoot	Renoncle à éventails
S1S2 species			
3.4.11	<i>Stachys tenuifolia</i>	Smooth Hedge-Nettle	Épiaire à feuilles minces
3.4.12	<i>Cephalanthus occidentalis</i>	Buttonbush	Bois noir
S2 species			
3.4.13	<i>Bulboschoenus fluviatilis</i>	River Bulrush	Scirpe fluviatile
3.4.14	<i>Carex haydenii</i>	Cloud Sedge	Carex de Hayden
3.4.15	<i>Carex lupulina</i>	Hop Sedge	Carex houblon
3.4.16	<i>Eleocharis parvula</i>	Small Spike-Rush	Éléocharide naine
3.4.17	<i>Elatine spp.</i>	American Waterwort	Élatine américaine
3.4.18	<i>Myriophyllum verticillatum</i>	Whorled Water-milfoil	Myriophylle verticillé
3.4.19	<i>Elodea nuttallii</i>	Nuttall Waterweed	Élodée de Nuttall
3.4.20	<i>Spirodela polyrrhiza</i>	Common Water-Flaxseed	Lentille d'eau
3.4.21	<i>Utricularia geminiscapa</i>	Twin-stemmed Bladderwort	Utriculaire a scapes géminés
3.4.22	<i>Utricularia minor</i>	Lesser Bladderwort	Utriulaire mineure
3.4.23	<i>Nuphar microphylla</i>	Small Pond-Lily	Petit nénuphar jaune
3.4.24	<i>Leersia virginica</i>	Whitegrass	Léersie de Virginie
3.4.25	<i>Zizania aquatica</i>	Eastern Wild Rice	Folle avoine; Riz sauvage
3.4.26	<i>Persicaria hydropiperoides</i>	Mild Water-Pepper	Renouée faux-poivre-d'eau
3.4.27	<i>Persicaria punctata</i>	Dotted Smartweed	Renouée ponctuée
3.4.28	<i>Stuckenia pectinata</i>	Sago false pondweed	Pistamot pectiné
3.4.29	<i>Ranunculus gmelinii</i>	Small Yellow Water-Crowfoot	Renoncule de Gmelin
3.4.30	<i>Rosa palustris</i>	Swamp rose	Rosier palustre
3.4.31	<i>Salix nigra</i>	Black Willow	Saule noir
3.4.32	<i>Penthorum sedoides</i>	Ditch-Stonecrop	Penthorum faux-orpin
3.4.33	<i>Pilea pumila</i>	Clearweed	Petite ortie
3.4.34	<i>Eragrostis pectinacea</i>	Purple Lovegrass	Eragrostide pectiné
3.4.35	<i>Galium obtusum</i>	Blunt-Leaved Bedstraw	Gaillet obtus
3.4.36	<i>Veronica peregrina ssp. xalapensis</i>	Neckweed	Véronique voyageuse

3.4.1 - *Potamogeton pusillus* ssp. *gemmiparus*

Name: *Potamogeton pusillus* ssp. *gemmiparus* (J.W. Robbins) Haynes & C.B. Hellquist

Nomenclatural synonym: *Potamogeton pusillus* var. *gemmiparus* J.W. Robbins

Family: Potamogetonaceae

English Name: Budding Pondweed

French Name: Potamot nain

Range: Quebec, Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island.

- **New to N.B.**

National Status (Canada): N1

N.B. provincial rank: S1 (new to the province)

N.B. distribution: Found only in Burpee Lake, Sunbury Co.

GLM PBA Distribution: Burpee Lake

Habitat preference: Lake surrounded by Silver Maple floodplain forest

Abundance: Scattered in lake

Collections: 257, 258

3.4.2 - *Bidens discoidea*

Name: *Bidens discoidea* (T. & G.) Britt.

Nomenclatural synonym: *Coreopsis discoidea* Torr. & A.Gray

Family: Asteraceae

English Name: Swamp Beggar-Ticks

French Name: Bident discoïde

Range: Minnesota to N.B. and N.S. south to Texas and Alabama.

National Status (Canada): S4

N.B. provincial rank: S1

N.B. distribution: Known only from the Grand Lake Meadows, Sunbury and Queens County.

GLM PBA Distribution: Margins of Otter Creek, Burpee Lake and the Ash Swamp Level Ditches.

Habitat preference: Lines the shores of shrub-lined creeks, channels and lakes, often growing directly on the roots of shrubs such as Speckled Alder (*Alnus incana*) and Dogwood (*Cornus rugosa* and *Cornus sericea*), or on old tree stumps.

Abundance: Locally abundant where found.

Collections: 145, 197, 261, S04124

3.4.3 - *Eriophorum gracile*

Name: *Eriophorum gracile* Koch

Family: Cyperaceae

English Name: Slender Cotton-grass

French Name: Linaigrette grêle

Range: Alaska to Labrador, south to California, Colorado, Delaware and P.E.I.; Eurasia

National Status (Canada): NNR (unranked)

N.B. provincial rank: S1

N.B. distribution: Known from near Bass River (Kent Co.), Ste. Marie-sur-Mer (Gloucester Co.) and near Sackville (Westmorland Co.). Also recorded in the Grand Lake Meadows during the present study (Sunbury & Queens Co.).

GLM PBA Distribution: Ash Swamp, in the vicinity of Upper Timber Lake and Otter Brook.

Habitat preference: Open, low shrub or sedge meadows.

Abundance: Rare, only two small (<50 plant) colonies found. Other colonies may be scattered throughout the meadows of Ash Swamp.

Collections: 293, S04116

3.4.4 - *Myriophyllum heterophyllum*

Name: *Myriophyllum heterophyllum* Michx.

Family: Haloragaceae

English Name: Two-leaf Water-milfoil, Broadleaf Water-milfoil

French Name: Myriophylle

Range: S. Dakota and Ontario to N.B., south to New Mexico and Florida

National Status (Canada): N3N5

N.B. provincial rank: S1

N.B. distribution: Known from Queens Co. and Kings Co.

GLM PBA Distribution: Widely distributed throughout the PBA.

Habitat preference: Lakes, ponds and channels.

Abundance: Extremely abundant, in dense and extensive colonies.

Collections: 61, 64, 137, 143, 428, 4333, 4339, 4466, 4470, S0491

Note: It is likely that this species is much more common than its S1 rank would suggest (Blaney, pers. comm., 2006), as it is probably undercollected and nearly impossible to identify if found in vegetative form. The status of this species is under review in many jurisdictions and is actually considered an invasive exotic species in some parts of the northeastern U.S. (NatureServe, 2006).

3.4.5 - *Utricularia gibba*

Name: *Utricularia gibba* L.

Family: Lentibulariaceae

English Name: Humped Bladderwort

French Name: Utriculaire à bosse

Range: Minnesota and Ontario to N.B. and N.S., south to California, Mexico and Florida

National Status (Canada): N4?

N.B. provincial rank: S1

N.B. distribution: Known from Grand Manan (Charlotte Co.) and Yoho Lake (York Co.). Also found in the Grand Lake Meadows (Queens Co.) during the present study.

GLM PBA Distribution: Found in Lower Timber Lake and in a ditch near Buttonbush site #12 (see Map 5), adjacent to Hwy 2.

Habitat preference: Creeping along muddy ground or in shallow water.

Abundance: Rare; a small colony in flower about 0.5m in diameter was found adjacent to Hwy 2, while a few plants were found in Lower Timber Lake.

Collections: 4323, 4324, 30MC

3.4.6 - *Najas gracillima*

Name: *Najas gracillima* (A. Braun ex Engelm.) Magnus

Family: Najadaceae

English Name: Threadlike Naiad, Slender Water-nymph

French Name: Naias gracile

Range: Minnesota to N.S., south to Missouri and Alabama

National Status (Canada): N2

N.B. provincial rank: S1

N.B. distribution: Previously only collected from Limeburners' Lake (Charlotte Co.) and on the western shoreline of the Saint John River below the Hartland highway bridge.. Also collected in this study from Upper Timber Lake (Sunbury Co.).

GLM PBA Distribution: Upper Timber Lake

Habitat preference: Submerged in small lake / large pond.

Abundance: Rare

Collections: 122, 123

3.4.7 - *Nuphar rubrodisca*

Name: *Nuphar rubrodisca* Morong

Nomenclatural synonyms: *Nuphar lutea* ssp. *rubrodisca* (Morong) Hellq. & Wiersema, *Nymphaea rubrodisca* Greene, *Nymphozanthus rubrodiscus* Fernald

Family: Nymphaeaceae

English Name: Red-disk Pond-lily

French Name: Nénuphar à disque rouge

Range: Manitoba, Ontario, N.B., N.S., Maine, N.Y., N.J.

National Status (Canada): N3N5

N.B. provincial rank: S1

N.B. distribution: Known from Carleton Co., Victoria Co. and Westmorland Co. Also found in the Grand Lake Meadows (Sunbury Co. and Queens Co.) during the present study.

GLM PBA Distribution: In the Saint John River and Main Thoroughfare.

Habitat preference: Shallow margins of rivers.

Abundance: Common along the margins of the Saint John River in the western portion of the PBA, scattered along the Main Thoroughfare.

Collections: 53, 115, 116, 457, 469

Note: *N. rubrodisca* is considered to be a hybrid between *N. microphylla* and *N. variegata*, both of which occurred in proximity to this species within the Grand Lake Meadows.

3.4.8 - *Cinna arundinacea*

Name: *Cinna arundinacea* L.

Family: Poaceae

English Name: Stout Wood Reed Grass

French Name: Cinna roseau

Range: Minnesota and Ontario to N.B, south to Texas and Georgia

National Status (Canada): NNR (unranked)

N.B. provincial rank: S1

N.B. distribution: Previously known from along the Saint John River, west of Jemseg (Queens Co.) and along Morrell Brook (Kings Co.).

GLM PBA Distribution: Only found along Otter Creek.

Habitat preference: On a dry creek bed.

Abundance: Rare

Collections: 147a

3.4.9 - *Heteranthera dubia*

Name: *Heteranthera dubia* (Jacq.) MacM.

Nomenclatural synonym: *Zosterella dubia* (Jacq.) Small.

Family: Pontederiaceae

English Name: Grassleaf Mud-plantain

French Name: Hétéranthère litigieuse

Range: Washington and Ontario to N.B, south to California and Florida; tropical America

National Status (Canada): NNR (unranked)

N.B. provincial rank: S1

N.B. distribution: Known from York Co. and found in the Grand Lake Meadows during this study (Queens Co.)

GLM PBA Distribution: Margins of Grand Lake and channel of Thatch Island.

Habitat preference: Shallow water.

Abundance: Rare

Collections: 4467, S0492

3.4.10 - *Ranunculus flabellaris*

Name: *Ranunculus flabellaris* Raf.

Family: Ranunculaceae

English Name: Yellow Water Crowfoot

French Name: Renoncle à évantails

Range: B.C. to N.B, south to California and N. Carolina.

National Status (Canada): NNR (unranked)

N.B. provincial rank: S1

N.B. distribution: Found only near the Saint John River in Sunbury and Queens Co.

GLM PBA Distribution: Trout Creek and adjoining channels.

Habitat preference: Quiet creek / channel

Abundance: Locally common.

Collections: 218, 251a, S0482

3.4.11 - *Stachys tenuifolia*

Name: *Stachys tenuifolia* Willd.

Nomenclatural synonyms: *Stachys hispida* Pursh., *Stachys tenuifolia* var. *hispida* (Pursh.) Fernald, *Stachys pilosa* ssp. *hispida* (Pursh.) A. Löve & D. Löve, *Stachys palustris* var. *hispida* (Pursh) Boivin

Family: Lamiaceae

English Name: Smooth Hedge-Nettle

French Name: Épiaire à feuilles minces

Range: Manitoba to N.B., south to Texas and Florida

National Status (Canada): NNR (unranked)

N.B. provincial rank: S1S2

N.B. distribution: Known from floodplains of the Saint John River in western N.B. (York Co., Carleton Co., Madawaska Co.). Found in the Grand Lake Meadows during the present study (Queens Co.)

GLM PBA Distribution: Central/eastern portion of the PBA, north of Hwy 105, Queens Co.

Habitat preference: Open areas in the vicinity of old agricultural fields.

Abundance: Locally common.

Collections: 313

3.4.12 - *Cephalanthus occidentalis*

Name: *Cephalanthus occidentalis* L.

Family: Rubiaceae

English Name: Buttonbush

French Name: Bois noir

Range: Ontario to N.B. and N.S., south to California, Mexico and Florida

National Status (Canada): NNR (unranked)

N.B. provincial rank: S1S2

N.B. distribution: Known from the Grand Lake Meadows (Sunbury Co. and Queens Co.) and the St. Croix River (Charlotte Co.)

GLM PBA Distribution: Near Hwy 2 and the Ash Swamp level ditches (see Map 5).

Habitat preference: Emergent marshes or swamps.

Abundance: Colonies scattered in the Grand Lake Meadows.

Note: see section 3.3 for further discussion of this species

3.4.13 - *Bolboschoenus fluviatilis*

Name: *Bolboschoenus fluviatilis* (Torrey) J. Sojak

Nomenclatural synonyms: *Schoenoplectus fluviatilis* (Torr.) Strong, *Scirpus fluviatilis* (Torr.) Gray, *Scirpus maritimus* L. var *fluviatilis* Torr.

Family: Cyperaceae

English Name: River Bulrush

French Name: Scirpe fluviatile

Range: B.C. to N.B., south to California and Tennessee

National Status (Canada): N5

N.B. provincial rank: S2

N.B. distribution: Grand Lake Meadows (Sunbury & Queens Co.) and Kings Co.

GLM PBA Distribution: Scattered throughout, particularly in the southern regions.

Habitat preference: Emergent marshes, swamps and river or creek margins.

Abundance: Locally abundant, may form large colonies.

Collections: 154, 271

3.4.14 - *Carex haydenii*

Name: *Carex haydenii* Dewey

Family: Cyperaceae

English Name: Cloud Sedge, Hayden's Sedge

French Name: Carex de Hayden

Range: Ontario to St. Pierre & Miquelon, south to Nebraska and Missouri

National Status (Canada): NNR (unranked)

N.B. provincial rank: S2

N.B. distribution: Charlotte Co., Saint John Co., Kings Co., Queens Co., Sunbury Co., York Co., Northumberland Co., Madawaska Co.

GLM PBA Distribution: Scattered mostly in southern portion.

Habitat preference: Edges of marshes or swamps.

Abundance: Scattered

Collections: 221, 314

3.4.15 - Carex lupulina

Name: *Carex lupulina* Muhl ex Willd.

Nomenclatural synonym: *Carex gigantea* var. *lupulina* Farw.

Family: Cyperaceae

English Name: Hop Sedge

French Name: Carex houblon

Range: Minnesota and Ontario to N.S. south to Texas and Florida.

National Status (Canada): NNR (unranked)

N.B. provincial rank: S2

N.B. distribution: Charlotte Co., York Co., Sunbury Co., Queens Co., Kings Co., Kent Co.

GLM PBA Distribution: Scattered mostly in southern portion.

Habitat preference: Silver maple floodplains

Abundance: Scattered

Collections: 40, 312

3.4.16 - Eleocharis parvula

Name: *Eleocharis parvula* (R. & S.) Link

Family: Cyperaceae

English Name: Low Spike-rush

French Name: Éléocharide nain

Range: B.C. to Newfoundland, south to California and Florida; S. America, W. Indies, Eurasia, Africa

National Status (Canada): N3N5

N.B. provincial rank: S2

N.B. distribution: Widely scattered in coastal areas of the province, rarely inland.

GLM PBA Distribution: On the Main Thoroughfare

Habitat preference: Shallow river margin

Abundance: Locally common

Collections: 52

3.4.17 - *Elatine* spp.

Name: *Elatine* spp.

Family: Elatinaceae

English Name: Waterwort

French Name: Élatine

Range: Manitoba to Newfoundland, south to Oklahoma and Virginia

National Status (Canada): NNR (unranked)

N.B. provincial rank: S2*

N.B. distribution: Scattered across the province.

GLM PBA Distribution: Shores of Thatch Island

Habitat preference: Heavily grazed muddy riverbank

Abundance: Rare

Collections: 13MC

***Note:** None of the *Elatine* spp. found in this study could be identified to species due to their lack of mature fruit. Two species of this genus are known in N.B., both of which are ranked S2: *Elatine americana* (Pursh) Arn. and *Elatine minima* (Nutt.) Fisch. & Mey.

3.4.18 - *Myriophyllum verticillatum*

Name: *Myriophyllum verticillatum* L.

Family: Haloragaceae

English Name: Whorled Water-milfoil

French Name: Myriophylle verticillé

Range: Alaska to Newfoundland, south to California, Texas and Florida

National Status (Canada): NNR (unranked)

N.B. provincial rank: S2

N.B. distribution: Saint John Co., Kings Co., Queens Co., Sunbury Co., York Co., Carleton Co., Westmorland Co., Northumberland Co.

GLM PBA Distribution: Lower Timber Lake

Habitat preference: Submerged in small lake / large pond.

Abundance: Uncommon

Collections: 65, 4332

3.4.19 - *Elodea nuttallii*

Name: *Elodea nuttallii* (Planch.) Saint John
Nomenclatural synonyms: *Anacharis nuttallii* Planch.
Family: Hydrocharitaceae

English Name: Nuttall's Waterweed
French Name: Elodée de Nuttall

Range: B.C. to N.B., N.S. and P.E.I., south to California, New Mexico and Alabama.

National Status (Canada): NNR (unranked)

N.B. provincial rank: S2

N.B. distribution: Known from near the Saint John River in Sunbury Co., York Co., Victoria Co. and Madawaska Co. Also from Restigouche Co. Located in Queens Co. during present study.

GLM PBA Distribution: Back Lake and channel of Thatch Island.

Habitat preference: Submerged in quiet waters.

Abundance: Very rare

Collections: 142, 4471

3.4.20 - *Spirodela polyrrhiza*

Name: *Spirodela polyrrhiza* (L.) Schleid.
Family: Lemnaceae

English Name: Water-flaxseed
French Name: Lentille d'eau

Range: B.C. to N.S. and P.E.I., south to tropical America; Eurasia

National Status (Canada): NNR (unranked)

N.B. provincial rank: S2

N.B. distribution: Found near the Saint John River in Kings Co., Queens Co., Sunbury Co. and Madawaska Co. Also from Charlotte Co.

GLM PBA Distribution: Widely distributed, particularly in the southern portion.

Habitat preference: Floats on the surfaces of quiet creeks and channels, emergent marshes and swamps.

Abundance: Common

Collections: 23

3.4.21 - *Utricularia geminiscapa*

Name: *Utricularia geminiscapa* Benj.

Nomenclatural synonyms: *Utricularia clandestina* Nutt.

Family: Lentibulariaceae

English Name: Twin-stemmed Bladderwort

French Name: Utriculaire à scapes géminés

Range: Ontario to Newfoundland, south to Iowa, Indiana and N. Carolina

National Status (Canada): NNR (unranked)

N.B. provincial rank: S2

N.B. distribution: Widely scattered, primarily in coastal areas; also in York Co. and Restigouche Co. Found in the Grand Lake Meadows (Sunbury Co.) during the present study.

GLM PBA Distribution: Extreme west of the PBA, in Loders Creek and Moose Ridge.

Habitat preference: Shallow, warm, slow moving (near-deadwater) channels.

Abundance: Rare

Collections: 21, 274a

3.4.22 - *Utricularia minor*

Name: *Utricularia minor* L.

Family: Lentibulariaceae

English Name: Lesser Bladderwort

French Name: Utriculaire mineure

Range: Alaska to Labrador and Newfoundland, south to California and New Jersey

National Status (Canada): NNR (unranked)

N.B. provincial rank: S2

N.B. distribution: Northumberland Co., Gloucester Co., York Co., Albert Co., Victoria Co. and Charlotte Co. Also found in the Grand Lake Meadows (Sunbury Co. and Queens Co.) during the present study.

GLM PBA Distribution: Widely scattered

Habitat preference: Lakes and ponds

Abundance: Uncommon

Collections: 254, 271a, 444, 531, S0499, GB5

3.4.23 - *Nuphar microphylla*

Name: *Nuphar microphylla* (Pers.) Fern.

Nomenclatural synonyms: *Nuphar lutea* ssp. *pumila* - (Timm) E.O. Beal, *Nuphar pumila* (Timm.) DC

Family: Nymphaeaceae

English Name: Small Pond-lily

French Name: Petit nénuphar jaune

Range: Manitoba to N.B., N.S. P.E.I. and Newfoundland, south to Illinois, Pennsylvania and Connecticut

National Status (Canada): N4N5

N.B. provincial rank: S2

N.B. distribution: Known from along the Saint John R. in York Co., Carleton Co., Victoria Co. and Madawaska; also from Sunbury Co. and Queens Co. in the present study. Also known from Northumberland Co. and Restigouche Co.

GLM PBA Distribution: Mostly along the Saint John R. in the western portion of the PBA; also found on the Main Thoroughfare, Burpee Lake and a channel off Back Lake.

Habitat preference: Margins of rivers, channels or lakes with moderate water flow.

Abundance: Scattered

Collections: 54, 249, 437, 468

3.4.24 - *Leersia virginica*

Name: *Leersia virginica* Willd.

Nomenclatural synonyms: *Asprella virginica* (Willd.) P.Beauv., *Leersia oryzoides* var. *virginica* (Willd.), *Homalocenchrus virginicus* (Willd.) Britton

Family: Poaceae

English Name: Whitegrass, Virginia Cutgrass

French Name: Léersie de Virginie

Range: N. Dakota, Minnesota and Ontario to N.B., south to Texas and Florida

National Status (Canada): NNR (unranked)

N.B. provincial rank: S2

N.B. distribution: Known from floodplains along the Saint John R. in York Co., Sunbury Co. and Queens Co.

GLM PBA Distribution: Floodplains along the Saint John R. and channel to U. Timber L.

Habitat preference: Silver Maple floodplains

Abundance: Scattered

Collections: 168, 527, S0480

3.4.25 - *Zizania aquatica*

Name: *Zizania aquatica* L.

Nomenclatural Synonym: *Ceratochaete aquatica* Lunell

Family: Poaceae

English Name: Indian Wild Rice

French Name: Folle avoine, Riz sauvage

Range: B.C. to Newfoundland, south to Arizona, Louisiana and Florida

National Status (Canada): N4

N.B. provincial rank: S2

N.B. distribution: Kings Co., Queens Co., Sunbury Co., York Co., Carleton Co. and Northumberland Co.

GLM PBA Distribution: Widely distributed

Habitat preference: Margins of rivers and channels with moderate water flow.

Abundance: Common

Collections: 224

3.4.26 - *Persicaria hydropiperoides*

Name: *Persicaria hydropiperoides* (Michx.) J.K. Small

Nomenclatural synonym: *Polygonum hydropiperoides* Michx.

Family: Polygonaceae

English Name: False Water-pepper, Marshpepper Smartweed

French Name: Renouée Faux-poivre-d'eau

Range: Alaska to B.C. and Ontario to N.S., south to Mexico and Florida; S. America

National Status (Canada): NNR (unranked)

N.B. provincial rank: S2

N.B. distribution: Sunbury Co., Queens Co., York Co. and Charlotte Co.

GLM PBA Distribution: Shores of the Jemseg River

Habitat preference: River shore

Abundance: Rare

Collections: 190

3.4.27 - Persicaria punctata

Name: Persicaria punctata (Ell.) Small

Nomenclatural synonyms: *Polygonum punctatum* Ell., *Polygonum punctatum* var. *confertiflorum* (Meissn.) Fassett.

Family: Polygonaceae

English Name: Water Smartweed, Dotted Smartweed

French Name: Renouée ponctuée

Range: B.C. to N.S. and Newfoundland, south to California and Florida; Tropical America, S. Asia

National Status (Canada): NNR (unranked)

N.B. provincial rank: S2

N.B. distribution: Known from York Co., Charlotte Co., Northumberland Co. and Westmorland Co. Also located in Sunbury Co. during the present study.

GLM PBA Distribution: Shores of the Saint John River

Habitat preference: River shores, in the “*Phalaris* meadows”.

Abundance: Uncommon

Collections: 227

3.4.28 - Stuckenia pectinata

Name: Stuckenia pectinata (L.) Borner

Nomenclatural synonyms: *Potamogeton pectinatus* L., *Coleogeton pectinatus* (L.) Borner

Family: Potamogetonaceae

English Name: Sago-pondweed

French Name: Pistamot pectiné

Range: Alaska to Newfoundland, south to California, Florida and S. America; Eurasia, Australia

National Status (Canada): NNR (unranked)

N.B. provincial rank: S2

N.B. distribution: Widely scattered in coastal areas; also inland near Grand Lake.

GLM PBA Distribution: Margins of Saint John River

Habitat preference: River margin with sandy bottom

Abundance: Rare

Collections: 101

3.4.29 - *Ranunculus gmelinii*

Name: *Ranunculus gmelinii* DC.

Nomenclatural synonyms: *Ranunculus gmelinii* var. *hookeri* (Don) Benson

Family: Ranunculaceae

English Name: Small Yellow Water Crowfoot

French Name: Renoncule de gmelin

Range: Alaska to Newfoundland, south to Wyoming, New Mexico, Illinois and Maine

National Status (Canada): NNR (unranked)

N.B. provincial rank: S2

N.B. distribution: Carleton Co., Sunbury Co., Kings Co., Westmorland Co., Kent Co., Gloucester Co.

GLM PBA Distribution: Western PBA, in Burpee Lake and Oxbows

Habitat preference: Shallow quiet water with emergent vegetation.

Abundance: Uncommon

Collections: 84, 260

3.4.30 - *Rosa palustris*

Name: *Rosa palustris* Marsh

Family: Rosaceae

English Name: Swamp Rose

French Name: Rosier palustre

Range: Ontario to N.S., south to Minnesota, Arkansas and Florida

National Status (Canada): NNR (unranked)

N.B. provincial rank: S2

N.B. distribution: Known from the Grand Lake Meadows (Queens Co., Sunbury Co.), Kings Co., Charlotte Co. southern York Co.

GLM PBA Distribution: Ash Swamp, found near Lower Timber Lake, Otter Creek and the D.U. impoundment.

Habitat preference: Open, low shrub meadows and wet shores.

Abundance: Scattered

Collections: 59, 149, 211, S04128

3.4.31 - *Salix nigra*

Name: *Salix nigra* Marsh

Family: Salicaceae

English Name: Black willow

French Name: Saule noir

Range: Manitoba to N.B., south to Mexico, Texas and Florida

National Status (Canada): NNR (unranked)

N.B. provincial rank: S2

N.B. distribution: Found almost exclusively along the floodplains of the Saint John River in York Co., Sunbury Co., Queens Co. and Kings Co. Also known from one location in Northumberland Co.

GLM PBA Distribution: Mainly along the shores of Saint John River. Also found near Loders Brook and Grand Lake.

Habitat preference: Open, sunny riverbanks with sandy substrate, often in association with Silver Maple floodplain forest.

Abundance: Locally common

Collections: 96, 171, 4342, S0489

3.4.32 - *Penthorum sedoides*

Name: *Penthorum sedoides* L.

Family: Saxifragaceae (sometimes included in the Crassulaceae or Penthoraceae)

English Name: Ditch-stonecrop

French Name: Penthorum Faux-orpin

Range: Nebraska and Manitoba to N.B., south to Texas and Florida; B.C, Oregon

National Status (Canada): N5

N.B. provincial rank: S2

N.B. distribution: Known from western N.B., in Restigouche Co., Madawaska Co., Victoria Co., Carleton Co. and York Co. Also found in the Grand Lake Meadows (Queens Co.) during the present study.

GLM PBA Distribution: Found at the Ash Swamp Level Ditches and on the shores of Thatch Island.

Habitat preference: Elevated banks close to water.

Abundance: Rare

Collections: 174, 241

3.4.33 - *Pilea pumila*

Name: *Pilea pumila* (L.) Gray

Family: Urticaceae

English Name: Clearweed

French Name: Petite ortie

Range: Ontario to P.E.I., south to Texas and Florida

National Status (Canada): NNR (unranked)

N.B. provincial rank: S2

N.B. distribution: Known from the Saint John River valley in York and Carleton Co., also found in Sunbury and Queens Co. in the present study.

GLM PBA Distribution: Near Burpee Lake and along the margins of the Saint John River.

Habitat preference: Shaded floodplains.

Abundance: Uncommon

Collections: 170, 259, 4461

3.4.34 - *Eragrostis pectinacea*

Name: *Eragrostis pectinacea* (Michx.) Nees

Nomenclatural synonym: *Poa pectinacea* Michx.

Family: Poaceae

English Name: Tufted Love Grass

French Name: Éragrostide pectiné

Range: B.C. to N.S. and P.E.I. south to California, Mexico and Florida

National Status (Canada): N5

N.B. provincial rank: S2

N.B. distribution: Mostly along the Saint John River in Victoria Co., York Co., Sunbury Co., Queens Co. and Kings Co. Also known from Albert Co. and Charlotte Co.

GLM PBA Distribution: Near the Jemseg Flat impoundment

Habitat preference: Sandy lake shore

Abundance: Rare

Collections:

3.4.35 - *Galium obtusum*

Name: *Galium obtusum* Bigel.

Family: Rubiaceae

English Name: Blunt-leaved Bedstraw

French Name: Gaillet obtus

Range: Minnesota and Ontario to N.B. and N.S. south to Texas and Florida

National Status (Canada): NNR (unranked)

N.B. provincial rank: S2

N.B. distribution: Widely scattered, mostly along the northern coast of the province and in the lower Saint John River valley.

GLM PBA Distribution: Southwestern PBA (Sunbury Co.)

Habitat preference: Wet floodplain forest

Abundance: Rare

Collections: 45

3.4.36 - *Veronica peregrina* ssp. *xalapensis*

Name: *Veronica peregrina* L. ssp. *xalapensis* (Kunth) Pennell

Family: Scrophulariaceae

English Name: Neckweed, Purslane Speedwell

French Name: Véronique voyageuse

Range: Alaska and B.C. to N.S, south to Central America, Texas and Virginia; Alabama, Georgia and Hawaii

National Status (Canada): N5

N.B. provincial rank: S2

N.B. distribution: Coastal areas in Charlotte Co., Albert Co., Westmorland Co. and Kent Co. Also known along the Saint John River in Carleton Co. and found in Queens Co. during the present study.

GLM PBA Distribution: Near Grand Lake (Queens Co.)

Habitat preference: Muddy floodplain

Abundance: Rare

Collections: S0485

3.5 – Bryophytes collected in the Grand Lake Meadows PBA

- after B. Bagnell (B&B Botanical)

Although a bryophyte inventory was not one of the mandates of this study, a small number of bryophytes were collected over the course of our fieldwork which were felt to be “typical” of the PBA. All of these collections were identified by Bruce Bagnell of B&B Botanical and are listed in Appendix C.

Several *Sphagnum* mosses were identified from wet meadows within the Grand Lake Meadows PBA, including *S. angustifolium*, *S. affine*, *S. subsecundum*, *S. fimbriatum* and *S. inundatum*. *Sphagnum inundatum* is of particular interest, as it has only recently been confirmed for the province of N.B. and is presently considered rare (S2), known only from three counties (York, Queens and Saint John). However, this species is thought to be a “problem” taxon, difficult to differentiate from other members of the Subsecunda section of *Sphagnum*; it may therefore be more common in the province than collections indicate.

Overall, *Sphagnum* mosses were not common in the PBA and were generally restricted to small hummocks around the bases of plants in wet shrub meadows. There was no accumulation of *Sphagnum* peat anywhere in the PBA, including in the interior of Ash Swamp, which is commonly perceived as a large peatland (most likely due to the misinterpretation of aerial photos, in which the vast shrub meadows do resemble a large bog). The absence of peat is likely due to the amount of time that the PBA is flooded – the area may be completely under water (or ice) for over six months a year, precluding the formation of extensive moss carpets on the ground surface.

The trunks of Silver Maples (*Acer saccharinum*) in our study area were usually coated with *Leskea polycarpa*, which extended from the bases of the stems up to the apparent high water mark. Another interesting species found on Silver Maple stems was *Dichelyma capillaceum*, which is considered rare (S2) in the province, although it may possibly be more frequent than collections indicate. At present, this species is known from three counties (York, Charlotte and Queens) and appears to be restricted to southern N.B.

Several species of bryophytes were found draping the stems of Buttonbush (*Cephalanthus occidentalis*) colonies, including *Dichelyma capillaceum*, *Leptodictyum riparium*, *Calliergon cordifolium* and *Cratoneuron filicinum*.

Aside from *Sphagnum inundatum* and *Dichelyma capillaceum*, three other rare bryophytes were collected from within the Grand Lake Meadows PBA:

Ricciocarpus natans is an S1 species which was collected from a small linear depression near an old field adjacent to Highway 105. This liverwort is confirmed from only three locations in the province, including the Grand Lake Meadows, the Maugerville Area and New Horton Marsh. It is likely more widespread in marshes in southern N.B.

Riccia fluitans is an S1 species collected in Loders Brook which appears to be quite abundant in the PBA, although it is previously known only from the Hampton Marsh / Hammond River area in N.B. This liverwort is likely to be geographically restricted to only a few sites in southern N.B.

Calliergonella cuspidata is a widespread but uncommon (S2) moss, typical of fen habitats or adjacent minerotrophic cedar swamps. In this study, it was collected from a low shrub meadow in the interior of the Ash Swamp level ditches (DU impoundment). It is presently known from six counties in N.B. (Queens, Charlotte, Saint John, Carleton, Albert and Westmorland).

Overall, it appears that the relatively warm temperatures and long growing season of the Grand Lake Meadows may contribute to the presence of a number of bryophyte species which are typical of southern N.B. wetlands.

4. CONCLUSIONS AND RECOMMENDATIONS

4.1 – Floristic and ecological diversity of the Grand Lake Meadows PBA

A large number of provincially rare and uncommon species were found within the Grand Lake Meadows PBA over the course of this study, suggesting that the unique climate and hydrology of this region do indeed contribute to the presence of species which are rarely found elsewhere in New Brunswick. In fact, over 20% of all vascular plant species documented in this report are considered rare or uncommon (S1 to S3) in the province, including ten species or subspecies which are classified as extremely rare (S1). One of these S1 species, *Potamogeton pusillus* ssp. *gemmiparus*, was recorded for the first time in New Brunswick during the present study and is also considered extremely rare at the national level (N1). Aquatic habitats contained the highest proportions of rare species, while disturbed habitats had the lowest numbers of rare plants.

A total of 480 vascular plant species or subspecies were documented from the Grand Lake Meadows PBA, belonging to 86 different families. Of these, 23% are exotics (SE) or naturalised exotics (S5SE). Most exotic species were found in disturbed habitats or on clay banks (which are also subject to significant disturbance, though only partly anthropogenic).

Sixteen different habitat / community types were described from within the Grand Lake Meadows PBA, all of which can be separated into four broad categories based on their disturbance regimes. Aquatic habitats are permanently flooded water bodies which form in the lowest-elevation portions of the meadows (depressions). Wetlands are found on relatively flat land which is typically flooded for only part of the year. The duration of flooding is a primary determinant of species composition in wetland habitats. Forested floodplains can be found in slightly higher elevation areas, which experience a relatively brief period of flooding each spring. Finally, disturbed habitats are those which have been fundamentally altered by human activity. Both forested floodplains and anthropogenically disturbed habitats are concentrated in the southern PBA, where elevations are highest and the land is flooded for the shortest period each spring. Elevations gradually decrease from the southwest to northeast, where floodplain forests typically become high shrub meadows, which intergrade with low shrub meadows further north, and finally herbaceous meadows around the borders of Back Lake and Grand Lake. Permanent wetlands (emergent marshes and swamps) are mostly present in areas where impoundments have been created by *Ducks Unlimited*, however, some areas of permanent wetland may be naturally occurring. All of the habitat / community types observed over the course of this study have been described qualitatively in this report using observations recorded in the field, while seven selected habitat / community types were chosen as subjects of a more detailed community ecology study and are thus also described quantitatively using data collected in standardized plots.

Buttonbush (*Cephalanthus occidentalis*) is a rare (S1S2) species present in the PBA and there is reason to believe that populations in the Grand Lake Meadows may have been disrupted to some extent by construction of the new Trans-Canada Highway (Hwy 2). Buttonbush was therefore given special attention over the course of this study. The locations of every colony of *Cephalanthus occidentalis* were carefully documented and

other vascular plant species associated with the colonies were noted. Twelve Buttonbush colonies were noted within the PBA, most of which exist in very close proximity to Highway 2. The largest Buttonbush colony exists just beside the embankment of the new highway and there is evidence that this colony is experiencing significant dieback, for reasons unknown.

Although a bryophyte inventory was not one of the mandates of this study, a small number of bryophytes were collected which were felt to be “typical” of the Grand Lake Meadows area. As a result, five rare (S1 or S2) bryophytes were identified from within the PBA.

In conclusion, the Grand Lake Meadows Project Boundary Area can be considered a highly diverse and unique parcel of land, at both the species and ecosystem level. The floristic communities of the PBA contain an assemblage of species which are rarely found elsewhere in the province, making this wetland ecologically significant.

4.2 – Limitations of study

Although every effort was made to conduct this study as thoroughly as possible, the results of this project are limited by several factors, which must be noted. Firstly, the timing of our field work did not necessarily allow for the positive identification of all species which may be found in the area. Although our survey was conducted over a relatively broad time frame (mid-June to late September), only a small subset of areas and habitat types could be sampled at any given time of the year. As such, a certain number of plants in each area visited were always unidentifiable due to the fact that they were not in flower or fruit at that particular time. Early-blooming species such as Violets (*Viola spp.*) were particularly difficult to identify due to the fact that the Grand Lake Meadows are mostly inundated during the spring and early summer, making the area all but impenetrable.

Surveys of submerged aquatic plants in ponds and channels were mainly conducted from on board a canoe, where we dredged the bottoms with our paddles in order to sample the species present. This sampling method was fairly effective for loosely rooted or floating plants, particularly those long, thin “ribbon-like” plants which would easily wrap around a paddle. However, this method may not be effective for discovering all submerged species which may be present. The margins of firm-bottomed lakes and rivers were often explored by snorkelling or even SCUBA diving, but these methods were not feasible in the vegetation-choked waters of meadow ponds, where the “bottoms” consisted of very loose mats of silt and organic debris.

At the time of this report, there remain twenty-five collections as yet unidentified or unconfirmed. Once these collections are confirmed, several more species may be added to the list for this area. The identities of these collections will be included in a future addendum to this report.

Due to the size of the PBA and the inaccessibility of certain portions, some parts of the area were not visited during our field work. Although we made every effort to cover all representative habitat types in the PBA, based on aerial photo interpretation, there may be some areas not yet visited which contain new species or distinct communities. It is

estimated that 80% to 90% of all vascular plant species present in the PBA are currently listed in Appendix A. However, future studies of the area will most likely turn up new vascular plant species which were not discovered during the present survey.

The results of our community ecology study were based on a fairly small number of plots (5 - 12), due to limitations in the time available. While this number was sufficient to deduce the main characteristics of each community type, it was usually not adequate to test the significance of trends within or between community types. A larger number of plots would also be more effective in capturing the range of variability within each type of community.

4.3 – Suggestions for future work

A more in-depth community ecology study of the Grand Lake Meadows, including a much larger number of plots in each habitat / community type, would be very helpful in gaining a fuller understanding of the differences between habitat / community types in the area, as well as the variability and trends within each floristic community. It would also be very interesting if permanent plots could be set up and monitored on a regular basis, in order to gain an understanding of how the ecosystems of the Grand Lake Meadows change over time, particularly in response to the construction of the new Trans-Canada Highway (Hwy 2) across the area. The dieback of Buttonbush right next to the new highway is also a phenomenon worthy of long-term monitoring.

Although only a few bryophyte collections were made during this study, these revealed several rare species present in the area. This would suggest that a bryophyte study within the Grand Lake Meadows PBA might be a very worthwhile endeavour and may possibly result in the discovery of a number of other rare species.

Furthermore, the relationship between flooding and the flora of the PBA could be more extensively investigated. The complete absence of any coniferous species in the forests of the PBA, as well as some of the more common species such as Bunchberry (*Cornus canadensis*) is likely related to the extensive period of flooding experienced by this area.

5. REFERENCES

- Atlantic Canada Conservation Data Centre (2005) Provincial list of vascular plants of New Brunswick.
<http://www.accdc.com/data/weblists/nbvasc.htm>
- Blaney, S (2003). A reconnaissance vascular plant inventory of the Portobello National Wildlife Area. Atlantic Canada Conservation Data Centre, Sackville, N.B. 31pp.
- Burns, R.M and B.H. Honkala (1990) Silvics of North America, Volume 2 Hardwoods. Agriculture Handbook 654. Forest Service United States Department of Agriculture, Washington, DC. 877pp.
- Connor, K. and S. Gabor (2000). Assessment of wildlife to Eastern Habitat Joint Venture (EHJV) enhancement activities through impoundment creation on Saint John River Floodplain wetlands. Final Report. Department of Natural Resources and Energy. 58pp.
- Crow, G.E. and C.B. Hellquist (2000). Aquatic and Wetland Plants of Northeastern North America (Vol. 1 & 2). The University of Wisconsin Press, Madison, Wisconsin.
- Environmental Monitoring Division, Environment Canada.
http://www.wsc.ec.gc.ca/hydrology/main_e.cfm?cname=hydro_e.cfm Accessed Jan. – Feb. 2006
- Fasset, N.C. (1968). A Manual of Aquatic Plants. The University of Wisconsin Press, Madison, Wisconsin.
- Fenton, N. (2001). Baseline Inventory of Representative Protected Areas. N.B. Department of Natural Resources, Crown Lands Branch, Fredericton, N.B. Pages 39-44.
- Flora of North America Editorial Committee (1993). Flora of North America. Oxford University Press, New York, N.Y.
- Gleason H. A. and A. Cronquist (1991). Manual of Vascular Plants of Northeastern United States and Adjacent Canada. Second Edition. The New York Botanical Garden, Bronx, N.Y. 910pp.
- Hanson, A.R., A.R. MacInnis, S.M. Bowes, and J.B.Pollard (1998). An Evaluation of Level Ditches as Waterfowl Brood Habitat in the Saint John River Floodplain. Canadian Wildlife Service Technical Report Series No. 323.
- Haines, A and T.F. Vining (1998). Flora of Maine. V.F. Thomas Company, Bar Harbour, Maine.
- Hinds, H.R. (2000). Flora of New Brunswick, Second Edition. University of New Brunswick, Fredericton, N.B. 695pp.
- Legere, J. T. I. (2001). Scientific Literature Review of the Grand Lake Meadows. Grand Lake Meadows Project Management Committee. Fredericton, N.B. 57pp.
- NatureServe Explorer. www.natureserve.org/explorer Accessed March 2006.
- Roberts, L. (1992). Report on the wetlands of the Saint John River Floodplain. Wetlands and Coastal Habitat Program, NBDNRE. 50pp.

Roberts-Pichette, P. and Gillespie, L. (1999). Terrestrial Vegetation Biodiversity Monitoring Protocols. EMAN Occasional Paper Series. Report No. 9. Ecological Monitoring Coordinating Office, Burlington, ON.

Washburn & Gillis Associates Ltd. (1996). Environmental impact assessment Trans-Canada Highway Fredericton to Salisbury: Component Study Report: Grand Lake Meadows Wetland. Prepared for the New Brunswick Department of Transportation.

Personal communications

Blaney, S. (2006), Botanist, Atlantic Canada Conservation Data Centre

Connor, K. (2004), Biologist, N.B. Department of Natural Resources

Harvey, J. (2005), Habitat Specialist, Ducks Unlimited

Peck, D. (2006), Horticulturalist and Botanist, Debby Peck Botanical

Seaman, A. (2006), Geomorphologist, N.B. Department of Natural Resources

APPENDIX A

Species list

Appendix A - Species List

Species / Family	English Common Name	French Common Name	Habitat Types														SRANK.nb	NBDNR General Status Rank	Collection (Y or N)	Notes	
			Lake Pond	River	Quiet creek / channel	Low shrub meadow	High shrub meadow	Herbaceous meadow	Saint John River margin	River and lake margin	Clay bank	Emergent marsh	Swamp	Roadside	Agricultural land	Silver Maple Floodplain					Elm Stand
Aceraceae	Maple Family																				
<i>Acer rubrum</i>	Red Maple	Plaine rouge												X			S5	4 secure	N		
<i>Acer saccharinum</i>	Silver Maple	Plaine blanche												X	X	X	X	S4S5	4 secure	N	
<i>Acer saccharum</i>	Sugar Maple	Érable à sucre															S5	4 secure	N		
Acoraceae	Sweet Flag Family																				
<i>Acorus americanus</i>	Sweetflag	Belle-Angélique; Redote	X		X	X				X							S4	4 secure	Y		
Alismataceae	Water-Plantain Family																				
<i>Alisma triviale</i>	Broad-Leaved Water-Plantain	Alisma commun	X		X	X	X	X	X	X	X						S5	4 secure	N		
<i>Sagittaria cuneata</i>	Wapatum Arrowhead	Sagittaire cunéaire	X				X	X		X							S5	4 secure	N		
<i>Sagittaria graminea</i>	Grassleaf Arrowhead	Sagittaire graminée							X								S4		Y		
<i>Sagittaria latifolia</i>	Broadleaf Arrowhead	Sagittaire à grande feuilles	X		X	X	X		X								S5	4 secure	Y		
Amaranthaceae	Amaranth Family																				
<i>Amaranthus retroflexus</i>	Pigweed	Canne a pied rouge							X				X	X			SE	7 exotic	N		
Anacardiaceae	Sumac Family																				
<i>Rhus hirta</i>	Sumac	Vinaigrier										X					S5	4 secure	N		
<i>Toxicodendron rydbergii</i>	Western Poison Ivy	Herbe a la puce							X					X			S5		Y		
Apiaceae	Carrot Family																				
<i>Angelica atropurpurea</i>	Purple Alexanders	Angelique noire-pourpree											?	?	?	S4S5	4 secure	N			
<i>Angelica sylvestris</i>	Woodland Angelica											X	X	X	X	SE	4 secure	N			
<i>Cicuta bulbifera</i>	Bulb-Bearing Water-Hemlock	Cicutaire bulbifère	X	X	X	X	X	X	X	X	X				X	X	S5	4 secure	N		
<i>Cicuta maculata</i>	Spotted Water-Hemlock	Cicutaire maculée; Carotte à moreau													X	S5	4 secure	N			
<i>Hydrocotyle americana</i>	American Water-Pennywort	Hydrocotyle d'Amérique							X					X		S5	4 secure	N			
<i>Pastinaca sativa</i>	Wild Parsnip	Panais										X				SE	7 exotic	N			

Appendix A - Species List

Species / Family	English Common Name	French Common Name	Habitat											SRANK.nb	NBDNR General Status Rank	Collection (Y or N)	Notes				
			Lake	Pond	River	Quiet creek / channel	Low shrub meadow	High shrub meadow	Herbaceous meadow	Saint John River margin	River and lake margin	Clay bank	Emergent marsh					Swamp	Roadside	Agricultural land	Silver Maple Floodplain
<i>Sanicula marilandica</i>	Black Snake-root	Sanicle de Maryland													X			S4S5		N	
<i>Sium suave</i>	Hemlock Water-Parsnip	Berle douce	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	S5	4 secure	N	
<i>Torilis nodosa</i>	Knotted Hedge-Parsley														X			SE	7 exotic	Y	
Apocynaceae	Dogbane Family																				
<i>Apocynum androsaemifolium</i>	Spreading Dogbane	Herbe à la puce									X	X						S5	4 secure	N	
Aquifoliaceae	Holly Family																				
<i>Ilex verticillata</i>	Winterberry	Apalanche houx verticillé				X	X	X	X	X	X				X	X	X	S5	4 secure	N	
Araceae	Arum Family																				
<i>Arisaema triphyllum subsp. stewardsonii</i>	Stewardson's Jack-In-The-Pulpit	Ariséma triphyllé				X									X	X		S4S5	4 secure	N	
<i>Arisaema triphyllum subsp. triphyllum</i>	Small Jack-in-the-Pulpit	Ariséma triphyllé				X		X							X	X		S5	4 secure	N	
<i>Calla palustris</i>	Wild Calla	Choucalles des marais			X		X	X	X									S5	4 secure	Y	
Asclepiadaceae	Milkweed Family																				
<i>Asclepias incarnata</i>	Swamp Milkweed	Asclépiade incarnata				X		X	X	X	X	X	X	X	X	X		S4	4 secure	N	
<i>Asclepias syriaca</i>	Common Milkweed	Herbe à coton; Petits cochons						X	X		X	X	X	X	X	X		S4S5	4 secure	N	
Asteraceae	Aster Family																				
<i>Achillea millefolium</i>	Common Yarrow	Achillée millefeuille						X			X	X						S5	4 secure	N	
<i>Ambrosia artemisiifolia</i>	Annual Ragweed	Ambrose à feuilles d'Armoise									X	X	X	X	X	X		S5	4 secure	N	
<i>Anaphalis margaritacea</i>	Pearly Everlasting	Immortelle									X							S5	4 secure	N	
<i>Antennaria howellii</i>	Small pussy-toes	Immortelle									X							S5	4 secure	N	
<i>Arctium lappa</i>	Greater Burdock	Grande bardane									X	X						SE	7 exotic	N	

Appendix A - Species List

Species / Family	English Common Name	French Common Name											SRANK.nb	NBDNR General Status Rank	Collection (Y or N)	Notes		
			Lake Pond River	Quiet creek / channel	Low shrub meadow	High shrub meadow	Herbaceous meadow	Saint John River meadow	River and lake margin	Clay bank	Emergent marsh	Swamp					Roadside	Agricultural land
<i>Artemisia absinthium</i>	Common Wormwood	Armoise absinthe							X						SE	7 exotic	N	
<i>Artemisia campestris</i>	Pacific Wormwood	Armoise des champs													S3	4 secure	N	
<i>Aster cordifolius (Symphyotrichum cordifolium)</i>	Heart-leaf Aster	Aster à feuilles cordées													S5	4 secure	N	
<i>Aster lanceolatus (Symphyotrichum lanceolatum)</i>	White-Panicked American Aster	Aster simple						X							S5	4 secure	Y	
<i>Aster lateriflorus (Symphyotrichum lateriflorum)</i>	Calico Aster	Aster latérieflore						X					X		S5	4 secure	N	
<i>Aster lateriflorus var hirsuticaulis (Symphyotrichum lateriflorum var. tenuipes)</i>	Acadian Aster							X							SU	4 secure	N	
<i>Aster novi-belgii (Symphyotrichum novi-belgii)</i>	New Belgium American-Aster	Aster de la Nouvelle-Belgique		X	X						X				S5	4 secure	Y	
<i>Aster tradescantii (Symphyotrichum tradescantii)</i>	Tradescant Aster	Aster de Tradescant						X							S3?	4 secure	Y	
<i>Aster umbellatus (Doellingeria umbellata)</i>	Flat-Top Umbellatus	Aster à ombelles						X		X	X		X		S5	4 secure	Y	
<i>Bidens cernua</i>	Nodding Beggar-Ticks	Bident penché; Fourchettes						X			X	X			S5	4 secure	Y	
<i>Bidens discoidea</i>	Swamp Beggar-Ticks	Bident discoïde	X					X					X		S1	2 may be at-risk (priority)	Y	

Appendix A - Species List

Species / Family	English Common Name	French Common Name												SRANK.nb	NBDNR General Status Rank	Collection (Y or N)	Notes					
			Lake	Pond	River	Quiet creek / channel	Low shrub meadow	High shrub meadow	Herbaceous meadow	Saint John River margin	River and lake margin	Clay bank	Emergent marsh					Swamp	Roadside	Agricultural land	Silver Maple Floodplain	Elm Stand
<i>Bidens frondosa</i>	Devil's Beggar-Ticks	Bident feuillu				X	X	X	X				X						S5	4 secure	Y	
<i>Bidens vulgata</i>	Tall Bur-Marigold	Bident vulgaire											X		X				S4	4 secure	Y	
<i>Cirsium arvense</i>	Creeping Thistle	Chardon Canadien; Chaudron											X	X	X				SE	7 exotic	N	
<i>Cirsium muticum</i>	Swamp Thistle	Chardon mutique											X						S5	4 secure	N	
<i>Conyza canadensis</i>	Horseweed	Vergerette du Canada											X						SE	7 exotic	N	
<i>Crepis tectorum</i>	Narrow-leaf Hawksbeard	Crépis des toits							X										SE	7 exotic	Y	
<i>Erechtites hieraciifolia</i>	Fireweed	Crève-z-yeux														X			S5	4 secure	N	
<i>Erigeron strigosus</i>	Daisy Fleabane	Vergerette rude							X	X			X						S5	4 secure	N	
<i>Erigeron philadelphicus</i>	Philadelphia Fleabane	Érigeron de Philadelphie												X					S4	4 secure	N	
<i>Eupatorium maculatum</i>	Spotted Joe-Pye Weed	Eupatoire maculée				X			X	X		X	X	X		X			S5	4 secure	N	
<i>Euthamia graminifolia</i>	Flat-Top Fragrant-Golden-Rod	Verge d'or graminifoliée							X	X		X	X	X					S5	4 secure	N	
<i>Gnaphalium uliginosum</i>	Low Cudweed	Gnaphale des vases										X	X	X		X			SE	7 exotic	N	
<i>Hieracium aurantiacum</i>	Orange Hawkweed	Bouquets rouges											X						SE	7 exotic	N	
<i>Hieracium canadense</i>	Canada Hawkweed	Épervière du Canada											X						S5	4 secure	N	
<i>Hieracium x floribundum</i>	Smoothish Hawkweed	Épervière à fleurs nombreuses														X			SE	7 exotic	Y	
<i>Hieracium pilosella</i>	Mouseear	Oreille de souris											X						SE	7 exotic	N	
<i>Hieracium piloselloides</i>	Tall Hawkweed	Épervière fausse piloselle											X						SE	7 exotic	N	
<i>Lactuca biennis</i>	Tall Blue Lettuce	Laitue bisannuelle														X			SE	7 exotic	Y	
<i>Lactuca canadensis</i>	Canada Lettuce	Chicorée blanche											X						S5	4 secure	Y	
<i>Lactuca serriola</i>	Prickly Lettuce	Laitue épineuse											X						SE	7 exotic	N	

Appendix A - Species List

Species / Family	English Common Name	French Common Name												SRANK.nb	NBDNR General Status Rank	Collection (Y or N)	Notes											
			Lake	Pond	River	Quiet creek / channel	Low shrub meadow	High shrub meadow	Herbaceous meadow	Saint John River margin	River and lake margin	Clay bank	Emergent marsh					Swamp	Roadside	Agricultural land	Silver Maple Floodplain	Elm Stand	Saint John R.	Silver Maple Floodplain				
<i>Leontodon autumnalis</i>	Autumn Hawkbit	Leontodon d'automne																			X	SE	7 exotic	Y				
<i>Leucanthemum vulgare</i>	Oxeye Daisy	Marguerite																				X	SE	7 exotic	N			
<i>Matricaria discoidea</i>	Pineapple-Weed Chamomile	Matricaire suave; Herbe à crapaud																					X	SE	7 exotic	N		
<i>Megalodonta beckii</i>	Beck Water-Marigold	Bident de Beck																					X	S3	4 secure	Y		
<i>Senecio viscosus</i>	Sticky Groundsel	Séneçon visqueux																						X	SE	7 exotic	N	
<i>Solidago canadensis</i> <i>var. canadensis</i>	Canada Goldenrod	Bouquets jaunes																						X	S5	4 secure	Y	
<i>Solidago gigantea</i>	Smooth Goldenrod	Verge d'or géante																						X	S5	4 secure	N	
<i>Solidago juncea</i>	Early Goldenrod	Solidage élancée																						X	S5	4 secure	N	
<i>Solidago rugosa</i>	Rough-leaf Goldenrod	Verge d'or ruguese																						X	S5	4 secure	N	
<i>Sonchus arvensis</i>	Field Sowthistle	Laiteron des champs																						X	SE	7 exotic	Y	
<i>Sonchus asper</i>	Spiny-Leaf Sow Thistle	Laiteron épineux																						X	SE	7 exotic	N	
<i>Sonchus oleraceus</i>	Annual Sow Thistle	Laiteron potager																						X	SE	7 exotic	Y	
<i>Tanacetum vulgare</i>	Common Tansy	Tanaisie commune																						X	SE	7 exotic	N	
<i>Taraxacum officinale</i>	Common Dandelion	Dent-de-lion; Pissenlit																						X	S5	4 secure	N	
<i>Tussilago farfara</i>	Colt's Foot	Pas-d'âne																						X	SE	7 exotic	N	
<i>Xanthium strumarium</i>	Rough Cockle-Bur	Lampourde glouteron																						X	S4	4 secure	Y	
Balsaminaceae	Touch-me-not Family																											
<i>Impatiens capensis</i>	Spotted Jewel-Weed	Chou sauvage																						X	S5	4 secure	Y	

Species / Family	English Common Name	French Common Name	Lake	Pond	River	Quiet creek / channel	Low shrub meadow	High shrub meadow	Herbaceous meadow	Saint John River	River and lake margin	Clay bank	Emergent marsh	Swamp	Roadside	Agricultural land	Silver Maple	Elm Stand	Saint John R. Silver Maple Floodplain	SRANK.nb	NBDNR General Status Rank	Collection (Y or N)	Notes
Betulaceae	Birch Family																						
<i>Alnus incana</i> ssp. <i>rugosa</i>	Speckled Alder	Aulne blanchâtre; Verne blanchâtre				X	X	X	X	X	X	X	X	X	X	X	X	X		S5	4 secure	N	
<i>Alnus viridis</i>	Green Alder	Aulne vert												X						S5	4 secure	N	
<i>Betula alleghaniensis</i>	Yellow Birch	Merisier; Bouleau jaune							X											S5	4 secure	N	
<i>Betula papyrifera</i>	White Birch	Bouleau blanc												X						S5	4 secure	N	
<i>Betula populifolia</i>	Gray Birch	Bouleau gris												X						S5	4 secure	N	
Boraginaceae	Borage Family																						
<i>Myosotis laxa</i>	Small Forget-Me-Not	Myosotis laxiflore						X	X							X	X			S5	4 secure	Y	
<i>Myosotis scorpioides</i>	Large Forget-Me-Not	Myosotis scorpoïde					X			X						X	X			SE	7 exotic	Y	
Brassicaceae	Mustard Family																						
<i>Barbarea vulgaris</i>	Yellow Rocket	Cresson d'hiver												X	X	X				SE	7 exotic	N	
<i>Capsella bursa-pastoris</i>	Shepherd's Purse	Tabouret												X						SE	7 exotic	N	
<i>Cardamine pennsylvanica</i>	Pennsylvania bitter cress	Cardamine de pennsylvanie														X	X			S5	4 secure	N	
<i>Cardamine pratensis</i>	Cuckoo-Flower	Cardamine des prés						X						X	X					SE?	7 exotic	Y	
<i>Erysimum cheiranthoides</i>	Worm-Seed Wallflower	Herbe au chantre												X						S5SE	4 secure	N	
<i>Lepidium densiflorum</i>	Dense-Flower Pepper-Grass	Lépidie densiflore												X						SE	7 exotic	Y	
<i>Raphanus raphanistrum</i>	Wild Radish	Radis sauvage												X	X					SE	7 exotic	Y	
<i>Rorippa palustris</i>	Bog Yellow-Cress	Cresson palustre								X							X			S5	4 secure	Y	
<i>Rorippa sylvestris</i>	Creeping Yellow-Cress	Rorippa sylvestre						X												SE	7 exotic	Y	
<i>Sisymbrium officinale</i>	Hairy-pod Hedge Mustard	Herbe au chantre							X											SE	4 secure	N	
Cabombaceae	Watershield Family																						
<i>Brasenia schreberi</i>	Watershield	Brasénie de Schreber	X	X	X	X														S3	4 secure	N	

Appendix A - Species List

Species / Family	English Common Name	French Common Name												SRANK.nb	NBDNR General Status Rank	Collection (Y or N)	Notes
Callitrichaceae	Water-starwort Family																
<i>Callitriche heterophylla</i>	Large Water-starwort	Callitriche hétérophylle	X	X									S4S5	5 secure	Y		
<i>Callitriche palustris</i>	Water-Starwort species	Callitriche des marais	X	X									S5	5 secure	Y		
Campanulaceae	Harebell Family																
<i>Campanula aparinoides</i>	Marsh Bellflower	Campanule faux-gaillet			X	X	X						S4	4 secure	N		
<i>Campanula rapunculoides</i>	Creeping Bellflower	Campanule fausse-raiponce					X						SE	7 exotic	N		
<i>Lobelia inflata</i>	Indian-Tobacco	Lobélie gonflée; Herbe à l'asthme					X				X		S5	4 secure	Y		
Cannabaceae	Hemp Family																
<i>Cannabis sativa</i>	Marijuana	Chanvre										X	SE	7 exotic	Y		
Caprifoliaceae	Honeysuckle Family																
<i>Lonicera x bella</i>	Belle Honeysuckle	Chevrefeuille de Bell							X	X			SE	7 exotic	Y		
<i>Lonicera tatarica</i>	Tartarian Honeysuckle	Chèvrefeuille de Tartarie							X				SE		N		
<i>Sambucus nigra ssp. canadensis</i>	Common Elderberry	Sureau de Canada; Sureau blanc						X	X	X	X	X	S5	4 secure	N		
<i>Viburnum nudum var. cassinoides</i>	Possum-haw Viburnum	Viorne cassinoide; Alisier; Bleuets sains									X		S5	4 secure	N		
<i>Viburnum opulus var. americanum</i>	Highbush Cranberry	Viorne d'Amérique; Pimbina					X				X		S5	4 secure	N		
<i>Viburnum opulus var. opulus</i>	European Highbush Cranberry	Obier, Rose de gueldre											SE	7 exotic	N		
Caryophyllaceae	Pink Family																
<i>Cerastium arvense</i>	Mouse-Ear Chickweed	Mouron d'alouette						X					S4	7 exotic	N		

Appendix A - Species List

Species / Family	English Common Name	French Common Name	Habitat											SRANK.nb	NBDNR General Status Rank	Collection (Y or N)	Notes				
			Lake	Pond	River	Quiet creek / channel	Low shrub meadow	High shrub meadow	Herbaceous meadow	Saint John River margin	River and lake margin	Clay bank	Emergent marsh					Swamp	Roadside	Agricultural land	Silver Maple Floodplain
<i>Cerastium fontanum</i>	Common Mouse-Ear Chickweed	Mouron à oreille de souris											X	X				SE	7 exotic	N	
<i>Moehringia lateriflora</i>	Grove Sandwort	Sabline latérflore															X	S5	4 secure	Y	
<i>Sagina procumbens</i>	Procumbent Pearlwort	Sagine couchée																S5	4 secure	N	
<i>Silene vulgaris</i>	Bladder Campion	Pétards											X	X				SE	7 exotic	N	
<i>Spergularia rubra</i>	Purple Sandspurry	Spergulaire rouge																SE	7 exotic	Y	
<i>Spergularia salina</i>	Saltmarsh Sandspurry	Spergulaire marine												X				S5	4 secure	Y	
<i>Stellaria graminea</i>	Grass-leaved stitchwort	Mouron des champs													X	X		SE	7 exotic	Y	
<i>Stellaria media</i>	Common Chickweed	Mouron des oiseaux														X		SE	7 exotic	Y	
Ceratophyllaceae	Hornwort Family																				
<i>Ceratophyllum demersum</i>	Common Hornwort, Coon-Tail	Cornifle nageante	X	X	X													S4	4 secure	Y	
Chenopodiaceae	Goosefoot, Pigweed Family																				
<i>Chenopodium album</i>	Lamb's Quarters	Poulette grasse												X	X			SE	7 exotic	Y	
<i>Chenopodium botrys</i>	Jerusalem Oak	Herbe à printemps													X			SE	7 exotic	Y	
<i>Chenopodium glaucum</i>	Oakleaf Goosefoot	Patte d'oie glauque													X			SE	7 exotic	Y	
<i>Kochia scoparia</i>	Summer-Cypress	Petits Soldats													X			SE	7 exotic	Y	
Clusiaceae	St. John's-wort Family																				
<i>Hypericum boreale</i>	Northern St. John's Wort	Millepertuis boréal				X		X	X									S5	4 secure	Y	
<i>Hypericum canadense</i>	Canadian St. John's Wort	Millepertuis du Canada							X									S5	4 secure	Y	
<i>Hypericum ellipticum</i>	Pale St. John's-Wort	Millepertuis elliptique				X	X	X						X	X			S5	4 secure	Y	

Appendix A - Species List

Species / Family	English Common Name	French Common Name	Habitat											SRANK.nb	NBDNR General Status Rank	Collection (Y or N)	Notes					
			Lake	Pond	River	Quiet creek / channel	Low shrub meadow	High shrub meadow	Herbaceous meadow	Saint John River margin	River and lake margin	Clay bank	Emergent marsh					Swamp	Roadside	Agricultural land	Silver Maple Floodplain	Elm Stand
<i>Hypericum perforatum</i>	Common St. John's-Wort	Millepertuis commun						X			X	X						SE	7 exotic	Y		
<i>Triadenum fraseri</i>	Marsh St. John's-Wort	Millepertuis de Fraser				X	X	X			X	X			X			S5	4 secure	N		
Convolvulaceae Bindweed Family																						
<i>Calystegia sepium</i>	Hedge Bindweed	Gloire du matin				X	X	X			X			X	X	X		S5	4 secure	N		
Cornaceae Dogwood Family																						
<i>Cornus rugosa</i>	Round-leaved Dogwood	Bois de calumet				X	X	X	X					X	X			S4	4 secure	N		
<i>Cornus sericea</i>	Silky Dogwood	Hart rouge				X	X	X	X		X			X	X	X		S5	4 secure	N		
Crassulaceae																						
<i>Hylotelephium telephium</i>	Witch's-Moneybags	Vit-toujours						X						X	X	X		SE	7 exotic	N		
Cucurbitaceae Cucumber Family																						
<i>Echinocystis lobata</i>	Wild Mock-Cucumber	Concombre grimpant						X			X	X	X	X	X			S5	4 secure	N		
Cuscutaceae Dodder Family																						
<i>Cuscuta gronovii</i>	Gronovius Dodder	Cuscute de Gronovius								X		X						S4S5	4 secure	Y		
Cyperaceae Sedge Family																						
<i>Bolboschoenus fluviatilis</i> (<i>Schoenoplectus fluviatilis</i>)	River Bulrush	Scirpe fluviatile				X	X	X	X									S2	3 sensitive	Y		
<i>Carex aquatilis</i>	Water Sedge	Carex aquatique									X		X					S4S5	4 secure	Y		
<i>Carex arcta</i>	Northern Clustered Sedge	Carex dru						X					X	X				S3	4 secure	Y		
<i>Carex arctata</i>	Black Sedge	Carex comprimé						X										S5	4 secure	Y		
<i>Carex bromoides</i>	Brome-like Sedge	Carex faux-brome											X	X				S4		Y		
<i>Carex brunnescens</i> ssp. <i>sphaerostachya</i>	Brownish Sedge	Carex brunatre												X				S5	4 secure	Y		
<i>Carex canescens</i>	Hoary Sedge	Carex blanchâtre				X	X		X									S5	4 secure	N		

Appendix A - Species List

Species / Family	English Common Name	French Common Name												SRANK.nb	NBDNR General Status Rank	Collection (Y or N)	Notes				
			Lake	Pond	River	Quiet creek / channel	Low shrub meadow	High shrub meadow	Herbaceous meadow	Saint John River meadow	River and lake margin	Clay bank	Emergent marsh					Swamp	Roadside	Agricultural land	Silver Maple Floodplain
<i>Carex chordorrhiza</i>	Rope-root Sedge	Carex a long rhizome					X			X								S2S3	4 secure	Y	
<i>Carex crinita</i>	Fringed Sedge	Carex crépu								X					X	X	X	S5	4 secure	N	
<i>Carex debilis</i>	White-edge Sedge	Carex faible					X								X	X		S5	4 secure	Y	
<i>Carex echinata</i>	Little Prickly Sedge	Carex étroite					X	X	X									S5	4 secure	Y	
<i>Carex gracillima</i>	Graceful Sedge	Carex filiforme																S5	4 secure	Y	
<i>Carex haydenii</i>	Cloud Sedge	Carex de Hayden						X										S2	4 secure	Y	
<i>Carex intumescens</i>	Bladder Sedge	Carex gonflé					X			X					X	X		S5	4 secure	N	
<i>Carex lacustris</i>	Lake-Bank Sedge	Carex lacustre					X	X	X					X		X		S4S5	4 secure	Y	
<i>Carex lanuginosa (Carex pellita)</i>	Wooly Sedge	Carex laineux					X	X			X							S4	4 secure	Y	
<i>Carex lasiocarpa</i>	Slender Sedge	Carex à fruits tomenteux		X			X											S5	4 secure	Y	
<i>Carex lenticularis</i>	Shore Sedge	Carex lenticulaire						X										S5	4 secure	Y	
<i>Carex lupulina</i>	Hop Sedge	Carex houblon						X							X			S2	4 secure	Y	
<i>Carex lurida</i>	Shallow Sedge	Carex luisant																S5	4 secure	N	Observed by Roberts & Bateman, 1964, but not observed in this study.
<i>Carex oligosperma</i>	Few-seeded Sedge	Carex oligosperme						X										S5	4 secure	Y	
<i>Carex pallescens</i>	Pale sedge	Carex pale													X			S5	4 secure	Y	
<i>Carex projecta</i>	Necklace Sedge	Carex à bec étalé									X					X		S5	4 secure	Y	
<i>Carex pseudocyperus</i>	Cyperus-Like Sedge	Carex faux-souchet						X	X									S5	4 secure	Y	
<i>Carex retrorsa</i>	Retrorse Sedge	Carex réfléchi																S4	4 secure	Y	
<i>Carex scabrata</i>	Eastern Rough Sedge	Carex scabre								X								S5	4 secure	N	
<i>Carex scoparia</i>	Pointed Broom Sedge	Carex a balais												X	X			S5	4 secure	Y	
<i>Carex stipata</i>	Stalk-Grain Sedge	Carex stipité									X							S5	4 secure	Y	
<i>Carex stricta</i>	Tussock Sedge	Carex raide												X				S5	4 secure	Y	
<i>Carex tinctoria</i>	Tinged Sedge	Carex coloré							X									S4?	4 secure	Y	

Appendix A - Species List

Species / Family	English Common Name	French Common Name	Habitat											SRANK.nb	NBDNR General Status Rank	Collection (Y or N)	Notes				
			Lake	Pond	River	Quiet creek / channel	Low shrub meadow	High shrub meadow	Herbaceous meadow	Saint John River meadow	River and lake margin	Clay bank	Emergent marsh					Swamp	Roadside	Agricultural land	Silver Maple Floodplain
<i>Carex tribuloides</i>	Blunt-Broom Sedge	Carex tribuloide				X	X	X						X	X			S4S5	4 secure	Y	
<i>Carex tuckermanii</i>	Tuckerman Sedge	Carex de Tuckerman				X		X						X	X			S3	4 secure	Y	
<i>Carex utriculata</i>	Beaked Sedge	Carex rostré				X	X	X						X				S5	4 secure	Y	
<i>Carex vesicaria</i>	Inflated Sedge	Carex vésiculeux				X	X							X				S5	4 secure	Y	
<i>Cyperus esculentus</i>	Chufa Flat-Sedge	Amande de terre						X	X									S3	4 secure	Y	
<i>Dulichium arundinaceum</i>	Three-Way Sedge	Dulichium roseau	X			X	X	X	X	X	X	X	X		X			S5	4 secure	N	
<i>Eleocharis acicularis</i>	Least Spike-Rush	Éléocharide aciculaire				X	X	X	X									S5	4 secure	Y	
<i>Eleocharis erythropoda</i>	Bald Spike-Rush	Éléocharide aciculaire							X	X								S4S5	4 secure	Y	
<i>Eleocharis obtusa</i>	Blunt Spike-Rush	Éléocharide obtuse							X									S5	4 secure	Y	
<i>Eleocharis ovata</i>	Ovate Spikerush	Éléocharide ovale							X									S5	4 secure	Y	
<i>Eleocharis palustris (Eleocharis smallii)</i>	Small's Spike-Rush	Éléocharide de Small	X			X	X	X	X									S5	4 secure	Y	
<i>Eleocharis parvula</i>	Small Spike-Rush	Éléocharide naine							X									S2	4 secure	Y	
<i>Eleocharis tenuis</i>	Slender Spike-Rush									X	X							S3	4 secure	Y	
<i>Eriophorum angustifolium</i>	Narrow-leaved Cotton-grass	Linaigrette à feuilles étroites						X			X							S5	4 secure	N	
<i>Eriophorum gracile</i>	Slender Cotton-Grass	Linaigrette grêle						X										S1	2 may be at-risk	Y	
<i>Eriophorum tenellum</i>	Five-nerve Cotton-Grass	Linaigrette ténue						X										S4S5	4 secure	Y	
<i>Schoenoplectus acutus</i>	Great Bulrush	Scirpe aigu							X									S4S5	4 secure	N	Collected by P. Roberts & D. Drury, 1963, but not observed in this study.
<i>Schoenoplectus pungens</i>	Three-square Bulrush	Jonc des chaisiers						X	X									S5	4 secure	Y	
<i>Schoenoplectus subterminalis</i>	Water Bulrush	Scirpe subterminal							X									S5	4 secure	Y	

Appendix A - Species List

Species / Family	English Common Name	French Common Name	Habitat													SRANK.nb	NBDNR General Status Rank	Collection (Y or N)	Notes			
			Lake	Pond	River	Quiet creek / channel	Low shrub meadow	High shrub meadow	Herbaceous meadow	Saint John River margin	River and lake margin	Clay bank	Emergent marsh	Swamp	Roadside					Agricultural land	Silver Maple Floodplain	Elm Stand
<i>Schoenoplectus tabernaemontani</i>	Soft-Stem Bulrush	Scirpe vigoureux						X	X									S5	4 secure	Y		
<i>Schoenoplectus torreyi</i>	Torrey's Bulrush	Scirpe de Torrey; Scirpe de Torrey	X															S3	4 secure	Y		
<i>Scirpus cyperinus</i>	Cottongrass Bulrush	Scirpe souchet					X							X				S5	4 secure	Y		
<i>Scirpus hattorianus</i>	Bulrush	Scirpe noirâtre												X				S4	4 secure	N		
<i>Scirpus microcarpus</i>	Small-fruit Bulrush	Scirpe microcarpe					X			X		X						S5	4 secure	N		
<i>Scirpus pedicellatus</i>	Stalked Bulrush	Scirpe pédicellé	X	X	X	X	X											S2S3	4 secure	Y		
Droseraceae	Sundew Family																					
<i>Drosera intermedia</i>	Spoon-Leaved Sundew	Rossolis intermédiaire					X											S5	4 secure	N		
<i>Drosera rotundifolia</i>	Round-Leaved Sundew	Rossolis à feuilles rondes					X	X										S5	4 secure	N		
Dryopteridaceae	Wood-fern Family																					
<i>Athyrium filix-femina</i> ssp. <i>angustum</i>	Lady Fern	Fougère femelle							X					X	X			S5	4 secure	N		
<i>Dryopteris carthusiana</i>	Spinulose Shield Fern	Dryoptère de Carthus							X						X			S5	4 secure	Y		
<i>Dryopteris intermedia</i>	Evergreen Wood Fern	Droptère intermédiaire													X			S5		N		
<i>Matteuccia struthiopteris</i>	Ostrich Fern	Ptéridée noduleuse					X	X			X	X	X	X	X	X		S5	4 secure	N		
<i>Onoclea sensibilis</i>	Sensitive Fern	Onoclée délicate					X	X	X	X	X	X	X		X	X	X	S5	4 secure	Y		
Elatinaceae	Waterwort Family																					
<i>Elatine</i> spp.	American Waterwort	Élatine américaine							X									S2	4 secure	Y		
Equisetaceae	Horsetail Family																					
<i>Equisetum arvense</i>	Field Horsetail	Prêle des champs							X	X		X	X	X	X	X		S5	4 secure	N		

Appendix A - Species List

Species / Family	English Common Name	French Common Name	Habitat											SRANK.nb	NBDNR General Status Rank	Collection (Y or N)	Notes					
			Lake	Pond	River	Quiet creek / channel	Low shrub meadow	High shrub meadow	Herbaceous meadow	Saint John River margin	River and lake margin	Clay bank	Emergent marsh					Swamp	Roadside	Agricultural land	Silver Maple Floodplain	Elm Stand
<i>Equisetum fluviatile</i>	Water Horsetail	Prêle fluviatile				X	X	X	X	X								S5	4 secure	N		
<i>Equisetum x litorale</i>	A hybrid Horsetail	Prêle littorale								X								HYB		Y		
<i>Equisetum sylvaticum</i>	Woodland Horsetail	Prêle des bois												X				S5	4 secure	N		
Ericaceae	Heath Family																					
<i>Andromeda polifolia</i>	Bog rosemary	Andromède glauque				X		X										S5	4 secure	N		
<i>Chamaedaphne calyculata</i>	Leatherleaf	Faux bleuets; Petit-daphné				X	X	X										S5	4 secure	N		
<i>Rhododendron canadense</i>	Rhodora	Rhododendron du Canada				X												S5	4 secure	N		
<i>Vaccinium macrocarpon</i>	Large Cranberry	Gros atocas				X		X										S5	4 secure	N		
Euphorbiaceae	Spurge Family																					
<i>Chamaesyce vermiculata</i>	Worm-Seeded Spurge	Ricinelle vermiculée											X					S4	4 secure	Y		
Fabaceae	Bean Family																					
<i>Amphicarpaea bracteata</i>	American Hog-Peanut	Amphicarpe bractéolée							X	X	X		X	X	X			S4S5	4 secure	N		
<i>Apios americana</i>	American Groundnut	Patates en chapelet; Pénacs				X		X	X	X			X	X	X			S4S5	4 secure	Y		
<i>Coronilla varia</i>	Common Crown Vetch	Coronille bigarrée										X						SE	7 exotic	Y		
<i>Desmodium canadense</i>	Showy Tick-Trefoil	Desmodie du Canada						X										S4S5	4 secure	N		
<i>Lathyrus pratensis</i>	Yellow Vetchling	Gesse des bois											X					SE	7 exotic	N		
<i>Lotus corniculatus</i>	Bird's Foot Trefoil	Lotier corniculé										X						SE	7 exotic	N		
<i>Medicago lupulina</i>	Black Medick	Lupuline										X						SE	7 exotic	N		
<i>Melilotus officinalis</i>	White and Yellow Sweet Clover	Trèfle d'odeur										X						SE	7 exotic	Y		
<i>Trifolium aureum</i>	Yellow or Hop Clover	Trèfle jaune										X	X					SE	7 exotic	N		
<i>Trifolium arvense</i>	Rabbit-Foot Clover	Trèfle des champs										X						SE	7 exotic	N		

Appendix A - Species List

Species / Family	English Common Name	French Common Name	Habitat											SRANK.nb	NBDNR General Status Rank	Collection (Y or N)	Notes																		
			Lake	Pond	River	Quiet creek / channel	Low shrub meadow	High shrub meadow	Herbaceous meadow	Saint John River	River and lake margin	Clay bank	Emergent marsh					Swamp	Roadside	Agricultural land	Silver Maple	Elm Stand	Saint John R.	Silver Maple Floodplain											
<i>Trifolium campestre</i>	Low Hop Clover	Trèfle couché																					X		SE	7 exotic	N								
<i>Trifolium hybridum</i>	Alsike Clover	Trèfle alsike																								SE	7 exotic	N							
<i>Trifolium pratense</i>	Red Clover	Trèfle rouge																						X	X	X	SE	7 exotic	N						
<i>Trifolium repens</i>	White Clover	Trèfle blanc																							X	X		X	SE	7 exotic	N				
<i>Vicia cracca</i>	Tufted Vetch	Jargeau																								X		SE	7 exotic	N					
Fagaceae	Oak Family																																		
<i>Quercus macrocarpa</i>	Bur Oak	Chêne à gros fruits																								X	X	X	S5	4 secure	Y				
<i>Quercus rubra</i>	Northern Red Oak	Chêne rouge																								X	X		S5	4 secure	N				
Grossulariaceae	Gooseberry Family																																		
<i>Ribes americanum</i>	Wild Black Currant	Cassis sauvage																									X		S4	4 secure	Y				
Haloragaceae	Water-Milfoil Family																																		
<i>Myriophyllum heterophyllum</i>	Broadleaf Water-milfoil, Two-leaf Water-milfoil	Myriophylle	X	X	X																								S1	2 may be at-risk	Y				
<i>Myriophyllum tenellum</i>	Slender Water-milfoil	Myriophylle grêle	X																										S3	4 secure	N				
<i>Myriophyllum verticillatum</i>	Whorled Water-milfoil	Myriophylle verticillé	X	X	X																								S2	4 secure	Y				
Hydrocharitaceae	Frog's-Bit Family																																		
<i>Elodea canadensis</i>	Canada Waterweed	Elodée du Canada		X	X	X																							S4S5	4 secure	Y				
<i>Elodea nuttallii</i>	Nuttall Waterweed	Élodée de Nuttall	X		X																								S2	4 secure	Y				
<i>Vallisneria americana</i>	Tapegrass	Vallisnérie américaine	X	X																									X		S4	4 secure	Y		
Iridaceae	Iris Family																																		
<i>Iris versicolor</i>	Blueflag	Clajeux; Iris sauvage																											X	X	X	S5	4 secure	N	
<i>Sisyrinchium montanum</i>	Strict Blue-Eyed-Grass	Bermudienne montagnarde																										X		S5	4 secure	N			

Appendix A - Species List

Species / Family	English Common Name	French Common Name	Lake	Pond	River	Quiet creek / channel	Low shrub meadow	High shrub meadow	Herbaceous meadow	Saint John River meadow	River and lake margin	Clay bank	Emergent marsh	Swamp	Roadside	Agricultural land	Silver Maple Floodplain	Elm Stand	Saint John R. Silver Maple Floodplain	SRANK.nb	NBDNR General Status Rank	Collection (Y or N)	Notes
Isoetaceae	Isoetes Family																						
<i>Isoetes lacustris</i>	Lake Quillwort	Isoète des etangs	X																	S4	4 secure	Y	
Juglandaceae																							
<i>Juglans cinerea</i>	Butternut	Arbre à noix longue; Noyer cerdré						X								X				S3	3 sensitive	Y	
Juncaceae	Rush Family																						
<i>Juncus arcticus</i> (<i>Juncus balticus</i>)	Baltic Rush							X												S5	4 secure	N	
<i>Juncus articulatus</i>	Jointed Rush	Jonc articulé						X												S5	4 secure	Y	
<i>Juncus brevicaudatus</i>	Narrow-panicked Ruch	Jonc brévicauté							X											S5	4 secure	Y	
<i>Juncus effusus</i>	Soft Rush	Jonc épars							X											S5	4 secure	N	
<i>Juncus filiformis</i>	Thread Rush	Jonc filiforme						X	X	X										S5	4 secure	Y	
<i>Juncus militaris</i>	Bayonet Rush	Jonc militaire	X					X	X											S3	4 secure	Y	
<i>Juncus nodosus</i>	Knotted Rush	Jonc noueux							X											S4S5	4 secure	Y	
<i>Juncus pelocarpus</i>	Brown-fruited rush	Jonc a fruits bruns					X													S5	4 secure	Y	
<i>Juncus tenuis</i>	Slender Rush	Jonc ténu													X	X				S5	4 secure	Y	
<i>Luzula multiflora</i>	Common woodrush	Luzule multiflore											X							S5	4 secure	N	
Lamiaceae	Mint Family																						
<i>Galeopsis tetrahit</i>	Brittle-Stem Hempnettle	Ortie royale; Gratte														X				SE	7 exotic	N	
<i>Glechoma hederacea</i>	Gill-Over-The-Ground	Lierre terrestre											X	X			X			SE	7 exotic	N	
<i>Lycopus americanus</i>	American Bugleweed	Lycophe d'Amérique					X	X	X	X			X		X					S5	4 secure	N	
<i>Lycopus uniflorus</i>	Northern Bugleweed	Lycophe à une fleur					X	X	X	X			X		X	X	X			S5	4 secure	N	
<i>Mentha canadensis</i> (<i>Mentha arvensis</i>)	Common Mint	Menthe du Canada							X	X	X		X		X		X			S5	4 secure	Y	
<i>Prunella vulgaris</i>	Self-Heal	Herbe au charpentier														X				S5	4 secure	N	

Appendix A - Species List

Species / Family	English Common Name	French Common Name	Habitat											SRANK.nb	NBDNR General Status Rank	Collection (Y or N)	Notes				
			Lake	Pond	River	Quiet creek / channel	Low shrub meadow	High shrub meadow	Herbaceous meadow	Saint John River	River and lake margin	Clay bank	Emergent marsh					Swamp	Roadside	Agricultural land	Silver Maple
<i>Scutellaria galericulata</i>	Hooded Skullcap	Toque; Tertianaire				X	X	X	X	X					X	X	X	S5	4 secure	N	
<i>Scutellaria lateriflora</i>	Mad Dog Skullcap	Scutellaire latériflore					X		X				X		X	X	S5	4 secure	N		
<i>Stachys pilosa</i>	Hairy Hedge-Nettle	Épiaire pilose													X		S?	5 undetermined	N		
<i>Stachys palustris</i>	Woundwort	Épiaire des marais				X			X			X		X	X	X	SE	7 exotic	Y		
<i>Stachys tenuifolia</i> (S. hispida)	Smooth Hedge-Nettle	Épiaire à feuilles minces											X	X	X		S1S2		Y		
Lemnaceae	Duckweed Family																				
<i>Lemna minor</i>	Lesser Duckweed	Lentille d'eau; Merde de grenouille	X	X	X						X	X					S5	4 secure	Y		
<i>Spirodela polyrrhiza</i>	Common Water-Flaxseed	Lentille d'eau	X		X						X	X					S2	4 secure	Y		
Lentibulariaceae	Bladderwort Family																				
<i>Utricularia geminiscapa</i>	Twin-stemmed Bladderwort	Utriculaire a scapes géminés	X														S2	3 sensitive	N		
<i>Utricularia gibba</i>	Humped Bladderwort	Utriculaire a bosse	X														S1	2 may be at-risk (priority)	Y		
<i>Utricularia intermedia</i>	Flat-leaf Bladderwort	Utriculaire intermédiaire	X				X										S5	4 secure	Y		
<i>Utricularia macrorhiza</i>	Greater Bladderwort	Utriculaire vulgaire	X	X	X	X											S5	4 secure	Y		
<i>Utricularia minor</i>	Lesser Bladderwort	Utriculaire mineure	X				X										S2	4 secure	Y		
<i>Utricularia purpurea</i>	Greater Purple Bladderwort	Utriculaire pourpre	X		X												S2S3	4 secure	Y		
Liliaceae	Lily Family																				
<i>Lilium canadense</i>	Canada Lily	Lis du Canada							X		X	X		X	X		S4	4 secure	N		
<i>Maianthemum canadense</i>	Wild Lily-of-The-Valley	Muguet												X	X		S5	4 secure	N		
<i>Maianthemum stellatum</i>	Star-Flowered False Solomon's Seal	Smilacine étoilée							X								S4S5	4 secure	N		

Appendix A - Species List

Species / Family	English Common Name	French Common Name												SRANK.nb	NBDNR General Status Rank	Collection (Y or N)	Notes				
			Lake	Pond	River	Quiet creek / channel	Low shrub meadow	High shrub meadow	Herbaceous meadow	Saint John River meadow	River and lake margin	Clay bank	Emergent marsh					Swamp	Roadside	Agricultural land	Silver Maple Floodplain
<i>Maianthemum trifolium</i>	Three-leaf Solomon's Plume	Smilacine trifolée				X						X						S5	4 secure	Y	
<i>Polygonatum pubescens</i>	Downy Solomon's Seal	Sceau-de-Salomon pubescent												X	X			S5		N	
<i>Streptopus lanceolatus</i>	Rose Twisted Stalk	Rodnons de coq												X				S5	4 secure	N	
<i>Trillium cernuum</i>	Nodding Trillium	Trille penché																S5	4 secure	N	
<i>Uvularia sessilifolia</i>	Sessile-Leaf Bellwort	Uvulaire à feuilles sessiles												X	X			S5	4 secure	N	
<i>Veratrum viride</i>	American False-hellebore	Tabac du diable											X	X				S4	4 secure	N	
Lythraceae	Loosestrife Family																				
<i>Lythrum salicaria</i>	Purple Loosestrife	Salicaire; Bouquet violet	X	X		X	X	X	X	X	X	X	X	X	X			SE	7 exotic	Y	
Menyanthaceae	Bog-Bean Family																				
<i>Menyanthes trifoliata</i>	Bog Buckbean	Herbe à canards				X	X											S5	4 secure	N	
<i>Nymphoides cordata</i>	Floating-Heart	Faux-nymphéa à feuilles cordées	X	X														S4	4 secure	N	
Molluginaceae																					
<i>Mollugo verticillata</i>	Green Carpet-Weed	Mollugine																SE	7 exotic	Y	
Myricaceae	Bayberry Family																				
<i>Myrica gale</i>	Sweet Bayberry, Sweet Gale	Bois-sent-bon; Myrique baumier				X	X	X	X	X		X						S5	4 secure	N	
Najadaceae	Naiad Family																				
<i>Najas flexilis</i>	Slender Naiad	Naias souple; Naiade flexible	X	X														S5	4 secure	Y	
<i>Najas gracillima</i>	Thread-Like Naiad	Naias gracile	X															S1	2 may be at-risk	Y	
Nymphaeaceae	Water-Lily Family																				
<i>Nuphar microphylla (Nuphar lutea ssp. pumila)</i>	Small Pond-Lily	Petit nénuphar jaune	X	X								X						S2	4 secure	Y	

Appendix A - Species List

Species / Family	English Common Name	French Common Name	Lake Pond River Quiet creek / channel Low shrub meadow High shrub meadow Herbaceous meadow Saint John River margin River and lake margin Clay bank Emergent marsh Swamp Roadside Agricultural land Silver Maple Floodplain Elm Stand Saint John R. Silver Maple Floodplain											SRANK.nb	NBDNR General Status Rank	Collection (Y or N)	Notes				
<i>Nuphar rubrodisca</i> (<i>Nuphar lutea</i> ssp. <i>rubrodisca</i>)	Red-Disk Pond-Lily	Nénuphar à disque rouge		X					X								S1	2 may be at-risk	Y		
<i>Nuphar variegata</i> (<i>Nuphar lutea</i> ssp. <i>variegata</i>)	Beaver-Root	Pied-de-cheval	X	X	X	X			X								S5	4 secure	N		
<i>Nymphaea odorata</i>	American Water-Lily	Nénuphar blanc	X	X	X	X											S5	4 secure	Y		
Oleaceae	Olive Family																				
<i>Fraxinus americana</i>	White Ash	Frêne blanc											X	X			S5	4 secure	N		
<i>Fraxinus nigra</i>	Black Ash	Frêne noir											X				S5	4 secure	N		
<i>Fraxinus pennsylvanica</i>	Green Ash	Frêne rouge						X	X		X		X	X	X		S4	4 secure	Y		
Onagraceae	Evening-primrose Family																				
<i>Epilobium angustifolium</i> (<i>Chamerion angustifolium</i>)	Fireweed	Bouquets rouges														X	S5	4 secure	N		
<i>Epilobium ciliatum</i>	Hairy Willow-Herb	Épilobe hispide					X	X							X		S5	4 secure	Y		
<i>Epilobium leptophyllum</i>	Narrow-leaved Willow-herb	Épilobe à feuilles étroites					X										S5	4 secure	Y		
<i>Ludwigia palustris</i>	Marsh Seedbox	Ludwigie palustre							X								S4	4 secure	Y		
<i>Oenothera biennis</i>	Common Evening-Primrose	Onagre bisannuelle													X		S4S5	4 secure	N		
<i>Oenothera parviflora</i>	Small-Flowered Evening Primrose	Onagre parviflore													X		S5	4 secure	Y		
<i>Oenothera perennis</i>	Small Sundrops	Onagre pérennante													X		S5	4 secure	N		

Appendix A - Species List

Species / Family	English Common Name	French Common Name	Habitat										SRANK.nb	NBDNR General Status Rank	Collection (Y or N)	Notes						
			Lake	Pond	River	Quiet creek / channel	Low shrub meadow	High shrub meadow	Herbaceous meadow	Saint John River margin	River and lake margin	Clay bank					Emergent marsh	Swamp	Roadside	Agricultural land	Silver Maple Floodplain	Elm Stand
Orchidaceae	Orchid Family																					
<i>Pogonia ophioglossoides</i>	Snakemouth, Rose Pogonia	Pogonie langue-de-serpent				X	X												S4	4 secure	Y	
Osmundaceae	Royal-fern Family																					
<i>Osmunda claytoniana</i>	Interrupted Fern	Osmonde de Clayton													X				S5	4 secure	N	
<i>Osmunda cinnamomea</i>	Cinammon Fern													X					S5		N	
<i>Osmunda regalis</i> var. <i>spectabilis</i>	Royal Fern	Osmonde royale				X	X	X	X						X	X			S5	4 secure	N	
Oxalidaceae	Wood-Sorrel Family																					
<i>Oxalis dillenii</i>	Dillen's Woodsorrel	Oxalide de Dillenius												X					SE	7 exotic	Y	
<i>Oxalis stricta</i>	Upright Yellow Wood-Sorrel	Pain d'oiseau; Surette												X	X	X			S5	4 secure	Y	
Plantaginaceae	Plantain Family																					
<i>Plantago major</i>	Nipple-Seed Plantain	Grand plantain												X	X				SE	7 exotic	Y	
<i>Plantago maritima</i>	Seaside Plantain	Perce-pierre																	S5	4 secure	Y	
Poaceae	Grass Family																					
<i>Agrostis capillaris</i>	Colonial Bentgrass	Agrostide capillaire													X				SE	7 exotic	Y	
<i>Agrostis gigantea</i>	Black Bentgrass	Foin follette													X				SE	7 exotic	Y	
<i>Agrostis perennans</i>	Perennial Bentgrass	Agrostide pérennant																	S5	4 secure	Y	
<i>Agrostis scabra</i>	Rough Bentgrass	Agrostide scabre																	S5	4 secure	Y	
<i>Agrostis stolonifera</i>	Spreading Bentgrass	Agrostide stolonifère													X				S5SE	7 exotic	Y	
<i>Alopecurus aequalis</i>	Short-awn Foxtail	Vulpin à courtes arêtes																	S4S5	4 secure	Y	
<i>Anthoxanthum odoratum</i>	Sweet Vernal Grass	Flouve odorante; Foin d'odeur												X	X	X			SE	7 exotic	Y	
<i>Bromus inermis</i>	Awnless Brome	Brome inerme												X	X				SE	7 exotic	N	

Appendix A - Species List

Species / Family	English Common Name	French Common Name	Habitat											SRANK.nb	NBDNR General Status Rank	Collection (Y or N)	Notes				
			Lake	Pond	River	Quiet creek / channel	Low shrub meadow	High shrub meadow	Herbaceous meadow	Saint John River meadow	River and lake margin	Clay bank	Emergent marsh					Swamp	Roadside	Agricultural land	Silver Maple Floodplain
<i>Calamagrostis canadensis</i>	Blue-Joint Reedgrass	Foin bleu				X	X	X	X	X					X	X		S5	4 secure	N	
<i>Cinna arundinacea</i>	Stout Wood Reedgrass	Cinna roseau													X			S1	3 sensitive	Y	
<i>Cinna latifolia</i>	Slender Wood Reedgrass	Cinna à larges feuilles													X			S5	4 secure	Y	
<i>Danthonia spicata</i>	Poverty Grass	Avoine du pauvre													X			S5	4 secure	N	
<i>Digitaria ischaemum</i>	Smooth Crabgrass	Digitarie astringente													X			SE	7 exotic	N	
<i>Echinochloa crus-galli</i>	Barnyard Grass	Pied-de-coq													X			SE	7 exotic	Y	
<i>Elymus virginicus</i>	Virginia Wild-Rye	Élyme de Virginie														X		S5	4 secure	Y	
<i>Elytrigia repens</i>	Twitch grass	Chiendent rampant													X			SE	7 exotic	N	
<i>Eragrostis pectinacea</i>	Purple Lovegrass	Eragrostide pectiné																S2?	3 sensitive	Y	
<i>Festuca pratensis (Lolium pratense)</i>	Meadow Rye-grass	Fétuque des près													X			SE	7 exotic	Y	
<i>Festuca trachyphylla</i>	Hard Fescue														X			SE	7 exotic	Y	
<i>Glyceria borealis</i>	Small Floating Manna-Grass	Glycérie boréale		X		X		X		X						X		S5	4 secure	Y	
<i>Glyceria canadensis</i>	Canada Manna-Grass	Glycérie du Canada			X	X		X										S5	4 secure	N	
<i>Glyceria grandis</i>	American Mannagrass	Glycérie géante							X									S5	4 secure	N	
<i>Glyceria striata var. striata</i>	Fowl Manna-Grass	Glycérie stiée							X									S5	4 secure	Y	
<i>Hordeum jubatum</i>	Fox-Tail Barley	Queue d'écureuil													X			S5	4 secure	N	
<i>Leersia oryzoides</i>	Rice Cutgrass	Léersie faux-riz		X	X	X		X							X	X		S5	4 secure	Y	
<i>Leersia virginica</i>	Whitegrass	Léersie de Virginie														X		S2	3 sensitive	Y	

Appendix A - Species List

Species / Family	English Common Name	French Common Name	Habitat											SRANK.nb	NBDNR General Status Rank	Collection (Y or N)	Notes										
			Lake	Pond	River	Quiet creek / channel	Low shrub meadow	High shrub meadow	Herbaceous meadow	Saint John River meadow	River and lake margin	Clay bank	Emergent marsh					Swamp	Roadside	Agricultural land	Silver Maple Floodplain	Elm Stand	Saint John R. Silver Maple Floodplain				
<i>Panicum acuminatum</i> var. <i>fasciculatum</i> (<i>Dichanthelium acuminatum</i> var. <i>fasciculatum</i>)	Tapered Panic Grass	Panic																					S5	4 secure	Y		
<i>Panicum boreale</i> (<i>Dicanthelium boreale</i>)	Northern Witchgrass	Panic boréale																						S5	4 secure	Y	
<i>Panicum capillare</i>	Old Witch Panic Grass	Mousseline																						S5	4 secure	Y	
<i>Panicum dichotomiflorum</i>	Spreading Panic Grass	Panic dichotmé											X											SE	7 exotic	Y	
<i>Phalaris arundinacea</i>	Reed Canary Grass	Phalaride vivace; Roseau					X	X	X	X					X	X								S5	4 secure	N	
<i>Phleum pratense</i>	Meadow Timothy	Mil; Phléole des prés												X	X		X	X						SE	7 exotic	N	
<i>Phragmites australis</i>	Common Reed	Roseau commun																						SE	(7 exotic)	Y	introduced race
<i>Poa annua</i>	Annual Bluegrass	Canche naine													X									SE	7 exotic	Y	
<i>Poa compressa</i>	Canada Bluegrass	Pâturin comprimé													X									SE	7 exotic	Y	
<i>Poa nemoralis</i>	Woods Bluegrass	Foin à vaches																						SE	7 exotic	Y	
<i>Poa palustris</i>	Fowl bluegrass	Paturin des marais															X	X						S5	4 secure	Y	
<i>Poa pratensis</i>	Kentucky Bluegrass	Foin à vaches														X								S5	4 secure	Y	
<i>Puccinellia distans</i>	Spreading Alkali-grass	Puccinelle a fleurs distantes													X									SE	7 exotic	Y	
<i>Spartina pectinata</i>	Fresh Water Cordgrass	Chaume					X	X	X									X						S5	4 secure	Y	
<i>Torreyochloa pallida</i>	Pale Manna Grass						X											X						S5	4 secure	Y	
<i>Zizania aquatica</i>	Eastern Wild Rice	Folle avoine; Riz sauvage	X	X	X					X	X													S2	5 undetermined	N	

Appendix A - Species List

Species / Family	English Common Name	French Common Name												SRANK.nb	NBDNR General Status Rank	Collection (Y or N)	Notes					
			Lake	Pond	River	Quiet creek / channel	Low shrub meadow	High shrub meadow	Herbaceous meadow	Saint John River	River and lake margin	Clay bank	Emergent marsh					Swamp	Roadside	Agricultural land	Silver Maple	Elm Stand
<i>Zizania palustris</i>	Purple Wild Rice	Folle avoine; Riz sauvage	X	X	X			X	X										S3	4 secure	Y	
Polygonaceae	Buckwheat Family																					
<i>Fallopia cilinodis</i> (<i>Polygonum cilinode</i>)	Fringed Black Bindweed	Renouée à noeuds ciliés											X						S5	4 secure	N	
<i>Fallopia convulvulus</i> (<i>Polygonum convolvulus</i>)	Black Bindweed	Renouée liseron ou chevrier						X					X	X	X				SE	7 exotic	N	
<i>Fallopia scandens</i> (<i>Polygonum scandens</i>)	Climbing False-Buckwheat	Renouée grimpante						X							X				S2S3	4 secure	N	
<i>Persicaria amphibia</i> (<i>Polygonum amphibium</i>)	Water Smartweed	Renouée amphibie	X		X	X	X		X	X	X								S5	4 secure	Y	
<i>Persicaria amphibia</i> var. <i>stipulacea</i> (<i>Polygonum amphibium</i> var. <i>stipulaceum</i>)	Water Smartweed	Renouée amphibie							X										S5	4 secure	Y	
<i>Persicaria hydropiper</i> (<i>Polygonum hydropiper</i>)	Marshpepper Smartweed	Curage						X											S5SE	4 secure	Y	
<i>Persicaria hydropiperoides</i> (<i>Polygonum hydropiperoides</i>)	Mild Water-Pepper	Renouée faux-poivre-d'eau	X																S2	3 sensitive	Y	
<i>Persicaria lapathifolia</i> (<i>Polygonum lapathifolium</i>)	Dock-Leaf Smartweed	Pesicaire pâle; Persicaire pâle						X					X						S5	4 secure	Y	

Appendix A - Species List

Species / Family	English Common Name	French Common Name												SRANK.nb	NBDNR General Status Rank	Collection (Y or N)	Notes					
			Lake	Pond	River	Quiet creek / channel	Low shrub meadow	High shrub meadow	Herbaceous meadow	Saint John River meadow	River and lake margin	Clay bank	Emergent marsh					Swamp	Roadside	Agricultural land	Silver Maple Floodplain	Elm Stand
<i>Persicaria pennsylvanica</i> (<i>Polygonum pennsylvanicum</i>)	Pennsylvania Smartweed	Persicaire glanduleuse					X	X							X			S4	4 secure	N		
<i>Persicaria punctata</i> (<i>Polygonum punctatum</i>)	Dotted Smartweed	Renouée ponctuée						X										S2	3 sensitive	Y		
<i>Persicaria sagittata</i> (<i>Polygonum sagittatum</i>)	Arrow-Leaved Tearthumb	Gratte-cul					X	X			X		X					S5	4 secure	N		
<i>Polygonum arenastrum</i>	Doorweed	Renouée des oiseaux									X							SE	7 exotic	N		
<i>Polygonum aviculare</i>	Prostrate knotweed	Renouée des oiseaux									X							SE	(7 exotic)	Y		
<i>Rumex acetosella</i>	Sheep Sorrel	Oseille ou surette									X							SE	7 exotic	N		
<i>Rumex crispus</i>	Curly Dock	Patience crépue; Reguette				X					X							SE	7 exotic	N		
<i>Rumex longifolius</i>	Door-Yard Dock	Rumex à longues feuilles								X	X							SE	7 exotic	Y		
<i>Rumex orbiculatus</i>	Water Dock	Rumex orbiculaire				X					X		X					S5	4 secure	Y		
<i>Rumex salicifolius</i>	Narrow-Leaved Dock	Rumes orbiculaire									X							S4S5	4 secure	N		
Pontederiaceae	Pickereelweed Family																					
<i>Heteranthera dubia</i>	Grassleaf Mud-plantain	Hétéranthere litigieuse	X															S1	2 may be at risk (priority)	Y		
<i>Pontederia cordata</i>	Pickereel Weed	Pontédérie cordée	X	X	X	X			X	X								S4S5	4 secure	N		
Portulacaceae	Purslane Family																					
<i>Portulaca oleracea</i>	Common Purslane	Pourpier potager									X							SE?	7 exotic	Y		
Potamogetonaceae	Pondweed Family																					
<i>Potamogeton alpinus</i>	Northern Pondweed	Potamot alpin	X															S5	4 secure	Y		

Appendix A - Species List

Species / Family	English Common Name	French Common Name												SRANK.nb	NBDNR General Status Rank	Collection (Y or N)	Notes						
			Lake	Pond	River	Quiet creek / channel	Low shrub meadow	High shrub meadow	Herbaceous meadow	Saint John River margin	River and lake margin	Clay bank	Emergent marsh					Swamp	Roadside	Agricultural land	Silver Maple Floodplain	Elm Stand	Saint John R. Silver Maple Floodplain
<i>Potamogeton amplifolius</i>	Large-Leaf Pondweed	Potamot à larges feuilles	X	X	X														S4	4 secure	Y		
<i>Potamogeton epihydrus</i>	Nuttall Pondweed	Potamot émergé	X	X	X														S5	4 secure	Y		
<i>Potamogeton foliosus</i>	Leafy Pondweed	Potamot feuille		X															S4	4 secure	N		
<i>Potamogeton natans</i>	Floating Pondweed	Potamot flottant	X	X	X														S5	4 secure	Y		
<i>Potamogeton perfoliatus</i>	Clasping-Leaf Pondweed	Potamot perfolie		X	X			X											S4S5	4 secure	Y		
<i>Potamogeton pusillus ssp. gemmiparus</i>	Budding pondweed	Potamot nain	X																S1*	2 may be at-risk*	Y		
<i>Potamogeton pusillus ssp. pusillus</i>	Small Pondweed	Potamot nain		X		X													S4	4 secure	Y		
<i>Potamogeton pusillus ssp. tenuissimus</i>	Slender pondweed	Potamot nain		X		X													S4	4 secure	Y		
<i>Potamogeton robbinsii</i>	Flatleaf pondweed	Potamot de Robbins		X	X														S4?	4 secure	Y		
<i>Potamogeton spirillus</i>	Spiral Pondweed	Potamot spirellé	X		X				X										S4S5	4 secure	Y		
<i>Potamogeton zosteriformis</i>	Flat-stemmed Pondweed	Potamot zostériforme		X	X														S4	4 secure	Y		
<i>Stuckenia pectinata</i>	Sago false pondweed	Pistamot pectiné		X				X											S2	3 sensitive	Y		
Primulaceae	Primrose Family																						
<i>Lysimachia ciliata</i>	Fringed Loosestrife	Lysimaque ciliée						X	X				X	X	X	X			S5	4 secure	N		
<i>Lysimachia nummularia</i>	Money-wort	Monnayère							X										SE	7 exotic	N		
<i>Lysimachia terrestris</i>	Swamp Loosestrife	Lysimaque terrestre				X	X	X	X	X	X	X		X		X			S5	4 secure	Y		
<i>Lysimachia thyrsiflora</i>	Water Loosestrife	Lysimaque thyrsiflore				X	X			X									S3S4	4 secure	Y		
Ranunculaceae	Buttercup Family																						
<i>Anemone canadensis</i>	Canada Anemone	Anémone du Canada						X					X	X	X				S5	4 secure	N		

Appendix A - Species List

Species / Family	English Common Name	French Common Name	Habitat											SRANK.nb	NBDNR General Status Rank	Collection (Y or N)	Notes				
			Lake	Pond	River	Quiet creek / channel	Low shrub meadow	High shrub meadow	Herbaceous meadow	Saint John River meadow	River and lake margin	Clay bank	Emergent marsh					Swamp	Roadside	Agricultural land	Silver Maple Floodplain
<i>Clematis virginiana</i>	Virginia Virgin-Bower	Herbe aux gueux						X							X	X		S5	4 secure	N	
<i>Ranunculus abortivus</i>	Kidney-Leaved Buttercup	Renoncule abortive						X							X			S5	4 secure	N	
<i>Ranunculus acris</i>	Tall Butter-Cup	Bouton d'or													X			SE	7 exotic	N	
<i>Ranunculus aquatilis</i> (<i>Ranunculus trichophyllus</i>)	White Water Crowfoot	Herbe aux ecrevisses	X	X			X											S4S5	(4 secure)	N	
<i>Ranunculus flabellaris</i>	Yellow Water-Crowfoot	Renoncule à éventails			X													S1	2 may be at-risk	Y	
<i>Ranunculus flammula</i> var. <i>ovalis</i> (var. <i>flammula</i>)	Lesser Spearwort	Renoncule rampante						X										S?	5 undetermined	Y	
<i>Ranunculus flammula</i> var. <i>reptans</i> (var. <i>filiformis</i>)	Lesser Spearwort	Renoncule rampante						X										S5	4 secure	N	
<i>Ranunculus gmelinii</i>	Small Yellow Water-Crowfoot	Renoncule de Gmelin						X	X									S2	4 secure	Y	
<i>Ranunculus hispidus</i>	Hispid Buttercup														X	X		S4S5		N	
<i>Ranunculus repens</i>	Creeping Butter-Cup	Bassinet						X	X		X				X	X		SE	7 exotic	Y	
<i>Thalictrum pubescens</i>	Tall Meadow-Rue	Grand pigamon				X	X	X	X	X		X			X	X		S5	4 secure	N	
Rhamnaceae	Buckthorn Family																				
<i>Frangula alnus</i>	Glossy Buckthorn	Nerprun bourdaine						X							X	X		SE	7 exotic	Y	
<i>Rhamnus alnifolia</i>	Alderleaf Buckthorn	Nerprun à feuilles d'aulne			X	X												S4S5	4 secure	N	
Rosaceae	Rose Family																				
<i>Agrimonia striata</i>	Roadside Agrimony	Aigremoine striée						X										S5	4 secure	Y	
<i>Amelanchier</i> spp.	Serviceberry	Amélanchier						X												Y	
<i>Argentina anserina</i>	Silverweed	Argentine							X									S5	4 secure	N	

Appendix A - Species List

Species / Family	English Common Name	French Common Name	Habitat													SRANK.nb	NBDNR General Status Rank	Collection (Y or N)	Notes			
			Lake	Pond	River	Quiet creek / channel	Low shrub meadow	High shrub meadow	Herbaceous meadow	Saint John River	River and lake margin	Clay bank	Emergent marsh	Swamp	Roadside					Agricultural land	Silver Maple Floodplain	Elm Stand
<i>Comarum palustre</i>	Marsh Cinquefoil	Comaret; Argentine rouge				X	X	X	X	X	X				X				S5	4 secure	N	
<i>Crataegus flabellata</i>	Variable Hawthorn	Aubepine flabelliforme													X				S4S5	4 secure	Y	
<i>Fragaria vesca</i>	Woodland Strawberry	Frasier à vaches					X												S4	2 may be at-risk	N	
<i>Fragaria virginiana</i>	Virginia Strawberry	Fraisier des champs													X				S5	4 secure	N	
<i>Geum canadense</i>	White Avens	Benoîte du Canada							X							X	X		S5	4 secure	N	
<i>Geum laciniatum</i>	Rough Avens													X					S5		Y	
<i>Photinia floribunda</i>	Purple Chokeberry				X														HYB	4 secure	N	
<i>Potentilla argentea</i>	Silvery Cinquefoil	Potentille argentee						X											SE	7 exotic	N	
<i>Potentilla norvegica</i>	Norwegian Cinquefoil	Potentille de Montpellier												X	X	X			S5	4 secure	N	
<i>Potentilla simplex</i>	Old-Field Cinquefoil	Potentille simple				X		X				X	X						S5	4 secure	N	
<i>Prunus pensylvanica</i>	Pin Cherry, Fire Cherry	Cerises d'été												X					S5	4 secure	N	
<i>Prunus pumila</i>	Sand or Ground Cherry	Cersier de sable						X											S4	4 secure	N	
<i>Prunus virginiana</i>	Choke Cherry	Cersier à grappes							X				X						S5	4 secure	Y	
<i>Rosa blanda</i>	Smooth Rose	Rosier agréable; Rosier sauvage		X		X	X	X					X						S5	4 secure	Y	
<i>Rosa nitida</i>	Shining Rose	Rosier aciculaire		X															S5	4 secure	Y	
<i>Rosa palustris</i>	Swamp rose	Rosier palustre		X	X							X							S2	2 may be at-risk	Y	
<i>Rosa virginiana</i>	Virginia Rose	Rosier de virginie		X	X	X													S5	4 secure	Y	
<i>Rubus allegheniensis</i>	Allegheny Blackberry	Mûrier													X				S5	4 secure	N	
<i>Rubus hispidus</i>	Bristly Dewberry	Ronce hispide							X										S5	4 secure	Y	
<i>Rubus idaeus ssp. strigosus</i>	American Red Raspberry	Framboisier							X	X			X	X					S5	4 secure	N	
<i>Rubus pubescens</i>	Dwarf Red Raspberry	Ronce pubescente		X	X	X									X	X			S5	4 secure	Y	
<i>Rubus vermontanus</i>	Green Mountain Blackberry					X									X	X			S4S5	4 secure	Y	

Appendix A - Species List

Species / Family	English Common Name	French Common Name												SRANK.nb	NBDNR General Status Rank	Collection (Y or N)	Notes				
			Lake	Pond	River	Quiet creek / channel	Low shrub meadow	High shrub meadow	Herbaceous meadow	Saint John River meadow	River and lake margin	Clay bank	Emergent marsh					Swamp	Roadside	Agricultural land	Silver Maple Floodplain
<i>Spiraea alba</i> var. <i>latifolia</i>	Northern Meadow-Sweet	Thé du Canada; Spirée				X	X	X	X		X				X	X	X	S5	4 secure	N	
<i>Spiraea tomentosa</i>	Hardhack Spiraea	Reine des prés; Thé du Canada				X		X										S5	4 secure	Y	
Rubiaceae	Madder Family																				
<i>Cephalanthus occidentalis</i>	Buttonbush	Bois noir				X	X				X							S1S2	3 sensitive	N	
<i>Galium aparine</i>	Cleavers	Herbe collante					X		X				X		X	X	X	SE?	7 exotic	N	
<i>Galium asprellum</i>	Rough Bedstraw	Gaillet piquant													X		X	S5	4 secure	N	
<i>Galium mollugo</i>	White Bedstraw	Caillelait													X			SE	7 exotic	N	
<i>Galium obtusum</i>	Blunt-Leaved Bedstraw	Gaillet obtus													X			S2?	3 sensitive	Y	
<i>Galium palustre</i>	Marsh Bedstraw	Gaillet palustre						X							X			S5	4 secure	Y	
<i>Galium tinctorium</i>	Clayton's Bedstraw	Gaillet des tienturiers					X	X			X							S5	4 secure	Y	
<i>Galium trifidum</i> ssp. <i>trifidum</i>	Small Bedstraw	Gaillet trifide				X	X		X	X	X				X	X		S5	4 secure	Y	
<i>Galium triflorum</i>	Sweet-Scented Bedstraw	Gaillet à trois fleurs								X								S5	4 secure	N	
Salicaceae	Willow Family																				
<i>Populus balsamifera</i>	Balsam Poplar	Liard											X					S5	4 secure	N	
<i>Populus tremuloides</i>	Quaking Aspen	Tremble						X	X	X			X		X			S5	4 secure	N	
<i>Salix bebbiana</i>	Bebb's Willow	Chaton ou petit minou				X		X										S5	4 secure	N	
<i>Salix discolor</i>	Pussy Willow	Petit minou ou chaton				X		X					X					S5	4 secure	Y	
<i>Salix eriocephala</i>	Heart-Leaved Willow	Saule à tête laineuse				X	X	X	X						X			S5	4 secure	Y	
<i>Salix exigua</i> (<i>Salix interior</i>)	Sandbar Willow								X	X								S4?	4 secure	N	
<i>Salix lucida</i>	Shining Willow	Saule brillant				X		X							X			S5	4 secure	N	
<i>Salix nigra</i>	Black Willow	Saule noir						X					X			X		S2	3 sensitive	Y	
<i>Salix pedicellaris</i>	Bog Willow	Saule pédicellé				X	X	X		X								S3	4 secure	Y	
<i>Salix pellita</i>	Satiny Willow	Saule satiné				X												S4S5	4 secure	Y	

Appendix A - Species List

Species / Family	English Common Name	French Common Name	Habitat											SRANK.nb	NBDNR General Status Rank	Collection (Y or N)	Notes					
			Lake	Pond	River	Quiet creek / channel	Low shrub meadow	High shrub meadow	Herbaceous meadow	Saint John River meadow	River and lake margin	Clay bank	Emergent marsh					Swamp	Roadside	Agricultural land	Silver Maple Floodplain	Elm Stand
<i>Salix petiolaris</i>	Meadow Willow	Saule pétiolé				X	X					X							S5	4 secure	Y	
<i>Salix pyrifolia</i>	Balsam Willow	Saule a feuilles de poirier				X	X	X											S5	4 secure	Y	
<i>Salix sericea</i>	Silky Willow	Nespihqamq							X	X									S5	4 secure	Y	
<i>Salix x rubens</i>	A hybrid willow					X		X											SE	7 exotic	Y	
<i>Salix x sericans</i>	A hybrid willow														X				SE	7 exotic	Y	
Sarraceniaceae	Pitcher Plant Family																					
<i>Sarracenia purpurea</i>	Northern Pitcher Plant	Petits cochons				X													S5	4 secure	N	
Saxifragaceae	Saxifrage Family																					
<i>Penthorum sedoides</i>	Ditch-Stonecrop	Penthorum faux-orphin							X										S2	3 sensitive	Y	
Scrophulariaceae	Snapdragon Family																					
<i>Chaenorhinum minus</i>	Dwarf Snapdragon	Chenorhinum mineur										X							SE	7 exotic	N	
<i>Chelone glabra</i>	White Turtlehead	Tête de tortue; Galane glabre							X			X	X						S5	4 secure	Y	
<i>Linaria vulgaris</i>	Butter-And-Eggs	Gueule de lion							X	X		X	X						SE	7 exotic	N	
<i>Lindernia dubia</i>	Yellow-Seed False-Pimpernel	Lindernie douteuse				X	X									X			S4	4 secure	Y	
<i>Mimulus moschatus</i>	Muskflower	Mimule musqué							X										SE	7 exotic	N	
<i>Mimulus ringens</i>	Square-Stem Monkeyflower	Mimule à fleurs entrouvertes							X										S4S5	4 secure	N	
<i>Nuttallanthus canadensis</i>	Old-field Toadflax	Linaire de Canada											X						SE?		Y	
<i>Verbascum thapsus</i>	Great Mullein	Tabac du diable										X							SE	7 exotic	N	
<i>Veronica peregrina ssp. xalapensis</i>	Neckweed	Véronique voyageuse							X			X							S2?	4 secure	Y	
<i>Veronica scutellata</i>	Marsh-Speedwell	Véronique en écusson				X	X									X			S5	4 secure	N	

Appendix A - Species List

Species / Family	English Common Name	French Common Name	Lake	Pond	River	Quiet creek / channel	Low shrub meadow	High shrub meadow	Herbaceous meadow	Saint John River	River and lake margin	Clay bank	Emergent marsh	Swamp	Roadside	Agricultural land	Silver Maple	Elm Stand	Saint John R. Silver Maple Floodplain	SRANK.nb	NBDNR General Status Rank	Collection (Y or N)	Notes
Smilacaceae	Greenbriar Family																						
<i>Smilax herbacea</i>	Smooth Herbaceous Greenbrier	Raisin de couleuvre					X	X								X	X			S4	4 secure	N	
Solanaceae	Nightshade Family																						
<i>Solanum dulcamara</i>	Climbing Nightshade	Morelle douce-amère					X	X								X	X			SE	7 exotic	N	
Sparganiaceae	Bur-reed Family																						
<i>Sparganium americanum</i>	American Bur-reed	Rubanier d'amérique	X	X							X									S5	4 secure	Y	
<i>Sparganium emersum</i>	Green-fruited Bur-reed	Rubanier à fruits verts	X	X	X															S5	4 secure	Y	
<i>Sparganium eurycarpum</i>	Large Bur-reed	Rubanier à gros fruits				X	X	X	X	X					X					S4S5	4 secure	N	
<i>Sparganium fluctuans</i>	Floating Bur-reed	Rubanier flottant		X																S4	4 secure	Y	
Thelypteridaceae	Marsh Fern Family																						
<i>Thelypteris palustris</i> var. <i>pubescens</i>	Marsh Fern	Dryoptéride thélyptéride				X	X	X	X	X	X				X					S5	4 secure	Y	
Tiliaceae	Linden Family																						
<i>Tilia americana</i>	Basswood	Tilia d'amérique							X					X						S3S4	4 secure	N	
Typhaceae	Cattail Family																						
<i>Typha angustifolia</i>	Narrow-leaved Cattail	Typha à feuilles étroites								X										S5	4 secure	Y	
<i>Typha latifolia</i>	Common Cattail	Grande massette				X	X	X												S5	4 secure	N	
Ulmaceae	Elm Family																						
<i>Ulmus americana</i>	American Elm	Orme blanc							X				X	X	X	X				S4S5	4 secure	N	
Urticaceae	Nettle Family																						
<i>Laportea canadensis</i>	Wood Nettle	Ortie du Canada; Grande ortie						X							X	X				S5	4 secure	N	
<i>Urtica dioica</i> ssp. <i>gracilis</i>	Stinging Nettle	Ortie dioïque d'Amérique											X		X	X				S4	4 secure	N	
<i>Pilea pumila</i>	Clearweed	Petite ortie						X				X			X					S2	3 sensitive	Y	

Appendix A - Species List

Species / Family	English Common Name	French Common Name											SRANK.nb	NBDNR General Status Rank	Collection (Y or N)	Notes					
			Lake	Pond	River	Quiet creek / channel	Low shrub meadow	High shrub meadow	Herbaceous meadow	Saint John River margin	River and lake margin	Clay bank					Emergent marsh	Swamp	Roadside	Agricultural land	Silver Maple Floodplain
Verbenaceae	Vervain Family																				
<i>Verbena hastata</i>	Blue Vervain	Vervaine bleue										X						S4	4 secure	N	
Violaceae	Violet Family																				
<i>Viola lanceolata</i>	Lance-leaf Violet	Violette lancéolée									X							S5	4 secure	Y	
<i>Viola macloskeyi</i>	Smooth White Violet	Violette de Macloskey									X							S5	4 secure	Y	
<i>Viola selkirkii</i>	Great Spurred Violet	Violette de Selkirk									X							S3	4 secure	N	
<i>Viola sororia (Viola cucullata)</i>	Marsh Blue Violet	Violette cucullée												X				S5	4 secure	N	
Vitaceae	Grape Family																				
<i>Parthenocissus quinquefolia</i>	Virginia Creeper	Vinge vierge; Parthénocisse à cinq folioles										X						SE?	4 secure	Y	
<i>Parthenocissus vitacea</i>	Woodbine	Parthénocisse vitacée; Vinge vierge										X						SE?	4 secure	N	
<i>Vitis riparia</i>	Riverbank Grape	Vigne ou raisin sauvage									X			X				S4	4 secure	N	

APPENDIX B

Vascular plant collections

Appendix B - Vascular plant collections

Coll #	Date	Species	Family	Latitude (N)	Longitude (W)	Location	County, Province	Habitat	Abundance	SRANK.nb	Collector	Determined by	Notes
6	15-Jul-04	<i>Carex pallescens</i> L.	Cyperaceae	45°53'39.2"	66°16'22.9"	East of Loder's Creek	Sunbury, NB	In fallow field	Uncommon	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
12	19-Jul-04	<i>Impatiens capensis</i> (Meerb.)	Balsaminaceae	45°53'39.2"	66°16'22.9"	Shore of Loder's Creek	Sunbury, NB	On creek shore	Uncommon	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
13	19-Jul-04	<i>Poa annua</i> L.	Poaceae	45°53'39.2"	66°16'22.9"	Shore of Loder's Creek	Sunbury, NB	On creek shore	Common	SE	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
14	19-Jul-04	<i>Carex gracillima</i> (Schw.)	Cyperaceae	45°53'39.2"	66°16'22.9"	Shore of Loder's Creek	Sunbury, NB	On creek shore	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
15	19-Jul-04	<i>Persicaria hydropiper</i> (L.) <i>P.M. Opiz</i> (<i>Polygonum hydropiper</i>)	Polygonaceae	45°53'39.2"	66°16'22.9"	Shore of Loder's Creek	Sunbury, NB	On creek shore	Uncommon	S5SE	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
16	19-Jul-04	<i>Carex arcta</i> Boott	Cyperaceae	45°53'39.2"	66°16'22.9"	Shore of Loder's Creek	Sunbury, NB	On creek shore	Locally common	S3	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
17	19-Jul-04	<i>Poa nemoralis</i> L.	Poaceae	45°53'39.2"	66°16'22.9"	Shore of Loder's Creek	Sunbury, NB	On creek shore	Uncommon	SE	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
18	19-Jul-04	<i>Carex tuckermanii</i> Dewey	Cyperaceae	45°53'40.8"	66°16'24.3"	Loder's Creek	Sunbury, NB	Clusters in littoral zone, on <i>Onoclea sensibilis</i> floodplain	Locally common	S3	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop, M. Papoulias	
19	19-Jul-04	<i>Carex</i> sp.	Cyperaceae	45°53'40.8"	66°16'24.3"	Loder's Creek	Sunbury, NB	In water	Rare		G. Bishop, S. Dietz, M. Papoulias, M. Arnold		lost?
20	19-Jul-04	<i>Ceratophyllum demersum</i> (L.)	Ceratophyllaceae	45°53'40.8"	66°16'24.3"	Loder's Creek	Sunbury, NB	In water	Common	S4	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
21	19-Jul-04	<i>Utricularia geminiscapa</i> Benj.	Lentibulariaceae	45°53'40.8"	66°16'24.3"	Loder's Creek	Sunbury, NB	In water	Uncommon	S2	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop, M. Papoulias	
22	19-Jul-04	<i>Utricularia macrorhiza</i> Le Conte	Lentibulariaceae	45°53'40.8"	66°16'24.3"	Loder's Creek	Sunbury, NB	In water	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
23	19-Jul-04	<i>Spirodela polyrrhiza</i> (L.) Schleid.	Lemnaceae	45°53'40.8"	66°16'24.3"	Loder's Creek	Sunbury, NB	In water	Locally common	S2	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	

Appendix B - Vascular plant collections

Coll #	Date	Species	Family	Latitude (N)	Longitude (W)	Location	County, Province	Habitat	Abundance	SRANK.nb	Collector	Determined by	Notes
24	19-Jul-04	<i>Potamogeton pusillus</i> L. ssp. <i>tenuissimus</i> (Mert. & Koch) Haynes & Hellquist	Potamogetonaceae	45°53'40.8"	66°16'24.3"	Loder's Creek	Sunbury, NB	In water	Uncommon	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
25	19-Jul-04	?		45°53'40.8"	66°16'24.3"	Loder's Creek	Sunbury, NB	Loosely rooted on bottom			G. Bishop, S. Dietz, M. Papoulias, M. Arnold		
26	19-Jul-04	<i>Potamogeton zosteriformis</i> Fern.	Potamogetonaceae	45°53'40.8"	66°16'24.3"	Loder's Creek	Sunbury, NB	In water	Uncommon	S4	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
27	19-Jul-04	<i>Leersia oryzoides</i> (L.) Sw.	Poaceae	45°53'40.8"	66°16'25.7"	Loder's Creek	Sunbury, NB	Riparian zone	Locally common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
28	19-Jul-04	<i>Polygonum aviculare</i> L.	Polygonaceae	45°53'40.8"	66°16'24.3"	Roadside by Loder's Creek	Sunbury, NB	On roadside	Common	SE	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
29	19-Jul-04	<i>Festuca pratensis</i> Hudson (<i>Lolium pratense</i>)	Poaceae	45°53'40.8"	66°16'25.7"	Roadside by Loder's Creek	Sunbury, NB	Beside field	Uncommon	SE	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
30	19-Jul-04	<i>Stachys palustris</i> L.	Lamiaceae	45°53'40.8"	66°16'24.3"	Roadside by Loder's Creek	Sunbury, NB	On roadside	Common	SE	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
31	19-Jul-04	<i>Rumex longifolius</i> DC.	Polygonaceae	45°53'40.8"	66°16'25.7"	Roadside by Loder's Creek	Sunbury, NB	On roadside	Uncommon	SE	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
32	19-Jul-04	<i>Puccinellia distans</i> (Jacq.) Parl	Poaceae	45°53'40.8"	66°16'24.3"	Roadside by Loder's Creek	Sunbury, NB	On roadside	Common	SE	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
33	19-Jul-04	<i>Moehringia lateriflora</i> (L.) Fenzl	Caryophyllaceae	45°53'39.2"	66°16'22.9"	Fallow field by Loder's Creek	Sunbury, NB	Old field	Uncommon	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
34	19-Jul-04	<i>Anthoxanthum odoratum</i> L.	Poaceae	45°53'39.2"	66°16'22.9"	Fallow field by Loder's Creek	Sunbury, NB	Old field	Common	SE	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
35	19-Jul-04	<i>Nuttallanthus canadensis</i> (L.) D.A. Sutton	Scrophulariaceae	45°53'39.2"	66°16'22.9"	Fallow field by Loder's Creek	Sunbury, NB	Old field	Common	SE?	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
36	19-Jul-04	<i>Toxicodendron rydbergii</i> (Small) Greene	Anacardiaceae	45°53'39.2"	66°16'22.9"	Side of agricultural field	Sunbury, NB	In wooded area beside field	Rare	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	1 1/2 m high.

Appendix B - Vascular plant collections

Coll #	Date	Species	Family	Latitude (N)	Longitude (W)	Location	County, Province	Habitat	Abundance	SRANK.nb	Collector	Determined by	Notes
37	19-Jul-04	<i>Carex arcta</i> Boott	Cyperaceae	45°53'35.3"	66°16'18.3"	Side of agricultural field	Sunbury, NB	Field margin	Uncommon	S3	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
38	19-Jul-04	<i>Carex scoparia</i> Schkuhr ex Willd.	Cyperaceae	45°53'35.3"	66°16'18.3"	Side of agricultural field	Sunbury, NB	Field margin	Uncommon	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
39	19-Jul-04	<i>Agrostis gigantea</i> Roth.	Poaceae	45°53'31.2"	66°16'20.6"	Side of agricultural field	Sunbury, NB	Field margin	Uncommon	SE	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
40	19-Jul-04	<i>Carex lupulina</i> Muhl. ex Willd.	Cyperaceae	45°53'31.2"	66°16'20.6"	Side of agricultural field	Sunbury, NB	Side of field, shaded areas	Rare	S2	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
41	19-Jul-04	<i>Carex tincta</i> (Fern.) Fern	Cyperaceae	45°53'31.2"	66°16'20.6"	Side of agricultural field	Sunbury, NB	Shores of wet bank		S4?	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
42	19-Jul-04	<i>Fraxinus pennsylvanica</i> Marsh.	Oleaceae	45°53'31.2"	66°16'20.6"	Side of agricultural field	Sunbury, NB	Near riverbank at side of field	Rare	S4	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
43	19-Jul-04	<i>Carex lacustris</i> Willd.	Cyperaceae	45°53'31.2"	66°16'20.6"	Side of agricultural field	Sunbury, NB	Field margin	Rare	S4S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
44	19-Jul-04	<i>Carex aquatilis</i> Wahlenb.	Cyperaceae	45°53'31.2"	66°16'20.6"	Side of agricultural field	Sunbury, NB	Wet woods near agricultural field	Uncommon	S4S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
45	19-Jul-04	<i>Galium obtusum</i> Bigel.	Rubiaceae	45°53'21.1"	66°16'29.5"	Side of agricultural field	Sunbury, NB	Wet woods near agricultural field	Rare	S2?	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
46	19-Jul-04	<i>Fraxinus pennsylvanica</i> Marsh.	Oleaceae	45°53'31.2"	66°16'20.6"	Side of agricultural field	Sunbury, NB	Wet woods near agricultural field	Rare	S4	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
47	19-Jul-04	<i>Rubus pubescens</i> Raf.	Rosaceae	45°53'31.2"	66°16'20.6"	Side of agricultural field	Sunbury, NB	Riverbank	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
48	20-Jul-04	<i>Onoclea sensibilis</i> L.	Dryopteridaceae	45°54'02.5"	66°15'18.0"	The Thoroughfare' b/w Maquapit and French Lake, near bridge	Sunbury, NB	Riverbank	Rare	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
49	20-Jul-04	<i>Ranunculus flammula</i> L. var. <i>ovalis</i> (Bigelow) L.D. Benson	Ranunculaceae	45°54'02.5"	66°15'18.0"	The Thoroughfare' b/w Maquapit and French Lake, near bridge	Sunbury, NB	Riverbank	Uncommon	S?	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	

Appendix B - Vascular plant collections

Coll #	Date	Species	Family	Latitude (N)	Longitude (W)	Location	County, Province	Habitat	Abundance	SRANK.nb	Collector	Determined by	Notes
50	20-Jul-04	<i>Glyceria borealis</i> (Nash) Batch.	Poaceae	45°54'02.5"	66°15'18.0"	The Thoroughfare' b/w Maquapit and French Lake, near bridge	Sunbury, NB	In river	Uncommon	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
51	20-Jul-04	<i>Potamogeton epiphydrus</i> Raf.	Potamogetonaceae	45°54'02.5"	66°15'18.0"	The Thoroughfare' b/w Maquapit and French Lake, near bridge	Sunbury, NB	In river	Uncommon	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
52	20-Jul-04	<i>Eleocharis parvula</i> (R. & S.) Link	Cyperaceae	45°54'02.5"	66°15'18.0"	The Thoroughfare' b/w Maquapit and French Lake, near bridge	Sunbury, NB	Shallow bottom of river	Locally common	S2	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	Note the tubers
53	20-Jul-04	<i>Nuphar rubrodisca</i> Morong (<i>Nuphar lutea</i> ssp. <i>rubrodisca</i>)	Nymphaeaceae	45°54'02.5"	66°15'18.0"	The Thoroughfare' b/w Maquapit and French Lake, near bridge	Sunbury, NB	In river	Rare	S1	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
54	20-Jul-04	<i>Nuphar microphylla</i> (Pers.) Fern. (<i>Nuphar lutea</i> ssp. <i>pumila</i>)	Nymphaeaceae	45°54'05.6"	66°15'17.9"	The Thoroughfare' b/w Maquapit and French Lake, near bridge	Sunbury, NB	In river	Uncommon	S2	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
55	20-Jul-04	<i>Carex lacustris</i> Willd.	Cyperaceae	45°53'58.5"	66°13'35.7"	The Thoroughfare' b/w Maquapit and French Lake, near bridge	Sunbury, NB	In river	Uncommon	S4S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop, M. Papoulias	
56	20-Jul-04	<i>Carex arcta</i> Boott	Cyperaceae	45°53'58.5"	66°13'35.7"	The Thoroughfare' b/w Maquapit and French Lake, near bridge	Sunbury, NB	In river	Uncommon	S3	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
57	20-Jul-04	<i>Carex lasiocapa</i> (Ehrh.)	Cyperaceae	45°53'58.5"	66°13'35.7"	The Thoroughfare' b/w Maquapit and French Lake, near bridge	Sunbury, NB	In river	Uncommon	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
58	20-Jul-04	?		45°53'58.5"	66°13'35.7"	Forest near Lower Timber Lake	Queens, NB	Wet silver maple floodplain	Common		G. Bishop, S. Dietz, M. Papoulias, M. Arnold		sent for identification
59	20-Jul-04	<i>Rosa palustris</i> Marsh.	Rosaceae	45°53'43.2"	66°13'16.8"	Lower Timber Lake	Queens, NB	On shores of lake	Uncommon	S2	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
60	20-Jul-04	<i>Pogonia ophioglossoides</i> (L.) Ker-Gawl.	Orchidaceae	45°53'43.2"	66°13'16.8"	Lower Timber Lake	Queens, NB	On shores of lake	Uncommon	S4	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
61	20-Jul-04	<i>Myriophyllum heterophyllum</i> Michx.	Haloragaceae	45°53'43.2"	66°13'16.8"	Lower Timber Lake	Queens, NB	Dominant in lake	Dominant	S1	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
62	20-Jul-04	<i>Megalodonta beckii</i> (Torr. ex Spreng) Greene	Ceratophyllaceae	45°53'43.2"	66°13'16.8"	Lower Timber Lake	Queens, NB	In lake	Uncommon	S3	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop, J. Goltz	

Appendix B - Vascular plant collections

Coll #	Date	Species	Family	Latitude (N)	Longitude (W)	Location	County, Province	Habitat	Abundance	SRANK.nb	Collector	Determined by	Notes
63	20-Jul-04	<i>Myriophyllum</i> spp.	Haloragaceae	45°53'43.2"	66°13'16.8"	Lower Timber Lake	Queens, NB	In lake	Rare		G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	sent for identification
64	20-Jul-04	<i>Myriophyllum heterophyllum</i> Michx.	Haloragaceae	45°53'34.0"	66°13'21.5"	Lower Timber Lake	Queens, NB	In lake	Common	S1	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
65	20-Jul-04	<i>Myriophyllum verticillatum</i> L.	Haloragaceae	45°53'34.0"	66°13'21.5"	Lower Timber Lake	Queens, NB	In lake	Common	S2	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
66	20-Jul-04	<i>Potamogeton amplifolius</i> Tuckerm.	Potamogetonaceae	45°53'34.0"	66°13'21.5"	Lower Timber Lake	Queens, NB	In lake	Common	S4	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop, M. Papoulias	
67	20-Jul-04	<i>Galium tinctorium</i> (L.) Scop	Rubiaceae	45°53'34.0"	66°13'21.5"	Lower Timber Lake	Queens, NB	On shores of lake	Uncommon	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	sent for verification
68	20-Jul-04	<i>Carex lasiocapa</i> (Ehrh.)	Cyperaceae	45°53'34.0"	66°13'21.5"	Lower Timber Lake	Queens, NB	On shores of lake	Uncommon	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
69	20-Jul-04	<i>Carex echinata</i> Murray	Cyperaceae	45°53'34.0"	66°13'21.5"	Lower Timber Lake	Queens, NB	On shores of lake	Uncommon	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
70	20-Jul-04	<i>Rorippa palustris</i> (L.) Bess.	Brassicaceae	45°53'34.0"	66°13'21.5"	Lower Timber Lake	Queens, NB	On shore	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
71	20-Jul-04	<i>Carex stipata</i> Muhl.	Cyperaceae	45°53'34.0"	66°13'21.5"	Lower Timber Lake	Queens, NB	On shore	Rare	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
72	20-Jul-04	<i>Potamogeton epihydrus</i> Raf.	Potamogetonaceae	45°53'34.0"	66°12'37.3"	Lower Timber Lake	Queens, NB	In water	Rare	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
73	20-Jul-04	<i>Panicum boreale</i> Nash. (<i>Dicanthelium boreale</i>)	Poaceae	45°53'41.3"	66°12'23.4"	Maquapit Lake	Queens, NB	On shore	Rare	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
74	20-Jul-04	<i>Potamogeton spirillus</i> Tuckerm.	Potamogetonaceae	45°53'41.3"	66°12'23.4"	Maquapit Lake	Queens, NB	In water	Uncommon	S4S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
75	21-Jul-04	<i>Poa palustris</i> L.	Poaceae	45°53'36.9"	66°17'37.4"	Wet woods near McGowan's Corner	Sunbury, NB	Wet woods close to agricultural fields and highway		S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	

Appendix B - Vascular plant collections

Coll #	Date	Species	Family	Latitude (N)	Longitude (W)	Location	County, Province	Habitat	Abundance	SRANK.nb	Collector	Determined by	Notes
76	21-Jul-04	<i>Carex stricta</i> Lam.	Cyperaceae	45°53'36.9"	66°17'37.4"	Old field near McGowan's Corner	Sunbury, NB	Growing in tight clumps in old field close to agricultural fields and highway		S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop, M. Papoulias	
77	21-Jul-04	<i>Bidens frondosa</i> L.	Asteraceae	45°53'34.4"	66°17'30.0"	Old field near McGowan's Corner	Sunbury, NB	In field with Impatiens, Apios	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
78	21-Jul-04	<i>Carex lacustris</i> Willd.	Cyperaceae	45°53'34.4"	66°17'30.0"	Old field near McGowan's Corner	Sunbury, NB	In field with Impatiens, Apios, densely caespitose	Uncommon	S4S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
79	21-Jul-04	<i>Carex scoparia</i> Schkuhr ex Willd.	Cyperaceae	45°53'34.4"	66°17'30.0"	Old field near McGowan's Corner	Sunbury, NB	In field with Impatiens, Apios	Uncommon	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
80	21-Jul-04	<i>Carex brunnescens</i> (Pers.) Poir. ssp. <i>spaerostachya</i> (Tuck) Kalela	Cyperaceae	45°53'29.4"	66°17'20.6"	Swamp near McGowan's corner	Sunbury, NB	In swamp	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
81	21-Jul-04	<i>Glyceria striata</i> (Lam.) Hitchc. var. <i>stricta</i> (Scribn.) Fern	Poaceae	45°53'29.4"	66°17'20.6"	Swamp near McGowan's corner	Sunbury, NB	In swamp, with Spiraea and Sparganium	Uncommon	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
82	21-Jul-04	<i>Urtica chamaedryoides</i> Pursh	Urticaceae	45°53'29.4"	66°17'20.6"	Swamp near McGowan's corner	Sunbury, NB	Near shores of lake, annual, growing on old tree	Rare		G. Bishop, S. Dietz, M. Papoulias, M. Arnold		sent for verification
83	21-Jul-04	<i>Lobelia inflata</i> L.	Campanulaceae	45°53'29.4"	66°17'20.6"	Lakeshore near McGowan's corner	Sunbury, NB	In woods near lake	Rare	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
84	21-Jul-04	<i>Ranunculus gmelinii</i> DC.	Ranunculaceae	45°53'17.5"	66°17'11.5"	Lake near McGowan's corner	Sunbury, NB	In wet depression near lake	Uncommon	S2	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop, M. Papoulias	
85	21-Jul-04	<i>Sagittaria latifolia</i> Willd.	Alismataceae	45°53'10.7"	66°17'04.3"	Lake near McGowan's corner	Sunbury, NB	In marsh near lake, with Nuphar variegatum and Myriophyllum	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
86	22-Jul-04	<i>Leontodon autumnalis</i> L.	Asteraceae	45°52'23.6"	66°16'16.4"	Near Hwy 105	Sunbury, NB	On roadside, sandy soil	Common	SE	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
87	22-Jul-04	<i>Raphanus raphanistrum</i> L.	Brassicaceae	45°52'23.6"	66°16'16.4"	Near Hwy 105	Sunbury, NB	On roadside, sandy soil	Common	SE	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
88	22-Jul-04		Poaceae	45°52'25.2"	66°16'11.0"	Near Loder's Creek and Hwy 105	Sunbury, NB	On Onoclea sensibilis floodplain	Uncommon		G. Bishop, S. Dietz, M. Papoulias, M. Arnold		

Appendix B - Vascular plant collections

Coll #	Date	Species	Family	Latitude (N)	Longitude (W)	Location	County, Province	Habitat	Abundance	SRANK.nb	Collector	Determined by	Notes
89	22-Jul-04	<i>Oenothera parviflora L.</i>	Onagraceae	45°52'25.2"	66°16'11.0"	Near Loder's Creek and Hwy 105	Sunbury, NB	On <i>Onoclea sensibilis</i> floodplain	Rare	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
90	23-Jul-04	<i>Oenothera parviflora L.</i>	Onagraceae	45°53'19.0"	66°17'50.2"	Shore of St. John River	Sunbury, NB	Rocky artificial shore at highway margin	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop, M. Papoulias	
91	23-Jul-04	<i>Oxalis stricta L.</i>	Oxalidaceae	45°53'19.0"	66°17'50.2"	Shore of St. John River	Sunbury, NB	Rocky artificial shore at highway margin	Uncommon	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
92	23-Jul-04	<i>Oenothera parviflora L.</i>	Onagraceae	45°53'19.0"	66°17'50.2"	Shore of St. John River	Sunbury, NB	Rocky artificial shore at highway margin	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
93	23-Jul-04	<i>Persicaria sp.</i>	Polygonaceae	45°53'19.0"	66°17'50.2"	Shore of St. John River	Sunbury, NB	Rocky artificial shore at highway margin	Uncommon		G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop, M. Papoulias	
94	23-Jul-04	<i>Plantago maritima L.</i>	Plantaginaceae	45°53'19.0"	66°17'50.2"	Shore of St. John River	Sunbury, NB	Rocky artificial shore at highway margin	Uncommon	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
95	23-Jul-04	<i>Stellaria media (L.) Vill</i>	Caryophyllaceae	45°52'38.1"	66°16'56.6"	Shore of St. John River	Sunbury, NB	Wooded floodplain near Saint John River and agricultural fields		SE	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
96	23-Jul-04	<i>Salix nigra Marsh.</i>	Salicaceae	45°52'38.1"	66°16'56.6"	Shore of St. John River	Sunbury, NB	Wooded floodplain near Saint John River and agricultural fields		S2	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	Has seed-like galls, no glands on petiole.
97	23-Jul-04	<i>Agrostis gigantea Roth.</i>	Poaceae	45°52'38.1"	66°16'56.6"	Shore of St. John River	Sunbury, NB	Wet littoral zone with <i>Phalaris, O. sensibilis</i>	Common	SE	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
98	23-Jul-04	<i>Eleocharis palustris (L.) R. & S.</i>	Cyperaceae	45°52'38.1"	66°16'56.6"	St. John River	Sunbury, NB	Riparian zone near <i>Phalaris</i> meadows	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
99	23-Jul-04	<i>Lindernia dubia (L.) Pennell</i>	Scrophulariaceae	45°52'38.1"	66°16'56.6"	Shore of St. John River	Sunbury, NB	Wet littoral zone with <i>Phalaris, O. sensibilis</i>	Uncommon	S4	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
100a	23-Jul-04	<i>Potamogeton spirillus Tuckerm.</i>	Potamogetonaceae	45°52'38.1"	66°16'56.6"	Shore of St. John River	Sunbury, NB	Flotsam on river edge		S4S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
100b	23-Jul-04	<i>Elodea canadensis Michx.</i>	Hydrocharitaceae	45°52'38.1"	66°16'56.6"	Shore of St. John River	Sunbury, NB	Flotsam on river edge		S4S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	

Appendix B - Vascular plant collections

Coll #	Date	Species	Family	Latitude (N)	Longitude (W)	Location	County, Province	Habitat	Abundance	SRANK.nb	Collector	Determined by	Notes
100c	23-Jul-04	<i>Potamogeton vaseyi</i>	Potamogetonaceae	45°52'38.1"	66°16'56.6"	Shore of St. John River	Sunbury, NB	Flotsam on river edge		SH	G. Bishop, S. Dietz, M. Papoulias, M. Arnold		
100d	23-Jul-04	<i>Najas flexilis</i> (Willd.) Rostk. & Schmidt	Najadaceae	45°52'38.1"	66°16'56.6"	Shore of St. John River	Sunbury, NB	Flotsam on river edge		S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
101	23-Jul-04	<i>Stuckenia pectinata</i> (L.) Borner	Potamogetonaceae	45°52'38.1"	66°16'56.6"	Shore of St. John River	Sunbury, NB	Riverbank floodplain with <i>Spartina</i> sp.		S2	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
102	23-Jul-04	<i>Salix eriocephala</i> Michx.	Salicaceae	45°52'03.2"	66°15'24.7"	Shore of St. John River	Queens, NB	Riverbank near Phalaris meadows	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
103	23-Jul-04	<i>Potamogeton spirillus</i> Tuckerm.	Potamogetonaceae	45°51'42.3"	66°14'39.5"	Shore of St. John River	Queens, NB	Flotsam on river edge		S4S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
104	23-Jul-04	<i>Lepidium densiflorum</i> Schrad.	Brassicaceae	45°51'20.2"	66°14'18.1"	Shore of St. John River	Queens, NB	Calcareous rocky shore		SE	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
105	23-Jul-04	<i>Carex lanuginosa</i> Michx. (<i>Carex pellita</i>)	Cyperaceae	45°51'15.7"	66°13'57.1"	Shore of St. John River	Queens, NB	Calcareous rocky shore		S4	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
106	23-Jul-04	<i>Agrostis perennans</i> (Walt.) Tuckerm.	Poaceae	45°51'20.2"	66°14'18.1"	Shore of St. John River	Queens, NB	Calcareous rocky shore		S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
107	23-Jul-04	<i>Fraxinus pennsylvanica</i> Marsh.	Oleaceae	45°51'15.7"	66°13'57.1"	Shore of St. John River	Queens, NB	Calcareous rocky shore		S4	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
108	23-Jul-04	<i>Poa compressa</i> L.	Poaceae	45°51'20.2"	66°14'18.1"	Shore of St. John River	Queens, NB	Calcareous rocky shore		SE	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
109	23-Jul-04	<i>Rorippa sylvestris</i> (L.) Bess	Brassicaceae	45°51'15.7"	66°13'57.1"	Shore of St. John River	Queens, NB	Gravelly calcareous shore		SE	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
110	23-Jul-04			45°51'20.2"	66°14'18.1"	Shore of St. John River	Queens, NB	Calcareous rocky shore			G. Bishop, S. Dietz, M. Papoulias, M. Arnold		
111	23-Jul-04	<i>Agrostis scabra</i> Willd.	Poaceae	45°51'15.7"	66°13'57.1"	Shore of St. John River	Queens, NB	Gravelly calcareous shore		S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	

Appendix B - Vascular plant collections

Coll #	Date	Species	Family	Latitude (N)	Longitude (W)	Location	County, Province	Habitat	Abundance	SRANK.nb	Collector	Determined by	Notes
112	4-Aug-04	<i>Zizania palustris</i> L.	Poaceae	45°54'09.2"	66°15'13.3"	Channel to Upper Timber Lake	Sunbury, NB	Edge of channel	Common	S3	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop, M. Papoulias	
113	4-Aug-04	<i>Scirpus cyperinus</i> (L.) Kunth	Cyperaceae	45°54'09.2"	66°15'13.3"	Channel to Upper Timber Lake	Sunbury, NB	Margins of lake and channel, with <i>S. pectinata</i>	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
114	4-Aug-04	<i>Sparganium fluctuans</i> (Engelm. ex Morong) Robins	Sparganiaceae	45°54'09.2"	66°15'13.3"	Channel to Upper Timber Lake	Sunbury, NB	Margins of channel	Uncommon	S4	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
115	4-Aug-04	<i>Nuphar rubrodisca</i> Morong (<i>Nuphar lutea</i> ssp. <i>rubrodisca</i>)	Nymphaeaceae	45°54'09.2"	66°15'13.3"	Channel to Upper Timber Lake	Sunbury, NB	Edges of channel	Rare	S1	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
116	4-Aug-04	<i>Nuphar rubrodisca</i> Morong (<i>Nuphar lutea</i> ssp. <i>rubrodisca</i>)	Nymphaeaceae	45°54'09.2"	66°15'13.3"	Channel to Upper Timber Lake	Sunbury, NB	Edges of channel	Rare	S1	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
117	4-Aug-04	<i>Persicaria amphibia</i> (L.) S.F. Gray (<i>Polygonum amphibium</i>)	Polygonaceae	45°54'18.5"	66°14'04.1"	Upper Timber Lake	Sunbury, NB	Lake bottom	Uncommon	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
118	4-Aug-04	<i>Spartina pectinata</i> Link	Poaceae	45°54'18.5"	66°14'04.1"	Upper Timber Lake	Sunbury, NB	Dominant on banks, stoloniferous	Dominant	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
119	4-Aug-04	<i>Potamogeton epiphydrus</i> Raf.	Potamogetonaceae	45°54'18.5"	66°14'04.1"	Upper Timber Lake	Sunbury, NB	Submerged	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
121	4-Aug-04	<i>Potamogeton epiphydrus</i> Raf.	Potamogetonaceae	45°54'18.5"	66°14'04.1"	Upper Timber Lake	Sunbury, NB	Lake bottom	Locally common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
122	4-Aug-04	<i>Najas gracillima</i> (A. Braun ex Englm.) Magnus	Najadaceae	45°54'18.5"	66°14'04.1"	Upper Timber Lake	Sunbury, NB	Submerged	Rare	S1	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
123	4-Aug-04	<i>Najas gracillima</i> (A. Braun ex Englm.) Magnus	Najadaceae	45°54'18.5"	66°14'04.1"	Upper Timber Lake	Sunbury, NB	Lake bottom	Common	S1	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
125	4-Aug-04	<i>Lysimachia terrestris</i> (L.) BSP	Primulaceae	45°54'18.5"	66°14'04.1"	Upper Timber Lake	Sunbury, NB	Littoral zone	Uncommon	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
126	4-Aug-04	<i>Najas flexilis</i> (Willd.) Rostk. & Schmidt	Najadaceae	45°54'18.5"	66°14'04.1"	Upper Timber Lake	Sunbury, NB	In water	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	

Appendix B - Vascular plant collections

Coll #	Date	Species	Family	Latitude (N)	Longitude (W)	Location	County, Province	Habitat	Abundance	SRANK.nb	Collector	Determined by	Notes
127	4-Aug-04	<i>Potamogeton spirillus</i> Tuckerm.	Potamogetonaceae	45°54'18.5"	66°14'04.1"	Upper Timber Lake	Sunbury, NB	Lake margin	Rare	S4S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
128	4-Aug-04	<i>Potamogeton spirillus</i> Tuckerm.	Potamogetonaceae	45°54'18.5"	66°14'04.1"	Upper Timber Lake	Sunbury, NB	Submerged in lake	Uncommon	S4S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
129	4-Aug-04	<i>Carex vesicaria</i> L.	Cyperaceae	45°54'18.5"	66°14'04.1"	Channel to Upper Timber Lake	Sunbury, NB	Clumping along riverside	Uncommon	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
130	4-Aug-04	<i>Hypericum boreale</i> (Britt.) Bickn.	Clusiaceae	45°54'18.5"	66°14'04.1"	Channel to Upper Timber Lake	Sunbury, NB	On shores of lake, with <i>Carex</i> sp.	Rare	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
131	4-Aug-04	<i>Spiraea tomentosa</i> L.	Rosaceae	45°54'18.5"	66°14'04.1"	Channel to Upper Timber Lake	Sunbury, NB	On shores of lake, with <i>Carex</i> sp.	Uncommon	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
132	4-Aug-04	<i>Carex tribuloides</i> Wahl.	Cyperaceae	45°54'18.5"	66°14'04.1"	Channel to Upper Timber Lake	Sunbury, NB	On shores of lake near channel	Uncommon	S4S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
133	4-Aug-04	<i>Frangula alnus</i> Mill.	Rhamnaceae	45°54'18.5"	66°14'04.1"	Woods near the Thoroughfare	Sunbury, NB	In wooded floodplain	Uncommon	SE	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
134	4-Aug-04	<i>Aster tradescantii</i> L. (<i>Symphotrichum tradescantii</i>)	Asteraceae	45°54'18.5"	66°14'04.1"	Woods near the Thoroughfare	Sunbury, NB	On shore	Uncommon	S3?	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
135	5-Aug-04	<i>Persicaria amphibia</i> (L.) S.F. Gray var. <i>stipulacea</i> (Coleman) Hara (<i>Polygonum amphibium</i> var. <i>stipulaceum</i>)	Polygonaceae	45°52'19.6"	66°11'34.0"	Back Lake	Queens, NB	Near shore	Uncommon	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
136	5-Aug-04	<i>Lythrum salicaria</i> L.	Lythraceae	45°52'19.6"	66°11'34.0"	Back Lake	Queens, NB	On shore	Uncommon	SE	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
137	5-Aug-04	<i>Myriophyllum heterophyllum</i> Michx.	Haloragaceae	45°51'48.3"	66°11'52.0"	Back Lake	Queens, NB	Common in water with <i>Ceratophyllum</i> spp.	Locally common	S1	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
138	5-Aug-04	<i>Potamogeton perfoliatus</i> L.	Potamogetonaceae	45°51'48.3"	66°11'52.0"	Back Lake	Queens, NB	In deeper waters of lake	Locally common	S4S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
139	5-Aug-04	<i>Nymphaea odorata</i> Ait.	Nymphaeaceae	45°51'48.3"	66°11'52.0"	Back Lake	Queens, NB	Near lake shore	Rare	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	

Appendix B - Vascular plant collections

Coll #	Date	Species	Family	Latitude (N)	Longitude (W)	Location	County, Province	Habitat	Abundance	SRANK.nb	Collector	Determined by	Notes
140	5-Aug-04	<i>Mentha canadensis</i> L. (<i>Mentha arvensis</i>)	Lamiaceae	45°51'48.3"	66°11'52.0"	Back Lake	Queens, NB	On lake shore	Rare	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
141	5-Aug-04	<i>Schoenoplectus tabernaemontani</i> (Gmelin) Palla	Cyperaceae	45°51'48.3"	66°11'52.0"	Back Lake	Queens, NB	On lake margins	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
142	5-Aug-04	<i>Elodea nuttallii</i> (Planch.) Saint John	Hydrocharitaceae	45°51'09.6"	66°11'14.3"	Back Lake	Queens, NB	In water	Rare	S2	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
143	5-Aug-04	<i>Myriophyllum heterophyllum</i> Michx.	Haloragaceae	45°51'09.6"	66°11'14.3"	Back Lake	Queens, NB	In water	Uncommon	S1	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
144	5-Aug-04	<i>Bidens frondosa</i> L.	Asteraceae	45°52'03.1"	66°15'16.6"	Otter Creek	Queens, NB	On lake shore	Locally common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
145	5-Aug-04	<i>Bidens discoidea</i> (T. & G.) Britt.	Asteraceae	45°52'03.1"	66°15'16.6"	Otter Creek	Queens, NB	Near shore, on old tree stump	Uncommon	S1	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
146	5-Aug-04	<i>Myosotis laxa</i> Lehm.	Boraginaceae	45°52'03.1"	66°15'16.6"	Otter Creek	Queens, NB	On lake shore	Uncommon	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
147a	5-Aug-04	<i>Cinna arundinacea</i> L.	Poaceae	45°52'03.1"	66°15'16.6"	Otter Creek	Queens, NB	On dry riverbed	Locally common	S1	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
147b	5-Aug-04	<i>Epilobium ciliatum</i> Raf.	Onagraceae	45°52'03.1"	66°15'16.6"	Otter Creek	Queens, NB	Bottom of old oxbow	Rare	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
148	5-Aug-04	<i>Salix x sericans</i> Tausch ex A. Kerner	Salicaceae	45°52'03.1"	66°15'16.6"	Otter Creek	Queens, NB	On dry riverbed/floodplain of Otter Creek	Common	SE	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
149	5-Aug-04	<i>Rosa palustris</i> Marsh.	Rosaceae	45°52'03.1"	66°15'16.6"	Otter Creek	Queens, NB	Field near riverbank	Common	S2	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
150	5-Aug-04	<i>Carex pseudocyperus</i> L.	Cyperaceae	45°52'10.3"	66°14'53.6"	Otter Creek	Queens, NB	Edge of creek	Rare	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
151	5-Aug-04	<i>Cuscuta gronovii</i> Willd.	Cuscutaceae	45°52'10.3"	66°14'53.6"	Otter Creek	Queens, NB	Wet meadow with <i>Impatiens capensis</i>	Common	S4S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	

Appendix B - Vascular plant collections

Coll #	Date	Species	Family	Latitude (N)	Longitude (W)	Location	County, Province	Habitat	Abundance	SRANK.nb	Collector	Determined by	Notes
152	5-Aug-04	<i>Rumex longifolius</i> DC.	Polygonaceae	45°52'10.3"	66°14'53.6"	Meadow near Otter Creek	Queens, NB	Wet meadow	Common	SE	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
153	5-Aug-04	<i>Carex lacustris</i> Willd.	Cyperaceae	45°52'11.2"	66°14'34.3"	Meadow near Otter Creek	Queens, NB	Wet meadow	Common	S4S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
154	5-Aug-04	<i>Bolboschoenus fluviatilis</i> (Torrey) J. Sojak (Schoenoplectus fluviatilis)	Cyperaceae	45°52'11.2"	66°14'34.3"	Otter Creek	Queens, NB	Wet creek bed	Common	S2	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
155	5-Aug-04	<i>Calla palustris</i> L.	Araceae	45°52'11.2"	66°14'34.3"	Otter Creek	Queens, NB	Wet creek bed	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop, M. Papoulias	
156	11-Aug-04	<i>Salix eriocephala</i> Michx.	Salicaceae	45°52'02.9"	66°14'45.8"	Path near Otter Creek	Queens, NB	Edge of wet meadow	Rare	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
157	11-Aug-04	<i>Leersia oryzoides</i> (L.) Sw.	Poaceae	45°52'02.9"	66°14'45.8"	Path near Otter Creek	Queens, NB	Edge of wet meadow	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
158	11-Aug-04	<i>Thelypteris palustris</i> Schott	Thelypteridaceae	45°52'02.9"	66°14'45.8"	Wet meadow near otter creek	Queens, NB	Wet meadow	Rare	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
159	11-Aug-04	<i>Stellaria graminea</i> L.	Caryophyllaceae	45°52'05.5"	66°15'01.5"	Edge of cornfield	Queens, NB	Matting at margins of agricultural field	Locally common	SE	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
160	16-Aug-04	<i>Amelanchier</i> sp.	Rosaceae	45°49'22.9"	66°08'21.3"	St. John River edge, near Jemseg	Queens, NB	Silver maple floodplain	Uncommon		G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
161	16-Aug-04	<i>Agrostis scabra</i> Willd.	Poaceae	45°49'22.9"	66°08'21.3"	St. John River edge, near Jemseg	Queens, NB	Silver maple floodplain	Uncommon	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
162	16-Aug-04	<i>Agrostis scabra</i> Willd.	Poaceae	45°49'22.9"	66°08'21.3"	St. John River edge, near Jemseg	Queens, NB	Silver maple floodplain	Rare	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
163	16-Aug-04	<i>Myosotis scorpioides</i> L.	Boraginaceae	45°49'22.9"	66°08'21.3"	St. John River edge, near Jemseg	Queens, NB	Silver maple floodplain	Uncommon	SE	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
164	16-Aug-04	<i>Polygonum aviculare</i> L.	Polygonaceae	45°49'17.3"	66°08'11.8"	St. John River edge, near Jemseg	Queens, NB	Roadside	Uncommon	S4	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop, M. Papoulias	

Appendix B - Vascular plant collections

Coll #	Date	Species	Family	Latitude (N)	Longitude (W)	Location	County, Province	Habitat	Abundance	SRANK.nb	Collector	Determined by	Notes
165	16-Aug-04	<i>Leontodon autumnalis</i> L.	Asteraceae	45°49'17.3"	66°08'11.8"	St. John River edge, near Jemseg	Queens, NB	Roadside	Rare	SE	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
166	16-Aug-04	<i>Carex tribuloides</i> Wahl.	Cyperaceae	45°49'11.1"	66°08'04.2"	St. John River edge, near Jemseg	Queens, NB	Silver maple floodplain	Uncommon	S4S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
167	16-Aug-04	<i>Poa pratensis</i> L.	Poaceae	45°49'11.1"	66°08'04.2"	St. John River edge, near Jemseg	Queens, NB	Roadside	Uncommon	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
168	16-Aug-04	<i>Leersia virginica</i> Willd.	Poaceae	45°49'44.6"	66°08'03.2"	St. John River edge, near Jemseg	Queens, NB	Sandy floodplain	Locally common	S2	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
169	16-Aug-04	<i>Galium tinctorium</i> (L.) Scop	Rubiaceae	45°49'44.6"	66°08'03.2"	St. John River edge, near Jemseg	Queens, NB	Sandy floodplain	Rare	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
170	16-Aug-04	<i>Pilea pumila</i> (L.) Gray	Urticaceae	45°49'44.6"	66°08'03.2"	St. John River edge, near Jemseg	Queens, NB	Sandy floodplain	Uncommon	S2	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
171	16-Aug-04	<i>Salix nigra</i> Marsh.	Salicaceae	45°49'44.6"	66°08'03.2"	St. John River edge, near Jemseg	Queens, NB	Sandy floodplain	Common	S2	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
172	16-Aug-04	<i>Aster lanceolatus</i> Willd. (<i>Symphotrichum lanceolatum</i>)	Asteraceae	45°48'48.4"	66°07'27.9"	St. John River edge, near Jemseg	Queens, NB	Sandy floodplain	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
173	16-Aug-04	<i>Echinochloa crus-galli</i> (L.) P. Beauv.	Poaceae	45°48'48.4"	66°07'27.9"	St. John River edge, near Jemseg	Queens, NB	Sandy floodplain	Rare	SE	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop, M. Papoulias	sent for verification
174	16-Aug-04	<i>Penthorum sedoides</i> L.	Saxifragaceae	45°48'48.4"	66°07'27.9"	St. John River edge, near Jemseg	Queens, NB	Sandy floodplain	Rare	S2	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
175	16-Aug-04	<i>Xanthium strumarium</i> L.	Asteraceae	45°48'45.2"	66°07'18.2"	St. John River edge, near Jemseg	Queens, NB	Sandy floodplain	Rare	S4	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
176	16-Aug-04	<i>Bidens frondosa</i> L.	Asteraceae	45°48'45.2"	66°07'18.2"	St. John River edge, near Jemseg	Queens, NB	Sandy floodplain	Uncommon	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
177	16-Aug-04	<i>Rubus</i> spp.	Rosaceae	45°48'45.2"	66°07'18.2"	St. John River edge, near Jemseg	Queens, NB	Sandy floodplain	Rare		G. Bishop, S. Dietz, M. Papoulias, M. Arnold		

Appendix B - Vascular plant collections

Coll #	Date	Species	Family	Latitude (N)	Longitude (W)	Location	County, Province	Habitat	Abundance	SRANK.nb	Collector	Determined by	Notes
178	16-Aug-04	<i>Bidens vulgata</i> Greene.	Asteraceae	45°48'45.2"	66°07'18.2"	St. John River edge, near Jemseg	Queens, NB	Sandy floodplain	Uncommon	S4	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
179	17-Aug-04	<i>Scirpus pedicellatus</i> Ferne	Cyperaceae	45°49'47.9"	66°07'04.1"	Jemseg River	Queens, NB	Sandy floodplain	Uncommon	S2S3	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
180	17-Aug-04	<i>Potamogeton spirillus</i> Tuckerm.	Potamogetonaceae	45°49'47.9"	66°07'04.1"	Jemseg River	Queens, NB	Flotsam on river edge		S4S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
181	17-Aug-04	<i>Cinna latifolia</i> (Trevir. Ex Göpp) Griseb.	Poaceae	45°50'16.3"	66°07'05.4"	Jemseg River	Queens, NB	Silver maple floodplain	Uncommon	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
182	17-Aug-04	<i>Salix x sericans</i> Tausch ex A. Kerner	Salicaceae	45°50'16.3"	66°07'05.4"	Jemseg River	Queens, NB	Silver maple floodplain	Common	SE	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop, M. Papoulias	
183	17-Aug-04	<i>Isoetes</i> sp.	Isoetaceae	45°50'21.8"	66°07'58.1"	Jemseg River	Queens, NB	In water	Rare		G. Bishop, S. Dietz, M. Papoulias, M. Arnold		
184	17-Aug-04	<i>Viola macloskeyi</i> Lloyd	Violaceae	45°50'21.8"	66°07'58.2"	Jemseg River	Queens, NB	Shore margin	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
185	17-Aug-04	<i>Spergularia rubra</i> (L.) J. & K. Presl	Caryophyllaceae	45°50'21.8"	66°07'58.3"	Jemseg River	Queens, NB	In water	Rare	SE	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
186	18-Aug-04	<i>Potamogeton spirillus</i> Tuckerm.	Potamogetonaceae	45°47'50.0"	66°06'03.6"	Bean Pond	Queens, NB	In water	Common	S4S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
187	18-Aug-04	<i>Potamogeton pusillus</i> L. ssp. <i>tenuissimus</i> (Mert. & Koch) Haynes & Hellquist	Potamogetonaceae	45°47'50.0"	66°06'03.6"	Bean Pond	Queens, NB	In water	Common	S4	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
188	18-Aug-04	<i>Cannabis sativa</i> L.	Cannabaceae	45°47'50.0"	66°06'03.6"	Bean Pond	Queens, NB	About 50 plants near shore		SE	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
189	18-Aug-04	<i>Salix x rubens</i> Schrank	Salicaceae	45°49'02.8"	66.06'27.2"	Bean Pond	Queens, NB	Shores of river	Common	SE	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
190	18-Aug-04	<i>Persicaria hydropiperoides</i> (Michx.) J.K. Small (<i>Polygonum hydropiperoides</i>)	Polygonaceae	45°49'02.8"	66.06'27.2"	Jemseg River	Queens, NB	Shores of river	Common	S2	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	

Appendix B - Vascular plant collections

Coll #	Date	Species	Family	Latitude (N)	Longitude (W)	Location	County, Province	Habitat	Abundance	SRANK.nb	Collector	Determined by	Notes
191	18-Aug-04	<i>Callitriche palustris</i> (L.)	Callitricaceae	45°49'02.8"	66.06°27.2"	Jemseg River	Queens, NB	In water	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
192	19-Aug-04	<i>Echinochloa crus-galli</i> (L.) <i>P. Beauv.</i>	Poaceae	45°49'02.8"	66.06°27.2"	Jemseg River	Queens, NB	Roadside	Uncommon	SE	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
193	19-Aug-04	<i>Potamogeton pusillus</i> L. <i>ssp. tenuissimus</i> (Mert. & Koch) Haynes & Hellquist	Potamogetonaceae	45.52°03.9"	66°14'41.2"	Otter creek	Queens, NB	In river	Uncommon	S4	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
194	19-Aug-04	<i>Eleocharis acicularis</i> (L.) <i>R. & S.</i>	Cyperaceae	45.52°03.9"	66°14'41.2"	Otter creek	Queens, NB	In river	Uncommon	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
195	19-Aug-04	<i>Charra</i> sp.		45.52°03.9"	66°14'41.2"	Otter creek	Queens, NB	In water	Common		G. Bishop, S. Dietz, M. Papoulias, M. Arnold		
196	19-Aug-04	<i>Rickssia</i> sp.		45.52°03.9"	66°14'41.2"	Otter creek	Queens, NB	In water	Common		G. Bishop, S. Dietz, M. Papoulias, M. Arnold		
197	19-Aug-04	<i>Bidens discoidea</i> (T. & G.) <i>Britt.</i>	Asteraceae	45.52°03.9"	66°14'41.2"	Otter creek	Queens, NB	On shore, near alders	Common	S1	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
198	19-Aug-04	<i>Lemna minor</i> L.	Lemnaceae	45.52°03.9"	66°14'41.2"	Otter creek	Queens, NB	In water	Uncommon	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	J. Goltz, G. Bishop	
199	19-Aug-04	<i>Zizania palustris</i> L.	Poaceae	45°52'10.1"	66°14'14.0"	Otter creek	Queens, NB	Near shore	Uncommon	S3	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
200	19-Aug-04	<i>Rubus hispida</i> L.	Rosaceae	45°52'03.5"	66°14'13.9"	Otter creek	Queens, NB	Near shore	Uncommon	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
201	19-Aug-04	<i>Torreyochloa pallida</i> (Torr.) Church	Poaceae	45°52'03.5"	66°14'13.9"	Otter creek	Queens, NB	In silver maple woods	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
202	19-Aug-04	<i>Triadenum virginicum</i>	Clusiaceae	45°52'03.5"	66°14'13.9"	Otter creek	Queens, NB	On shore	Uncommon		G. Bishop, S. Dietz, M. Papoulias, M. Arnold		sent for verification
203	19-Aug-04	<i>Sparganium americanum</i> <i>Nutt.</i>	Sparganiaceae	45°52'19.3"	66°13'59.8"	Otter creek	Queens, NB	Floating in river	Uncommon	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	Very immature

Appendix B - Vascular plant collections

Coll #	Date	Species	Family	Latitude (N)	Longitude (W)	Location	County, Province	Habitat	Abundance	SRANK.nb	Collector	Determined by	Notes
204	19-Aug-04	<i>Torreyochloa pallida</i> (Torr.) Church	Poaceae	45°52'30.4"	66°13'47.8"	Otter creek	Queens, NB	Near beaver dam, in 1ft of water	Uncommon	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
205	19-Aug-04	<i>Torreyochloa pallida</i> (Torr.) Church	Poaceae	45°52'30.4"	66°13'47.8"	Otter creek	Queens, NB	Near beaver dam, in 1ft of water	Uncommon	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
206	19-Aug-04	<i>Megalodonta beckii</i> (Torr. ex Spreng) Greene	Asteraceae	45°52'35.6"	66°13'49.0"	Otter creek	Queens, NB	In water	Uncommon	S3	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
207	19-Aug-04	<i>Salix x rubens</i> Schrank	Salicaceae	45°52'35.6"	66°13'49.0"	Otter creek	Queens, NB	On shore	Common	SE	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
208	19-Aug-04	<i>Eleocharis ovata</i> (Roth.) R. & S.	Cyperaceae	45°52'35.6"	66°13'49.0"	Otter creek	Queens, NB	Near shore	Uncommon	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
209	19-Aug-04	<i>Juncus pelocarpus</i> E. Meyer	Juncaceae	45°52'35.6"	66°13'49.0"	Otter creek	Queens, NB	Near shore	Rare	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
210	19-Aug-04	<i>Potamogeton pusillus</i> L. ssp. <i>tenuissimus</i> (Mert. & Koch) Haynes & Hellquist	Potamogetonaceae	45°52'35.6"	66°13'49.0"	Otter creek	Queens, NB	In water	Common	S4	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
211	19-Aug-04	<i>Rosa palustris</i> Marsh.	Rosaceae	45°52'39.2"	66°13'54.2"	Otter creek	Queens, NB	Boggy area	Rare	S2	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
212	19-Aug-04	<i>Torreyochloa pallida</i> (Torr.) Church	Poaceae	45°52'19.9"	66°14'02.2"	Otter creek	Queens, NB	Boggy area	Rare	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
213	20-Aug-04	<i>Scirpus cyperinus</i> (L.) Kunth	Cyperaceae	45°49'27.4"	66°07'14.3"	Channel near hwy 105	Queens, NB	Marsh	Uncommon	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
214	20-Aug-04	<i>Glyceria borealis</i> (Nash) Batch.	Poaceae	45°49'27.4"	66°07'14.3"	Channel near hwy 105	Queens, NB	Marsh	Uncommon	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
215	20-Aug-04	<i>Utricularia macrorhiza</i> Le Conte	Lentibulariaceae	45°49'24.1"	66°07'22.7"	Channel near hwy 105	Queens, NB	In channel	Uncommon	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
216	20-Aug-04	<i>Callitriche</i> spp.	Callitrichaceae	45°49'24.1"	66°07'22.7"	Channel near hwy 105	Queens, NB	In channel	Uncommon		G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	

Appendix B - Vascular plant collections

Coll #	Date	Species	Family	Latitude (N)	Longitude (W)	Location	County, Province	Habitat	Abundance	SRANK.nb	Collector	Determined by	Notes
217	20-Aug-04	<i>Potamogeton pusillus</i> L. ssp. <i>pusillus</i>	Potamogetonaceae	45°49'24.1"	66°07'22.7"	Channel near hwy 105	Queens, NB	In channel	Uncommon	S4	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
218	20-Aug-04	<i>Ranunculus flabellaris</i> Raf.	Ranunculaceae	45°49'24.1"	66°07'22.7"	Channel near hwy 105	Queens, NB	In channel	Rare	S1	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
219	20-Aug-04	<i>Potamogeton amplifolius</i> Tuckerm.	Potamogetonaceae	45°49'05.3"	66°07'17.8"	Channel near hwy 105	Queens, NB	In channel	Rare	S4	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
220	20-Aug-04	<i>Eleocharis acicularis</i> (L.) R. & S.	Cyperaceae	45°49'05.3"	66°07'17.8"	Channel near hwy 105	Queens, NB	In channel	Uncommon	S4	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
221	20-Aug-04	<i>Carex haydenii</i> Dewey	Cyperaceae	45°49'15.0"	66°07'23.4"	Marsh near hwy 105	Queens, NB	Marsh	Rare	S2	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
222	20-Aug-04	<i>Carex oligosperma</i> Michx.	Cyperaceae	45°49'15.0"	66°07'23.4"	Marsh near hwy 105	Queens, NB	Marsh	Uncommon	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
223	20-Aug-04	<i>Scirpus pedicellatus</i> Ferne	Cyperaceae	45°49'15.0"	66°07'23.4"	Marsh near hwy 105	Queens, NB	Marsh	Uncommon	S2S3	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
224	20-Aug-04	<i>Zizania aquatica</i> var. <i>brevis</i>	Poaceae	45°49'15.0"	66°07'23.4"	Marsh near hwy 105	Queens, NB	Marsh	Rare		G. Bishop, S. Dietz, M. Papoulias, M. Arnold		sent for verification
225	15-Sep-04	<i>Hypericum perforatum</i> L.	Clusiaceae	45°49'47.9"	66°07'04.1"	Near Jemseg River, under bridge	Queens, NB	Marsh	Rare	SE	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
226	15-Sep-04	<i>Bidens cernua</i> L.	Asteraceae	45°52'00.3"	66°14'46.2"	Near Otter Creek	Queens, NB	In field	Uncommon	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
227	15-Sep-04	<i>Persicaria punctata</i> (Eil.) Small	Polygonaceae	45°52'16.9"	66°16'06.5"	Shore of St. John River	Sunbury, NB	On shore, in Phalaris meadows	Uncommon	S2	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	Peppery tasting!
228	15-Sep-04	<i>Crepis tectorum</i> L.	Asteraceae	45°52'16.9"	66°16'06.5"	Shore of St. John River	Sunbury, NB	On shore, in Phalaris meadows	Rare	SE	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
229	15-Sep-04	<i>Torilis nodosa</i> Gaertn.	Apiaceae	45°51'50.9"	66°14'54.6"	Roadside by St. John River	Queens, NB	Roadside	Common	SE	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	

Appendix B - Vascular plant collections

Coll #	Date	Species	Family	Latitude (N)	Longitude (W)	Location	County, Province	Habitat	Abundance	SRANK.nb	Collector	Determined by	Notes
230	15-Sep-04	<i>Rosa blanda</i> Ait.	Rosaceae	45°51'06.5"	66°13'49.9"	Roadside by St. John River	Queens, NB	Roadside	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
231	23-Sep-04	<i>Aster umbellatus</i> Mill. (<i>Doellingeria umbellata</i>)	Asteraceae	45°52'03.0"	66°14'44.8"	Wooded field margin near St. John River	Queens, NB	Field margin	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
232	23-Sep-04	<i>Xanthium strumarium</i> L.	Asteraceae	45°52'09.7"	66°14'02.3"	Shore of St. John River	Queens, NB	On shore, in Phalaris meadows	Rare	S4	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
237	30-Sep-04	<i>Utricularia purpurea</i> Walt.	Lentibulariaceae	45°52'46.5"	66°14'15.0"	Otter Creek	Queens, NB	In dead water arm of creek	Rare	S2S3	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
238	30-Sep-04	<i>Eleocharis palustris</i> (L.) R. & S.	Cyperaceae	45°52'46.5"	66°14'15.0"	Otter Creek	Queens, NB	In dead water arm of creek	Uncommon	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
239	30-Sep-04	<i>Phragmites australis</i> (Cav.) Trin. Ex Steud.	Poaceae	45°52'46.5"	66°14'15.0"	Bank of DU impoundment	Queens, NB	On banked-up path	Uncommon	SE	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	Introduced race
240	30-Sep-04	<i>Hypericum boreale</i> (Britt.) Bickn.	Clusiaceae	45°52'48.5"	66°14'13.9"	Bank of DU impoundment	Queens, NB	On banked-up path	Locally common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
241	30-Sep-04	<i>Penthorum sedoides</i> L.	Saxifragaceae	45°52'48.6"	66°14'13.9"	Bank of DU impoundment	Queens, NB	On banked-up path	Rare	S2	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
242	30-Sep-04	<i>Rubus pubescens</i> Raf.	Rosaceae	45°52'48.7"	66°14'13.9"	Bank of DU impoundment	Queens, NB	On banked-up path	Uncommon	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
243	27-Aug-04	?		45°49'25.5"	66°07'59.9"	Hwy 105 near Jemseg	Queens, NB	Dry roadside near <i>Bulboschoenus fluviatilis</i>			G. Bishop		sent for verification
244	21-Jul-04	<i>Elymus virginicus</i> L.	Poaceae	45°49'27.4"	66°07'14.3"	Hwy 105 near Jemseg	Queens, NB	Dry roadside near <i>Bulboschoenus fluviatilis</i>		S5	G. Bishop	G. Bishop	
245	28-Aug-04	<i>Juglans cinerea</i> L.	Juglandaceae	45°52'16.2"	66°15'40.2"	Burpee Lake	Sunbury, NB	Margins of pond, at E end		S3	G. Bishop and N.B. Botany Club	G. Bishop	
246	28-Aug-04	<i>Chenopodium album</i> L.	Chenopodiaceae	45°52'16.2"	66°15'40.2"	Burpee Lake	Sunbury, NB	Dry gravel, edge of agricultural field		SE	G. Bishop and N.B. Botany Club	G. Bishop	
247	28-Aug-04	<i>Persicaria lapathifolia</i> (L.) S.F. Gray (<i>Polygonum lapathifolium</i>)	Polygonaceae	45°52'16.2"	66°15'40.2"	Burpee Lake	Sunbury, NB	Pond margins		S5	G. Bishop and N.B. Botany Club	G. Bishop	Note anchors on petals
248	28-Aug-04	<i>Rumex orbiculatus</i> Gray	Polygonaceae	45°52'16.2"	66°15'40.2"	Burpee Lake	Sunbury, NB	Pond margins		S5	G. Bishop and N.B. Botany Club	G. Bishop	
249	28-Aug-04	<i>Nuphar microphylla</i> (Pers.) Fern. (<i>Nuphar lutea</i> ssp. <i>pumila</i>)	Nymphaeaceae	45°52'16.2"	66°15'40.2"	Burpee Lake	Sunbury, NB	In water		S2	G. Bishop and N.B. Botany Club	G. Bishop	

Appendix B - Vascular plant collections

Coll #	Date	Species	Family	Latitude (N)	Longitude (W)	Location	County, Province	Habitat	Abundance	SRANK.nb	Collector	Determined by	Notes
250	28-Aug-04	<i>Eleocharis acicularis</i> (L.) R. & S.	Cyperaceae	45°52'16.2"	66°15'40.2"	Burpee Lake	Sunbury, NB	In a mat on floating log		S5	D. McLeod, J. Saunders, G. Bishop	G. Bishop	
251	28-Aug-04	<i>Bidens cernua</i> L.	Asteraceae	45°52'16.2"	66°15'40.2"	Burpee Lake	Sunbury, NB	Shoreline		S5	G. Bishop and N.B. Botany Club	G. Bishop	
252	28-Aug-04	<i>Vallisneria americana</i> Michx.	Hydrocharitaceae	45°52'16.2"	66°15'40.2"	Burpee Lake	Sunbury, NB	In water		S4	G. Bishop and N.B. Botany Club	G. Bishop	
253	28-Aug-04	<i>Galium trifidum</i> L. ssp.	Rubiaceae	45°52'16.2"	66°15'40.2"	Burpee Lake	Sunbury, NB	Margin of pond and old		S5	D. McLeod	G. Bishop	
254	28-Aug-04	<i>Utricularia minor</i> L.	Lentibulariaceae	45°52'16.2"	66°15'40.2"	Burpee Lake	Sunbury, NB	Floating at pond margins		S2	G. Bishop and N.B. Botany Club	G. Bishop	
255	28-Aug-04	<i>Eleocharis acicularis</i> (L.) R. & S.	Cyperaceae	45°52'16.2"	66°15'40.2"	Burpee Lake	Sunbury, NB	Floating at pond margins		S5	G. Bishop and N.B. Botany Club	G. Bishop	sterile
256	28-Aug-04	<i>Zizania palustris</i> L.	Poaceae	45°52'16.2"	66°15'40.2"	Burpee Lake	Sunbury, NB	Emergent, in 2" of water		S3	G. Bishop and N.B. Botany Club	G. Bishop	
257	28-Aug-04	<i>Potamogeton pusillus</i> L. ssp. <i>gemmiparus</i> (JW Robbins) Haynes & Hellquist	Potamogetonaceae	45°52'16.2"	66°15'40.2"	Burpee Lake	Sunbury, NB	East end of pond, in 1m of water		S1*	G. Bishop and N.B. Botany Club	G. Bishop	new to NB - sent for verification
258	28-Aug-04	<i>Potamogeton pusillus</i> L. ssp. <i>gemmiparus</i> (JW Robbins) Haynes & Hellquist	Potamogetonaceae	45°52'16.2"	66°15'40.2"	Burpee Lake	Sunbury, NB	East end of pond, in 1m of water		S1*	G. Bishop and N.B. Botany Club	G. Bishop, M. Papoulias	new to NB - sent for verification
259	28-Aug-04	<i>Pilea pumila</i> (L.) Gray	Urticaceae	45°52'16.2"	66°15'40.2"	Burpee Lake	Sunbury, NB	Pond margin, near old pasture		S2	G. Bishop and N.B. Botany Club	G. Bishop, M. Papoulias	
260	28-Aug-04	<i>Ranunculus gmelinii</i> DC.	Ranunculaceae	45°52'16.2"	66°15'40.2"	Burpee Lake	Sunbury, NB	Shoreline	Scattered	S2	J. Saunders, D. McLeod, G. Bishop	G. Bishop	
261	28-Aug-04	<i>Bidens discoidea</i> (T. & G.) Britt.	Asteraceae	45°52'16.2"	66°15'40.2"	Burpee Lake	Sunbury, NB	Pond margin		S1	G. Bishop and N.B. Botany Club	G. Bishop	
262	28-Aug-04	<i>Acorus americanus</i> (Raf.) Raf	Acoraceae	45°52'16.2"	66°15'40.2"	Burpee Lake	Sunbury, NB	Wet meadow at W end of pond, with <i>Sparganium angustifolium</i>		S4	G. Bishop and N.B. Botany Club	G. Bishop	
263	27-Aug-04	<i>Lactuca canadensis</i> L.	Asteraceae	45°49'25.5"	66°07'59.9"	Hwy 105 near Jemseg	Queens, NB	Dry roadside of hwy 105		S5	G. Bishop	G. Bishop	
264	27-Aug-04	<i>Spergularia rubra</i> (L.) J. &	Caryophyllaceae	45°49'25.5"	66°07'59.9"	Hwy 105 near Jemseg	Queens, NB	Dry roadside of hwy 105		SE	G. Bishop	G. Bishop	
265	27-Aug-04	<i>Sonchus oleraceus</i> L.	Asteraceae	45°49'25.5"	66°07'59.9"	Hwy 105 near Jemseg	Queens, NB	Dry roadside of hwy 105		SE	G. Bishop	G. Bishop	
266	27-Aug-04	<i>Melilotus officinalis</i> (L.)	Fabaceae	45°49'25.5"	66°07'59.9"	Hwy 105 near Jemseg	Queens, NB	Dry roadside of hwy 105		SE	G. Bishop	M. Papoulias	
267	27-Aug-04	<i>Atriplex patula</i>	Chenopodiaceae	45°49'25.5"	66°07'59.9"	Hwy 105 near Jemseg	Queens, NB	Dry roadside of hwy 105		S4S5	G. Bishop	G. Bishop	sent for verification
268	25-Aug-04	<i>Isoetes lacustris</i> L.	Isoetaceae	45°50'33.4"	66°09'14.4"	Grand Lake	Queens, NB	Margins of Grand Lake, in shallow water (<2m), half buried in 8cm soft silt		S4	G. Bishop	G. Bishop	
269	25-Aug-04	<i>Isoetes</i> spp.	Isoetaceae	45°50'33.4"	66°09'14.4"	Grand Lake	Queens, NB	Margins of Grand Lake, in shallow water, with l. <i>Isostichia</i>			G. Bishop	G. Bishop	
270	27-Aug-04	<i>Kochia scoparia</i> (L.)	Chenopodiaceae	45°49'25.5"	66°07'59.9"	Hwy 105 near Jemseg	Queens, NB	Dry roadside of hwy 105	Common	SE	G. Bishop	G. Bishop	
271	27-Aug-04	<i>Bolboschoenus fluviatilis</i> (Torrey) J. Sojak (<i>Schoenoplectus fluviatilis</i>)	Cyperaceae	45°49'25.5"	66°07'59.9"	Hwy 105 near Jemseg	Queens, NB	Side of hwy 105, w. <i>Sparganium emersum</i>		S2	G. Bishop	G. Bishop	
272	27-Aug-04	<i>Lepidium densiflorum</i>	Brassicaceae	45°49'25.5"	66°07'59.9"	Hwy 105 near Jemseg	Queens, NB	Dry roadside of hwy 105		SE	G. Bishop	G. Bishop	
273	27-Aug-04	<i>Najas flexilis</i> (Willd.) Rostk. & Schmidt	Najadaceae	45°51'04.6"	66°13'50.4"	Old ferry crossing, St John River	Queens, NB	In water		S5	G. Bishop	G. Bishop	
274	27-Aug-04	<i>Chaetmaesyce vermiculata</i> (Raf.) House	Euphorbiaceae	45°51'04.6"	66°13'50.4"	Old ferry crossing, St John River	Queens, NB	Dry gravel, open soil		S4	G. Bishop	G. Bishop	

Appendix B - Vascular plant collections

Coll #	Date	Species	Family	Latitude (N)	Longitude (W)	Location	County, Province	Habitat	Abundance	SRANK.nb	Collector	Determined by	Notes
246a	14-Jun-05	<i>Carex vesicaria</i> L.	Cyperaceae	45°53'39.1"	66°16'57.2"	Near McGowan's Corner, S of Oxbows	Sunbury, NB	Wet depression in silver maple floodplain, clumping, with few other plants	Uncommon	S5	G.Bishop, M. Papoulias	G. Bishop	
247a	14-Jun-05	<i>Carex vesicaria</i> L.	Cyperaceae	45°53'39.1"	66°16'57.2"	Near McGowan's Corner, S of Oxbows	Sunbury, NB	Wet depression in silver maple floodplain, clumping, with few other plants	Uncommon	S5	G.Bishop, M. Papoulias	G. Bishop	
248a	15-Jun-05	<i>Salix petiolaris</i> Sm.	Salicaceae	45°49'41.2"	66°07'01.8"	Under new Jemseg bridge, in marsh beside Jemseg River	Queens, NB	Emergent marsh, with <i>Alisma triviale</i> and <i>Equisetum fluviatile</i>	Common	S5	G. Bishop, M. Papoulias	J. Goltz, G. Bishop	
249a	15-Jun-05	<i>Carex vesicaria</i> L.	Cyperaceae	45°49'41.2"	66°07'01.8"	Marsh near new Jemseg Bridge	Queens, NB	Clumping in emergent marsh, with <i>Acorus americanus</i> , <i>Equisetum fluviatile</i>	Uncommon	S5	G. Bishop, M. Papoulias	J. Goltz, G. Bishop	
250a	15-Jun-05	<i>Quercus macrocarpa Michx.</i>	Fagaceae	45°49'45.9"	66°07'17.1"	Forested floodplain near new Jemseg Bridge	Queens, NB	Wet maple floodplain with old stumps, <i>Onoclea sensibilis</i> as main ground cover	Rare	S2	G. Bishop, M. Papoulias	G. Bishop, M. Papoulias	
251a	16-Jun-05	<i>Ranunculus flabellaris</i> Raf.	Ranunculaceae	45°49'50.8"	66°07'27.8"	The Boomerang	Queens, NB	Quiet channel with <i>Myriophyllum</i> , <i>Utricularia</i>	Common	S1	G. Bishop, M. Papoulias	M. Papoulias, G. Bishop	
252a	16-Jun-05	?		45°49'50.8"	66°07'27.8"	The Boomerang	Queens, NB	Quiet channel with <i>Myriophyllum</i> , <i>Utricularia</i>	Rare		G. Bishop, M. Papoulias		sent for verification
253a	16-Jun-05	<i>Carex chordorrhiza</i> Ehrh. ex L.f.	Cyperaceae	45°50'03.2"	66°07'35.7"	Meadow W of the Boomerang	Queens, NB	Shrubby wet meadow, with <i>Myrica gale</i>	Common	S2S3	G. Bishop, M. Papoulias	M. Papoulias	
254a	16-Jun-05	<i>Salix pellita</i> (Anderss.) Anderss. ex Schneid forma <i>psila</i>	Salicaceae	45°50'03.2"	66°07'35.7"	Meadow W of the Boomerang	Queens, NB	Shrubby wet meadow, with <i>Myrica gale</i>	Uncommon	S4S5	G. Bishop, M. Papoulias	M. Papoulias	
255a	16-Jun-05	<i>Salix pedicellaris</i> Pursh.	Salicaceae	45°50'03.2"	66°07'35.7"	Meadow W of the Boomerang	Queens, NB	Shrubby wet meadow, with <i>Myrica gale</i>	Common	S3	G. Bishop, M. Papoulias	G. Bishop	
256a	16-Jun-05	<i>Salix lucida</i> Muhl.	Salicaceae	45°50'03.2"	66°07'35.7"	Meadow W of the Boomerang	Queens, NB	Shrubby wet meadow, with <i>Myrica gale</i>	Uncommon	S5	G. Bishop, M. Papoulias	J. Goltz, G. Bishop	
257a	16-Jun-05	<i>Campanula aparinoides</i> Pursh	Campanulaceae	45°50'03.2"	66°07'35.7"	Meadow W of the Boomerang	Queens, NB	Shrubby wet meadow, with <i>Myrica gale</i>	Common	S4	G. Bishop, M. Papoulias	G. Bishop, M. Papoulias	
258a	17-Jun-05	<i>Myosotis</i> spp.	Boraginaceae	45°49'17.3"	66°07'26.8"	W. of Trout Creek	Queens, NB	Deep channel with Silver Maple on margins	Uncommon		G. Bishop, M. Papoulias, M. Chaplin	G. Bishop	
259a	17-Jun-05	<i>Quercus rubra</i> L.	Fagaceae	45°49'09.0"	66°07'31.9"	Trout Creek	Queens, NB	Shores of creek	Uncommon	S5	G. Bishop, M. Papoulias, M. Chaplin	G. Bishop	DBH = 61 cm
260a	18-Jun-05	<i>Salix sericea</i> Marsh.	Salicaceae	45°50'11.3"	66°09'25.2"	Channel N. of Hwy 2	Queens, NB	Dried out floodwater channel with few other plants	Uncommon	S5	G. Bishop, M. Papoulias, M. Chaplin	G. Bishop	
261a	18-Jun-05	<i>Festuca trachyphylla</i> (Hackel) Krajina	Poaceae	45°50'13.0"	66°09'37.8"	S. margin of Hwy 2	Queens, NB	Gravelly edge of roadside, on slope	Uncommon	SE	G. Bishop, M. Papoulias, M. Chaplin	G. Bishop	
262a	18-Jun-05	<i>Festuca trachyphylla</i> (Hackel) Krajina	Poaceae	45°50'13.0"	66°09'37.8"	S. margin of Hwy 3	Queens, NB	Gravelly edge of roadside, on slope, clumping	Uncommon	SE	G. Bishop, M. Papoulias, M. Chaplin	G. Bishop	
263a	18-Jun-05	<i>Festuca pratensis</i> Hudson (Lolium pratense)	Poaceae	45°50'13.0"	66°09'37.8"	S. margin of Hwy 4	Queens, NB	Gravelly edge of roadside, on slope	Uncommon	SE	G. Bishop, M. Papoulias, M. Chaplin	G. Bishop	
264a	27-Jun-05	<i>Eleocharis acicularis</i> (L.) R. & S.	Cyperaceae	45°53'20.2"	66°16'11.1"	Moose Ridge	Sunbury, NB	Clumping on sandy, exposed, dry rocky bank	Uncommon	S5	G. Bishop, M. Papoulias	M. Papoulias	
265a	27-Jun-05	<i>Eleocharis</i> spp.	Cyperaceae	45°53'20.2"	66°16'11.1"	Moose Ridge	Sunbury, NB	Clumping on sandy, exposed, dry rocky bank	Uncommon		G. Bishop, M. Papoulias	M. Papoulias	no mature achenes
266a	27-Jun-05	<i>Juncus</i> spp.	Juncaceae	45°53'20.2"	66°16'11.1"	Moose Ridge	Sunbury, NB	Clumping on sandy, exposed, dry rocky bank	Uncommon		G. Bishop, M. Papoulias	M. Papoulias	

Appendix B - Vascular plant collections

Coll #	Date	Species	Family	Latitude (N)	Longitude (W)	Location	County, Province	Habitat	Abundance	SRANK.nb	Collector	Determined by	Notes
267a	27-Jun-05	<i>Carex spp.</i>	Cyperaceae	45°53'20.2"	66°16'11.1"	Moose Ridge	Sunbury, NB	Clumping on sandy, exposed, dry rocky bank	Common		G. Bishop, M. Papoulias	M. Papoulias	Ovales group. Too immature for positive
268a	27-Jun-05	<i>Salix discolor</i> Muhl.	Salicaceae	45°53'20.2"	66°16'11.1"	Path to Moose Ridge	Sunbury, NB	Open, exposed dry site near trail	Uncommon	S5	G. Bishop, M. Papoulias	M. Papoulias	
269a	27-Jun-05	<i>Galium tinctorium</i> (L.) Scop	Rubiaceae	45°53'20.2"	66°16'11.1"	Moose Ridge	Sunbury, NB	Sandy, exposed, dry shore	Scattered	S5	G. Bishop, M. Papoulias	M. Papoulias	
270a	27-Jun-05	<i>Myriophyllum</i>	Haloragaceae	45°53'20.2"	66°16'11.1"	Moose Ridge	Sunbury, NB	In shallow, warm water with muddy bottom	Very common		G. Bishop, M. Papoulias		sent for identification
271a	27-Jun-05	<i>Utricularia minor</i> L.	Lentibulariaceae	45°53'20.2"	66°16'11.1"	Moose Ridge	Sunbury, NB	In shallow, warm water with muddy bottom	Common	S2	G. Bishop, M. Papoulias	M. Papoulias	
272a	27-Jun-05	<i>Potamogeton pusillus</i> L. ssp. <i>tenuissimus</i> (Mert. & Koch) Haynes & Hellquist	Potamogetonaceae	45°53'20.2"	66°16'11.1"	Moose Ridge	Sunbury, NB	In shallow, warm water with muddy bottom	Very common	S4	G. Bishop, M. Papoulias	M. Papoulias	
273a	27-Jun-05			45°53'20.2"	66°16'11.1"	Moose Ridge	Sunbury, NB	Silver maple floodplain, near agricultural field			G. Bishop, M. Papoulias		unidentifiable
274a	27-Jun-05	<i>Utricularia geminiscapa</i> Benj.	Lentibulariaceae	45°53'33.2"	66°14'00.7"	Moose Ridge	Sunbury, NB	Middle of channel around marsh	Common	S2	G. Bishop, M. Papoulias	J. Goltz, G. Bishop	
275	27-Jun-05	<i>Potamogeton epiphydrus</i> Raf.	Potamogetonaceae	45°53'33.3"	66°14'00.7"	Moose Ridge	Sunbury, NB	Middle of channel around marsh	Rare	S5	G. Bishop, M. Papoulias	M. Papoulias	
276	27-Jun-05	<i>Ilex verticillata</i> (L.) Gray	Aquifoliaceae	45°53'33.4"	66°14'00.7"	Moose Ridge	Sunbury, NB	Edge of channel, with <i>Typha latifolia</i>	Very common	S5	G. Bishop, M. Papoulias	M. Papoulias	
277	27-Jun-05	<i>Cardamine pratensis</i> L.	Brassicaceae	45°53'33.5"	66°14'00.7"	Moose Ridge	Sunbury, NB	Open, overgrown path beside impoundment	Uncommon	SE?	G. Bishop, M. Papoulias	M. Papoulias	
278	27-Jun-05	<i>Raphanus raphanistrum</i> L.	Brassicaceae	45°53'33.6"	66°14'00.7"	Moose Ridge	Sunbury, NB	Open, overgrown path beside impoundment	Uncommon	SE	G. Bishop, M. Papoulias	M. Papoulias	
279	27-Jun-05	<i>Typha angustifolia</i> L.	Typhaceae	45°53'33.7"	66°14'00.7"	Moose Ridge	Sunbury, NB	Edges of channel	Scattered	S5	G. Bishop, M. Papoulias	M. Papoulias	
280	27-Jun-05		Juncaceae	45°53'25.7"	66°15'50.3"	Moose Ridge	Sunbury, NB	In mud near channel	Scattered		G. Bishop, M. Papoulias		unidentifiable
281	27-Jun-05	<i>Ilex verticillata</i> (L.) Gray	Aquifoliaceae	45°53'25.7"	66°15'50.3"	Moose Ridge	Sunbury, NB	Embankment at edge of channel	Very common	S5	G. Bishop, M. Papoulias	M. Papoulias	
282	27-Jun-05	<i>Rosa nitida</i> Willd.	Rosaceae	45°53'25.7"	66°15'50.3"	Moose Ridge	Sunbury, NB	Embankment at edge of channel	Rare	S5	G. Bishop, M. Papoulias	M. Papoulias	
283	27-Jun-05	<i>Agrostis scabra</i> Willd.	Poaceae	45°53'23.1"	66°16'11.2"	Moose Ridge	Sunbury, NB	On banks of impoundment	Common	S5	G. Bishop, M. Papoulias	M. Papoulias, J. Goltz, G. Bishop	
284	28-Jun-05	<i>Equisetum x litorale</i> Kuhl ex. Rupr.	Equisetaceae	45°52'33.9"	66°11'04.4"	Lower Thoroughfare near Back Lake	Queens, NB	Sandspit at edge of channel, with <i>Spirea alba</i> , <i>Bidens</i> sp. and <i>Acer</i>	Uncommon	HYB	G. Bishop, M. Papoulias	M. Papoulias, G. Bishop	
285	28-Jun-05	<i>Agrostis stolonifera</i> L.	Poaceae	45°52'40.7"	66°11'23.3"	Lower Thoroughfare near Back Lake	Queens, NB	Sandspit at edge of channel, under Silver maples	Uncommon	S5SE	G. Bishop, M. Papoulias	G. Bishop	
286	28-Jun-05	<i>Carex spp.</i>	Cyperaceae	45°52'40.7"	66°11'23.3"	Lower Thoroughfare near Back Lake	Queens, NB	Sandspit at edge of channel, under Silver maples	Uncommon		G. Bishop, M. Papoulias	G. Bishop	Specimen too young for positive ID. Possible <i>C. scoparia</i> .
287	28-Jun-05	<i>Myriophyllum</i>	Haloragaceae	45°52'47.0"	66°11'56.8"	Colwell's Bay	Queens, NB	Deep water with <i>Utricularia macrorhiza</i>	Common		G. Bishop, M. Papoulias		Very large plants
288	28-Jun-05	<i>Potamogeton natans</i> L.	Haloragaceae	45°52'47.0"	66°11'56.8"	Colwell's Bay	Queens, NB	Deep water with <i>Utricularia macrorhiza</i>	Common	S5	G. Bishop, M. Papoulias	J. Goltz, G. Bishop	Very large plants
289	28-Jun-05	<i>Carex utriculata</i> Boott	Cyperaceae	45°52'34.3"	66°12'00.3"	Marsh near W. margin of Back Lake	Queens, NB	Emergent marsh, with <i>Spartina pectinata</i> , <i>Cyperus setosus</i>	Common	S5	G. Bishop, M. Papoulias	G. Bishop	
290	29-Jun-05	<i>Rubus hispida</i> L.	Rosaceae	45°54'04.1"	66°14'18.6"	Forested floodplain beside Main Thoroughfare	Sunbury, NB	Silver maple floodplain	Uncommon	S5	G. Bishop, M. Papoulias	M. Papoulias	
291	29-Jun-05	<i>Onoclea sensibilis</i> L.	Dryopteridaceae	45°53'32.2"	66°14'03.1"	Meadows by Upper Timber Lake	Sunbury, NB	Shrub meadow dominated by <i>Myrica</i>		S5	G. Bishop, M. Papoulias	G. Bishop, M. Papoulias	

Appendix B - Vascular plant collections

Coll #	Date	Species	Family	Latitude (N)	Longitude (W)	Location	County, Province	Habitat	Abundance	SRANK.nb	Collector	Determined by	Notes
292	29-Jun-05	<i>Carex echinata</i> Murray	Cyperaceae	45°53'32.2"	66°14'03.1"	Meadows by Upper Timber Lake	Sunbury, NB	Shrub meadow dominated by Myrica gale, Chaemadaphne	Uncommon	S5	G. Bishop, M. Papoulias	M. Papoulias	
293	29-Jun-05	<i>Eriophorum gracile</i> Koch.	Cyperaceae	45°53'20.0"	66°14'03.0"	Meadows by Upper Timber Lake	Sunbury, NB	Shrub meadows with Osmunda regalis, small colony of about 50 plants	Rare	S1	G. Bishop, M. Papoulias	M. Papoulias, G. Bishop	
294	29-Jun-05	<i>Aster</i> spp.	Asteraceae	45°53'28.2"	66°14'01.5"	Meadows by Upper Timber Lake	Sunbury, NB	Shrub meadow with Myrica gale, Chaemadaphne	Uncommon		G. Bishop, M. Papoulias		
295	4-Jul-05	<i>Carex debilis</i> Michx.	Cyperaceae	45°54'00.8"	66°14'23.6"	Forested floodplain S. of Main Throughfare	Sunbury, NB	Elm stand about 2m from water level, with sandy soil	Uncommon	S5	G. Bishop, M. Papoulias	M. Papoulias	
296	4-Jul-05	<i>Dryopteris carthusiana</i> (Vill.) H.P. Fuchs	Dryopteridaceae	45°53'58.3"	66°14'36.6"	Forested floodplain about 20m S. of Main Throughfare	Sunbury, NB	Elm stand about 2m from water level, with sandy soil	Rare	S5	G. Bishop, M. Papoulias	M. Papoulias	
297	4-Jul-05	<i>Rubus vermontanus</i> Blanch.	Rosaceae	45°53'58.9"	66°14'35.4"	Forested floodplain about 20m S. of Main Throughfare	Sunbury, NB	Elm stand about 2m from water level, with sandy soil	Common	S4S5	G. Bishop, M. Papoulias	M. Papoulias	
298	4-Jul-05	<i>Carex projecta</i> Mack.	Cyperaceae	45°53'58.9"	66°14'35.4"	Forested floodplain about 20m S. of Main Throughfare	Sunbury, NB	Elm stand about 2m from water level, with sandy soil	Common	S5	G. Bishop, M. Papoulias	M. Papoulias	
299	4-Jul-05	<i>Lactuca biennis</i> (Moench) Fern.	Asteraceae	45°53'59.7"	66°14'35.2"	Forested floodplain S. of Main Throughfare	Sunbury, NB	Sandy raised shore next to channel, with grasses and Equisetum arvense	Rare	S5	G. Bishop, M. Papoulias	M. Papoulias	
300	4-Jul-05	<i>Carex</i> spp.	Cyperaceae	45°54'59.6"	66°14'32.1"	Forested floodplain S. of Main Throughfare	Sunbury, NB	Sandy embankment in Elm floodplain	Scattered		G. Bishop, M. Papoulias	M. Papoulias	Immature - probably tribuloides
301	4-Jul-05	<i>Rubus hispidus</i> L.	Rosaceae	45°54'59.6"	66°14'32.1"	Forested floodplain S. of Main Throughfare	Sunbury, NB	Sandy embankment in Elm floodplain	Uncommon	S5	G. Bishop, M. Papoulias	M. Papoulias	
302	4-Jul-05	<i>Ranunculus repens</i> L.	Ranunculaceae	45°54'01.7"	66°14'22.3"	Forested floodplain S. of Main Throughfare	Sunbury, NB	Sunny clearing on sandy, raised bank, under Elm	Rare	SE	G. Bishop, M. Papoulias	M. Papoulias	
303	4-Jul-05	<i>Hieracium x floribundum</i> Wimm & Grab.	Asteraceae	45°54'02.3"	66°14'22.3"	Forested floodplain S. of Main Throughfare	Sunbury, NB	One patch under Elm on sandy, well-drained soil	Rare	SE	G. Bishop, M. Papoulias	M. Papoulias	
304	4-Jul-05	<i>Carex tribuloides</i> Wahl.	Cyperaceae	45°53'59.3"	66°15'15.2"	E. of Loder's Creek	Sunbury, NB	Open maple / Elm floodplain with Onoclea sensibilis	Uncommon	S4S5	G. Bishop, M. Papoulias	M. Papoulias	
305	4-Jul-05	<i>Carex debilis</i> Michx.	Cyperaceae	45°53'59.3"	66°15'15.2"	E. of Loder's Creek	Sunbury, NB	Open maple / Elm floodplain with Onoclea sensibilis	Scattered	S5	G. Bishop, M. Papoulias	M. Papoulias	
306	4-Jul-05	<i>Carex bromoides</i> Schkuhr ex. Willd.	Cyperaceae	45°53'59.3"	66°15'15.2"	E. of Loder's Creek	Sunbury, NB	Open maple / Elm floodplain with Onoclea sensibilis	Scattered	S4	G. Bishop, M. Papoulias	M. Papoulias	
307	5-Jul-05	<i>Rosa virginiana</i> Mill.	Rosaceae	45°52'32.2"	66°14'28.6"	Ash swamp, DU impoundment	Queens, NB	On wet bank of impoundment channel, with Alnus incana and Myrica gale	Rare	S5	G. Bishop, M. Papoulias	M. Papoulias	
308	5-Jul-05	<i>Myriophyllum</i>	Haloragaceae	45°52'33.0"	66°14'26.4"	Ash swamp, DU impoundment	Queens, NB	In channel, with Potamogeton pusillus	Uncommon		G. Bishop, M. Papoulias		sent for identification
310	5-Jul-05	<i>Salix pyrifolia</i> Anderss.	Salicaceae	45°52'49.1"	66°14'13.5"	Ash swamp	Queens, NB	Shrub meadow, with Carex lacustris, Spirea alba, Myrica gale	Uncommon	S5	G. Bishop, M. Papoulias	M. Papoulias	
311	5-Jul-05	<i>Chelone glabra</i> L.	Scrophulariaceae	45°52'49.1"	66°14'13.5"	Ash swamp	Queens, NB	In Alder thicket	Uncommon	S5	G. Bishop, M. Papoulias	M. Papoulias	
312	5-Jul-05	<i>Carex lupulina</i> Muhl. ex Wild.	Cyperaceae	45°52'06.3"	66°14'50.8"	Path to DU impoundment at Ash Swamp	Queens, NB	Wet path	Uncommon	S2	G. Bishop, M. Papoulias	M. Papoulias	
313	6-Jul-05	<i>Stachys hispida</i> Pursh. (<i>Stachys tenuifolia</i>)	Lamiaceae	45°51'01.8"	66°13'37.5"	Alisma pond	Queens, NB	Wet depression, with Sagittaria	Common	S1S2	G. Bishop, M. Papoulias	M. Papoulias	
314	6-Jul-05	<i>Carex haydenii</i> Dewey	Cyperaceae	45°51'03.6"	66°13'32.8"	N. of Alisma pond	Queens, NB	Open, wet meadow dominated by Onoclea sensibilis	Uncommon	S2	G. Bishop, M. Papoulias	M. Papoulias	
315	6-Jul-05	<i>Eleocharis</i> spp.	Cyperaceae	45°52'50.0"	66°17'28.8"	Bank of Saint John River, about 50m S. of Hwy 105	Sunbury, NB	Steep clay bank at edge of river	Common		G. Bishop, M. Papoulias	M. Papoulias	no achenes
316	6-Jul-05	<i>Plantago major</i> L.	Plantaginaceae	45°52'50.0"	66°17'28.8"	Bank of Saint John River, about 50m S. of Hwy 105	Sunbury, NB	Steep clay bank at edge of river	Rare	SE	G. Bishop, M. Papoulias	M. Papoulias	This specimen is uncommonly hairy.
317	6-Jul-05	<i>Carex lanuginosa</i> Michx. (<i>Carex pellita</i>)	Cyperaceae	45°52'50.0"	66°17'28.8"	Bank of Saint John River, about 50m S. of Hwy 105	Sunbury, NB	Steep clay bank at edge of river	Uncommon	S5	G. Bishop, M. Papoulias		

Appendix B - Vascular plant collections

Coll #	Date	Species	Family	Latitude (N)	Longitude (W)	Location	County, Province	Habitat	Abundance	SRANK.nb	Collector	Determined by	Notes
318	6-Jul-05	<i>Carex spp.</i>	Cyperaceae	45°52'50.0"	66°17'28.8"	Bank of Saint John River, about 50m S. of Hwy 105	Sunbury, NB	Steep clay bank at edge of river	Uncommon		G. Bishop, M. Papoulias	M. Papoulias	probably <i>C. tribuloides</i>
319	6-Jul-05	<i>Carex tribuloides</i> Wahl.	Cyperaceae	45°52'50.0"	66°17'28.8"	Bank of Saint John River, about 50m S. of Hwy 105	Sunbury, NB	Steep clay bank at edge of river	Uncommon	S4S5	G. Bishop, M. Papoulias	M. Papoulias	
320	6-Jul-05	<i>Carex pallescens</i> L.	Cyperaceae	45°52'48.3"	66°17'28.4"	Bank of Saint John River, about 50m S. of Hwy 105	Sunbury, NB	Steep clay bank at edge of river	Uncommon	S5	G. Bishop, M. Papoulias	M. Papoulias	
321	6-Jul-05	<i>Crataegus flabellata</i> (Spach) Kirchn.	Rosaceae	45°52'48.3"	66°17'28.4"	Bank of Saint John River, about 50m S. of Hwy 105	Sunbury, NB	Steep clay bank at edge of river	Rare	S4S5	G. Bishop, M. Papoulias	M. Papoulias	
322	6-Jul-05	<i>Poa nemoralis</i> L.	Poaceae	45°52'44.4"	66°17'26.3"	Margin of Saint John River	Sunbury, NB	Silver maple floodplain with <i>Equisetum arvense</i>	Uncommon	SE	G. Bishop, M. Papoulias	M. Papoulias	
323	6-Jul-05	<i>Salix x rubens</i> Schrank	Salicaceae	45°51'09.2"	66°13'34.6"	Crescent 1	Queens, NB	margin of emergent marsh dominated by <i>Sparganium eurycarpum</i> , <i>Trifolium</i>	Rare	SE	G. Bishop, M. Papoulias	M. Papoulias	
324	6-Jul-05	<i>Geum laciniatum</i> Murr.	Rosaceae	45°51'09.4"	66°13'33.6"	Meadow near Crescent 1	Queens, NB	Onoclea sensibilis, <i>Apios americana</i> , <i>Laportea</i>	Rare	S5	G. Bishop, M. Papoulias	M. Papoulias	
325	6-Jul-05	<i>Ribes americanum</i> P. Miller	Grossulariaceae	45°51'09.5"	66°13'31.8"	Meadow near Crescent 1	Queens, NB	Onoclea sensibilis, <i>Apios americana</i> , <i>Laportea</i>	Rare	S4	G. Bishop, M. Papoulias	M. Papoulias	
326	6-Jul-05	<i>Sambucus?</i>	Apiaceae	45°51'09.5"	66°13'31.8"	Meadow near Crescent 1	Queens, NB	Onoclea sensibilis, <i>Apios americana</i> , <i>Laportea</i>	Uncommon		G. Bishop, M. Papoulias		unidentifiable
327	6-Jul-05	<i>Potamogeton pusillus</i> L. ssp. <i>pusillus</i>	Potamogetonaceae	45°51'10.3"	66°13'23.9"	Weedy Brook	Queens, NB	Shallow marsh at end of brook, about 1m deep	Uncommon	S4	G. Bishop, M. Papoulias	M. Papoulias	
328	6-Jul-05	<i>Zizania spp.</i>	Poaceae	45°51'10.3"	66°13'23.9"	Weedy Brook	Queens, NB	Shallow marsh at end of brook, about 1m deep	Common		G. Bishop, M. Papoulias	M. Papoulias	
329	6-Jul-05	<i>Crataegus flabellata</i> (Spach) Kirchn.	Rosaceae	45°51'07.9"	66°13'14.8"	Field near Crescent 2	Queens, NB	Silver maple floodplain	Rare	S4S5	G. Bishop, M. Papoulias	M. Papoulias	
330	6-Jul-05	<i>Crataegus flabellata</i> (Spach) Kirchn.	Rosaceae	45°51'07.9"	66°13'14.8"	Field near Crescent 2	Queens, NB	Silver maple floodplain	Rare	S4S5	G. Bishop, M. Papoulias	M. Papoulias	
331	6-Jul-05	<i>Rubus vermontanus</i> Blanch.	Rosaceae	45°51'13.2"	66°13'10.5"	N. of Crescent 1	Queens, NB	Dry field, probably old pasture	Scattered	S4S5	G. Bishop, M. Papoulias	M. Papoulias	
332	6-Jul-05	<i>Angelica spp.</i>	Apiaceae	45°50'56.1"	66°13'31.6"	Side of Hwy 105 near Saint John River	Queens, NB	Mats on flotsam, with <i>Angelica</i>	Very common		G. Bishop, M. Papoulias	M. Papoulias	(probably)
333	6-Jul-05	<i>Coronilla varia</i> L.	Fabaceae	45°50'27.2"	66°11'32.9"	Side of Hwy 105 near Saint John River	Queens, NB	Sandy bank at roadside	Rare	SE	G. Bishop, M. Papoulias	G. Bishop, M. Papoulias	
334	6-Jul-05	<i>Parthenocissus quinquefolia</i> (L.) Planch.	Vitaceae	45°50'27.2"	66°11'32.9"	Side of Hwy 105 near Saint John River	Queens, NB	Climbing a <i>Populus balsamifera</i>	Rare	SE?	G. Bishop, M. Papoulias	M. Papoulias	
413	18-Jul-05	<i>Carex bromoides</i> Schkuhr ex. Willd.	Cyperaceae	45°53'38.5"	66°16'49.6"	Floodplain near Oxbows	Sunbury, NB	Silver maple floodplain with <i>Butternuts</i>	Rare	S4	G. Bishop, M. Papoulias	M. Papoulias	
414	18-Jul-05	<i>Galium tinctorium</i> (L.) Scop	Rubiaceae	45°53'38.5"	66°16'49.6"	Floodplain near Oxbows	Sunbury, NB	Silver maple floodplain with <i>Butternuts</i>	Uncommon	S5	G. Bishop, M. Papoulias	M. Papoulias	
415	18-Jul-05	<i>Galium sp.</i>	Rubiaceae	45°53'27.1"	66°16'47.1"	Path to Oxbows	Sunbury, NB	Moist path under Alders	Uncommon		G. Bishop, M. Papoulias	M. Papoulias	probably <i>G. tinctorium</i>
416	18-Jul-05	<i>Alopecurus aequalis</i> Sobol.	Poaceae	45°53'28.3"	66°16'40.7"	Oxbow 2	Sunbury, NB	Shore of swamp in DU impoundment	Rare	S4S5	G. Bishop, M. Papoulias		
417	18-Jul-05	<i>Carex retrorsa</i> Schw.	Cyperaceae	45°53'28.3"	66°16'40.7"	Oxbow 2	Sunbury, NB	Shore of swamp in DU impoundment	Common	S4	G. Bishop, M. Papoulias	M. Papoulias	
418	18-Jul-05	<i>Salix x rubens</i> Schrank	Salicaceae	45°53'28.3"	66°16'40.7"	Oxbow 2	Sunbury, NB	Shore of swamp in DU impoundment	Rare	SE	G. Bishop, M. Papoulias	M. Papoulias	
419	18-Jul-05	<i>Utricularia macrorhiza</i> Le Conte	Lentibulariaceae	45°53'22.9"	66°16'51.6"	Oxbow 3	Sunbury, NB	Floating sedge mat dominated by <i>Carex lasiocarpa</i>	Uncommon	S5	G. Bishop, M. Papoulias	M. Papoulias	
420	18-Jul-05	<i>Epilobium leptophyllum</i> Raf.	Onagraceae	45°53'22.9"	66°16'51.6"	Oxbow 3	Sunbury, NB	Floating sedge mat dominated by <i>Carex lasiocarpa</i>	Uncommon	S5	G. Bishop, M. Papoulias	M. Papoulias	

Appendix B - Vascular plant collections

Coll #	Date	Species	Family	Latitude (N)	Longitude (W)	Location	County, Province	Habitat	Abundance	SRANK.nb	Collector	Determined by	Notes
421	18-Jul-05	<i>Eriophorum tenellum</i> Nutt.	Cyperaceae	45°53'22.9"	66°16'51.6"	Oxbow 3	Sunbury, NB	Floating sedge mat dominated by <i>Carex lasiocarpa</i>	Uncommon	S4S5	G. Bishop, M. Papoulias	M. Papoulias	
422	19-Jul-05	<i>Carex lenticularis</i> Michx.	Cyperaceae	45°52'02.1"	66°11'42.6"	S. side of Back Lake	Queens, NB	On tussocks next to shore of Back Lake	Uncommon	S5	G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias	
423	19-Jul-05	<i>Carex vesicaria</i> L.	Cyperaceae	45°52'02.4"	66°11'42.6"	S. side of Back Lake	Queens, NB	Herbaceous semi-floating mat on shores of lake	Uncommon	S5	G. Bishop, M. Papoulias, M. Chaplin		
424	19-Jul-05	<i>Schoenoplectus subterminalis</i> (Torrey) J. Sojak	Cyperaceae	45°52'02.4"	66°11'42.6"	S. side of Back Lake	Queens, NB	Tightly clumping in shallow water near floating mat	Uncommon	S5	G. Bishop, M. Papoulias, M. Chaplin	J. Goltz, G. Bishop	
425	19-Jul-05	<i>Isoetes</i> spp.	Isoetaceae	45°52'02.4"	66°11'42.6"	S. side of Back Lake	Queens, NB	Bank on shoreline of Back Lake	Common		G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias	
426	19-Jul-05	<i>Isoetes</i> spp.	Isoetaceae	45°51'59.6"	66°11'46.7"	Back Lake	Queens, NB	Shallow shores of lake	Common		G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias	
427	19-Jul-05	<i>Myriophyllum</i> spp.	Haloragaceae	45°51'53.6"	66°11'45.3"	Back Lake	Queens, NB	Shallow shores of lake	Common		G. Bishop, M. Papoulias, M. Chaplin		sent for identification
428	19-Jul-05	<i>Myriophyllum heterophyllum</i> Michx.	Haloragaceae	45°51'46.2"	66°11'50.3"	Back Lake	Queens, NB	In lake, water about 1m deep	Common	S1	G. Bishop, M. Papoulias, M. Chaplin	G. Bishop, M. Papoulias	
429	19-Jul-05			45°51'40.3"	66°11'39.2"	Pontederia Pond	Queens, NB	Shallow pond in meadows, about 30 m from Back Lake	Common		G. Bishop, M. Papoulias, M. Chaplin		
430	19-Jul-05	<i>Megalodonta beckii</i> (Torr. ex Spreng) Greene	Ceratophyllaceae	45°51'40.3"	66°11'39.2"	Pontederia Pond	Queens, NB	Shallow pond in meadows, about 30 m from Back Lake	Uncommon	S3	G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias	
431	19-Jul-05	<i>Utricularia purpurea</i> Walt.	Lentibulariaceae	45°51'40.3"	66°11'39.2"	Pontederia Pond	Queens, NB	Shallow pond in meadows, about 30 m from Back Lake		S2S3	G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias, G. Bishop	
432	19-Jul-05	<i>Najas flexilis</i> (Willd.) Rostk. & Schmidt	Najadaceae	45°51'40.3"	66°11'39.2"	Pontederia Pond	Queens, NB	Shallow pond in meadows, about 30 m from Back Lake		S5	G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias	
433	19-Jul-05	<i>Potamogeton epihydrus</i> Raf.	Potamogetonaceae	45°51'40.3"	66°11'39.2"	Pontederia Pond	Queens, NB	Shallow pond in meadows, about 30 m from Back Lake		S5	G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias	
434	19-Jul-05	<i>Potamogeton spirillus</i> Tuckerm.	Potamogetonaceae	45°51'40.3"	66°11'39.2"	Pontederia Pond	Queens, NB	Shallow pond in meadows, about 30 m from Back Lake		S4S5	G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias	
435	19-Jul-05	<i>Schoenoplectus subterminalis</i> (Torrey) J. Sojak	Cyperaceae	45°51'40.3"	66°11'39.2"	Pontederia Pond	Queens, NB	Shallow pond in meadows, about 30 m from Back Lake		S5	G. Bishop, M. Papoulias, M. Chaplin	J. Goltz, G. Bishop	
436	19-Jul-05	<i>Juncus pelocarpus</i> E. Meyer	Juncaceae	45°51'16.9"	66°11'21.4"	Dragonfly Channel	Queens, NB	Floating sedge mat		S5	G. Bishop, M. Papoulias, M. Chaplin	G. Bishop	
437	19-Jul-05	<i>Nuphar microphylla</i> (Pers.) Fern. (<i>Nuphar lutea</i> ssp. <i>pumila</i>)	Nymphaeaceae	45°51'16.9"	66°11'21.4"	Dragonfly Channel	Queens, NB	In water about 1m deep		S2	G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias	
438	19-Jul-05	<i>Isoetes</i> spp.	Isoetaceae	45°51'17.4"	66°11'04.6"	Dragonfly Channel	Queens, NB	In water about 1m deep			G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias	

Appendix B - Vascular plant collections

Coll #	Date	Species	Family	Latitude (N)	Longitude (W)	Location	County, Province	Habitat	Abundance	SRANK.nb	Collector	Determined by	Notes
439	19-Jul-05	<i>Myosotis scorpioides?</i>	Boraginaceae	45°51'17.4"	66°11'04.6"	Dragonfly Channel	Queens, NB	In water about 1m deep			G. Bishop, M. Papoulias, M. Chaplin		unidentifiable
440	19-Jul-05	<i>Isoetes acadensis?</i>	Isoetaceae	45°51'40.3"	66°11'39.2"	Dragonfly Channel	Queens, NB	In water about 1m deep			G. Bishop, M. Papoulias, M. Chaplin		unidentifiable
441	20-Jul-05	<i>Campanula aparinoides Pursh</i>	Campanulaceae	45°52'54.3"	66°11'51.0"	Meadows S of Lower Thoroughfare	Queens, NB	Sedge meadow	Rare	S4	G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias	Scabrous / sticky
442	20-Jul-05	<i>Carex chordorrhiza Ehrh. ex L.f.</i>	Cyperaceae	45°52'54.3"	66°11'51.0"	Meadows S of Lower Thoroughfare	Queens, NB	Dominant on floating sedge mat	Very common	S2S3	G. Bishop, M. Papoulias, M. Chaplin	G. Bishop	
443	20-Jul-05	<i>Carex chordorrhiza Ehrh. ex L.f.</i>	Cyperaceae	45°52'54.3"	66°11'51.0"	Meadows S of Lower Thoroughfare	Queens, NB	Dominant on floating sedge mat	Very common	S2S3	G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias	
444	20-Jul-05	<i>Utricularia minor L.</i>	Lentibulariaceae	45°52'54.3"	66°11'51.0"	Meadows S of Lower Thoroughfare	Queens, NB	Shallow pond in floating sedge mat	Uncommon	S2	G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias	
445	20-Jul-05	<i>Persicaria spp.</i>	Polygonaceae	45°52'54.3"	66°11'51.0"	Meadows S of Lower Thoroughfare	Queens, NB	Floating sedge mat	Uncommon		G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias	
446	20-Jul-05	<i>Juncus filiformis L.</i>	Juncaceae	45°53'02.5"	66°11'38.5"	S. shore of Lower Thoroughfare	Queens, NB	Muddy shore of river	Uncommon	S5	G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias	
447	20-Jul-05	<i>Eleocharis erythropoda Steud.</i>	Cyperaceae	45°53'02.5"	66°11'38.5"	S. shore of Lower Thoroughfare	Queens, NB	Muddy shore of river	Common	S4S5	G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias	no mature achenes
448	20-Jul-05	<i>Eleocharis acicularis?</i>	Cyperaceae	45°53'07.6"	66°11'35.2"	S. shore of Maquapit Lake	Queens, NB	Sandy shelf about 25 cm deep	Common		G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias	unidentifiable
449	20-Jul-05	<i>Isoetes sp.</i>	Isoetaceae	45°53'07.6"	66°11'35.2"	S. shore of Maquapit Lake	Queens, NB	Sandy shelf about 25 cm deep	Common		G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias	unidentifiable
450	20-Jul-05	<i>Potamogeton perfoliatus L.</i>	Potamogetonaceae	45°53'07.6"	66°11'35.2"	S. shore of Maquapit Lake	Queens, NB	Sandy shelf about 25 cm deep	Common	S4S5	G. Bishop, M. Papoulias, M. Chaplin	J. Goltz, G. Bishop	
451	20-Jul-05	<i>Viola lanceolata L.</i>	Violaceae	45°53'07.6"	66°11'35.2"	S. shore of Maquapit Lake	Queens, NB	On shores of Maquapit Lake, with <i>Spartina pectinata</i>	Scattered	S4	G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias	
452	20-Jul-05	<i>Eleocharis tenuis (Willd.) Schultes</i>	Cyperaceae	45°53'16.9"	66°11'57.2"	S. shore of Maquapit Lake	Queens, NB	On clay shore with few other plants	Common	S3	G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias	
453	20-Jul-05	<i>Eleocharis sp.</i>	Cyperaceae	45°53'16.1"	66°11'56.3"	S. shore of Maquapit Lake	Queens, NB	In Alder thicket			G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias	probably <i>E. tenuis</i>
454a	20-Jul-05			45°53'16.1"	66°11'56.3"	S. shore of Maquapit Lake	Queens, NB	In Alder thicket			G. Bishop, M. Papoulias, M. Chaplin		unidentifiable
454b	20-Jul-05	<i>Eleocharis tenuis (Willd.) Schultes</i>	Cyperaceae	45°53'16.1"	66°11'56.3"	S. shore of Maquapit Lake	Queens, NB	In Alder thicket		S3	G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias	
454c	20-Jul-05	<i>Juncus brevicaudatus (Engelm.) Fern.</i>	Juncaceae	45°53'16.1"	66°11'56.3"	S. shore of Maquapit Lake	Queens, NB	On clay shore with few other plants		S5	G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias, G. Bishop	
455	21-Jul-05	<i>Schoenoplectus pungens (Vahl.) Palla</i>	Cyperaceae	45°47'40.1"	66°06'02.6"	South point of Jemseg River	Queens, NB	Sandy shore with few other plants	Scattered	S5	G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias	
456	21-Jul-05	<i>Agrostis scabra Willd.</i>	Poaceae	45°47'53.9"	66°06'26.3"	South point of Jemseg River	Queens, NB	Silver maple floodplain, under Alders	Uncommon	S5	G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias	
457	21-Jul-05	<i>Nuphar rubrodisca Morong (Nuphar lutea ssp. rubrodisca)</i>	Nymphaeaceae	45°47'53.9"	66°06'26.3"	Shore of St. John River	Queens, NB	In 1m of water near shore	Common	S1	G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias	
458	21-Jul-05	<i>Potamogeton pusillus L. ssp. pusillus + Potamogeton spirillus Tuckerm.</i>	Potamogetonaceae	45°47'53.9"	66°06'26.3"	Shore of St. John River	Queens, NB	In 1m of water near shore	Common	S5	G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias	
459	21-Jul-05	<i>Angelica spp.</i>	Apiaceae	45°47'53.9"	66°06'26.3"	Field near Saint John River	Queens, NB	Fallow field	Rare		G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias	

Appendix B - Vascular plant collections

Coll #	Date	Species	Family	Latitude (N)	Longitude (W)	Location	County, Province	Habitat	Abundance	SRANK.nb	Collector	Determined by	Notes
460	21-Jul-05	<i>Potamogeton</i>	Potamogetonaceae	45°48'09.1"	66°06'46.8"	Shore of St. John River	Queens, NB	In shallow water near river shore	Common		G. Bishop, M. Papoulias, M. Chaplin		
461	2-Aug-05	<i>Nuttallanthus canadensis</i> (L.) D.A. Sutton	Scrophulariaceae	45°50'38.9"	66°12'27.7"	Waterbury's Marsh	Queens, NB	Old field near clearing and picnic shelter	Rare	SE?	G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias	
462	2-Aug-05	<i>Salix discolor</i> Muhl.	Salicaceae	45°50'46.3"	66°12'25.0"	Waterbury's Marsh	Queens, NB	Side of wet depression, with Alders	Rare	S5	G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias	
463	2-Aug-05	<i>Rumex longifolius</i> DC.	Polygonaceae	45°50'50.0"	66°12'20.0"	Waterbury's Marsh	Queens, NB	Old field, on overgrown path	Rare	SE?	G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias	
464	2-Aug-05	<i>Carex scoparia</i> Schkuhr ex Willd.	Cyperaceae	45°50'54.5"	66°12'12.7"	Waterbury's Marsh	Queens, NB	Silver maple floodplain	Uncommon	S5	G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias	
465	2-Aug-05	<i>Scirpus pedicellatus</i> Ferne	Cyperaceae	45°50'56.9"	66°12'11.3"	S. of Grand Lake	Queens, NB	Shrub meadow, near willow stand	Uncommon	S2S3	G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias	
466	2-Aug-05	<i>Persicaria</i>	Polygonaceae	45°50'58.4"	66°12'11.3"	S. of Coy's Gut	Queens, NB	Shrub meadow	Uncommon		G. Bishop, M. Papoulias, M. Chaplin		unidentifiable
467	3-Aug-05	<i>Eleocharis erythropoda</i> Steud.	Cyperaceae	45°52'47.0"	66°17'28.5"	Shore of St. John River	Sunbury, NB	Clay bank with few other plants	Uncommon	S4S5	G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias	
468	3-Aug-05	<i>Nuphar microphylla</i> (Pers.) Fern. (<i>Nuphar lutea</i> ssp. <i>pumila</i>)	Nymphaeaceae	45°52'39.7"	66°17'20.5"	Shore of St. John River	Sunbury, NB	Muddy shoreline, in water about 2m deep	Common	S2	G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias	Mixed in with <i>N. lutea</i> ssp. <i>rubrodisca</i>
469	3-Aug-05	<i>Nuphar rubrodisca</i> Morong (<i>Nuphar lutea</i> ssp. <i>rubrodisca</i>)	Nymphaeaceae	45°52'35.6"	66°17'11.8"	Shore of St. John River	Sunbury, NB	In water about 0.5m deep	Common	S1	G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias	Mixed in with <i>N. lutea</i> ssp. <i>pumila</i>
470	3-Aug-05	<i>Lactuca serriola</i>	Asteraceae	45°49'32.2"	66°07'25.9"	Side of Hwy 2	Queens, NB	Rocky embankment on roadside	Very common		G. Bishop, M. Papoulias, M. Chaplin		
471	3-Aug-05	<i>Kochia scoparia</i> (L.) Schrad.	Caryophyllaceae	45°49'32.2"	66°07'25.9"	Side of Hwy 2	Queens, NB	Rocky embankment on roadside	Scattered	SE	G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias	
472	3-Aug-05	<i>Chenopodium glaucum</i> L.	Chenopodiaceae	45°49'32.2"	66°07'25.9"	Side of Hwy 2	Queens, NB	Rocky embankment on roadside	Common	SE	G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias	
473	3-Aug-05			45°49'32.2"	66°07'25.9"	Side of Hwy 2	Queens, NB	Rocky embankment on roadside			G. Bishop, M. Papoulias, M. Chaplin		
522	16-Aug-05	<i>Myriophyllum</i>	Haloragaceae	45°52'26.6"	66°12'13.5"	Colwell's Bay	Queens, NB	Stranded on shore	Uncommon		G. Bishop, M. Papoulias, M. Chaplin		sent for identification
523	16-Aug-05	<i>Megalodonta beckii</i> (Torr. ex Spreng) Greene	Asteraceae	45°52'50.0"	66°12'33.8"	Colwell's Bay	Queens, NB	In water, tops emerging	Uncommon	S3	G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias	
524	17-Aug-05	<i>Phragmites australis</i> (Cav.) Trin. Ex Steud. (introduced race)	Poaceae	45°53'10.1"	66°12'47.7"	Ash swamp	Queens, NB	Shrub meadow, with <i>Osmunda regalis</i> , <i>Ilex verticillata</i>	Scattered		G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias, G. Bishop, J. Goltz	
525	17-Aug-05	<i>Leersia</i> sp.	Poaceae	45°53'16.8"	66°12'54.3"	Ash swamp	Queens, NB	High shrub meadow under Alders	Common		G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias	
526	17-Aug-05	<i>Viola macloskeyi</i> Lloyd	Violaceae	45°53'16.8"	66°12'54.3"	Ash swamp	Queens, NB	High shrub meadow under Alders	Common	S5	G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias, J. Goltz	
527	17-Aug-05	<i>Leersia virginica</i> Willd.	Poaceae	45°54'03.4"	66°14'15.9"	Near channel to Upper Timber Lake	Queens, NB	Alder thicket	Uncommon	S2	G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias	
528	17-Aug-05	<i>Carex projecta</i> Mack.	Cyperaceae	45°54'05.5"	66°13'50.6"	About 50m S. of Main Thoroughfare	Queens, NB	Silver Maple floodplain	Uncommon	S5	G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias	
529a	17-Aug-05	<i>Eleocharis erythropoda</i> Steud.	Cyperaceae	45°54'06.8"	66°13'48.8"	Shore of Main Thoroughfare	Queens, NB	Muddy shore	Uncommon	S4S5	G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias, G. Bishop	
529b	17-Aug-05	<i>Ranunculus flammula</i> L. var. <i>ovalis</i> (Bigelow) L.D. Benson	Ranunculaceae	45°54'06.8"	66°13'48.8"	Shore of Main Thoroughfare	Queens, NB	Muddy shore	Uncommon	S?	G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias	
529c	17-Aug-05	<i>Myriophyllum</i> sp.	Haloragaceae	45°54'06.8"	66°13'48.8"	Shore of Main Thoroughfare	Queens, NB	Muddy shore	Uncommon		G. Bishop, M. Papoulias, M. Chaplin		sent for identification

Appendix B - Vascular plant collections

Coll #	Date	Species	Family	Latitude (N)	Longitude (W)	Location	County, Province	Habitat	Abundance	SRANK.nb	Collector	Determined by	Notes
530	17-Aug-05	<i>Myriophyllum</i>	Haloragaceae	45°53'47.2"	66°13'16.7"	Near Lower Timber Lake	Queens, NB	Low shrub meadow, with <i>Myrica</i> gale and mounds of <i>Osmunda regalis</i>	Scattered		G. Bishop, M. Papoulias, M. Chaplin		sent for identification
531	17-Aug-05	<i>Utricularia minor</i> L.	Lentibulariaceae	45°53'47.2"	66°13'16.7"	Near Lower Timber Lake	Queens, NB	Low shrub meadow, with <i>Myrica</i> gale and mounds of <i>Osmunda regalis</i>	Rare	S2	G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias	
532	17-Aug-05	<i>Hypericum boreale</i> (Britt.) Bickn.	Clusiaceae	45°53'47.2"	66°13'16.7"	Near Lower Timber Lake	Queens, NB	Low shrub meadow, with <i>Myrica</i> gale and mounds of <i>Osmunda regalis</i>	Uncommon	S5	G. Bishop, M. Papoulias, M. Chaplin	M. Papoulias	
533	17-Aug-05	<i>Scirpus?</i>	Cyperaceae	45°53'47.2"	66°13'16.7"	Near Lower Timber Lake	Queens, NB	Low shrub meadow, with <i>Myrica</i> gale and mounds of <i>Osmunda regalis</i>	Uncommon		G. Bishop, M. Papoulias, M. Chaplin		unidentifiable
4309	20-Jul-04	<i>Eleocharis erythropoda</i> Steud.	Cyperaceae	45°54'02.7"	66°15'18.0"	Channel thoroughfare between Maquapit and French Lake, near bridge	Sunbury, NB	In shallow water along sandy shore	Common	S4S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
4310	20-Jul-04	<i>Potamogeton ephedrus</i> Raf.	Potamogetonaceae	45°54'02.7"	66°15'18.0"	Channel thoroughfare between Maquapit and French Lake, near bridge	Sunbury, NB	In shallow water along sandy shore	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
4311	20-Jul-04	<i>Zizania palustris</i> L.	Poaceae	45°54'01.4"	66°15'09.9"	Channel thoroughfare between Maquapit and French Lake, near bridge	Sunbury, NB	In shallow water along sandy shore	scattered	S3	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	With <i>Acer saccharinum</i> and <i>Bidens</i> sp.
4312	20-Jul-04	<i>Potamogeton alpinus</i> Balbis	Potamogetonaceae	45°54'01.4"	66°15'09.9"	Channel thoroughfare between Maquapit and French Lake, near bridge	Sunbury, NB	In shallow water along sandy shore	scattered	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	With <i>Sagittaria</i> and <i>Phalaris</i>
4313	20-Jul-04	<i>Potamogeton spirillus</i> Tuckerm.	Potamogetonaceae	45°54'01.4"	66°15'09.9"	Channel thoroughfare between Maquapit and French Lake, near bridge	Sunbury, NB	In shallow water along sandy shore	scattered	S4S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	With <i>Sambucus</i> , <i>Cleavers</i> , <i>Solidago</i> , <i>Aphicarpa</i>
4314	20-Jul-04	<i>Vallisneria americana</i> Michx.	Hydrocharitaceae	45°54'01.4"	66°15'09.9"	Channel thoroughfare between Maquapit and French Lake, near bridge	Sunbury, NB	In shallow water along sandy shore	Uncommon	S4	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
4315	20-Jul-04	<i>Sparganium fluctuans</i> (Engelm. ex Morong) Robins	Sparganiaceae	45°54'01.0"	66°14'29.7"	Channel thoroughfare between Maquapit and French Lake, near bridge	Sunbury, NB	In shallow water along sandy shore	Uncommon	S4	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
4316	20-Jul-04	<i>Potamogeton pusillus</i> L. ssp. <i>pusillus</i>	Potamogetonaceae	45°54'01.0"	66°14'29.7"	Channel thoroughfare between Maquapit and French Lake, near bridge	Sunbury, NB	In shallow water along sandy shore	scattered	S4	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	With <i>Sparganium eurycarpum</i> and <i>Circuta bulbifera</i>
4317	20-Jul-04	<i>Potamogeton pusillus</i> L. ssp. <i>pusillus</i>	Potamogetonaceae	45°54'01.0"	66°14'29.7"	Channel thoroughfare between Maquapit and French Lake, near bridge	Sunbury, NB	In 1 m water along sandy shore	scattered	S4	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	With <i>Sparganium eurycarpum</i> and <i>Circuta bulbifera</i>
4318	20-Jul-04	<i>Salix pyrifolia</i> Anderss.	Salicaceae	45°53'49.1"	66°13'18.6"	Lower Timberlake	Queens, NB	Marshy margin	scattered	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
4319.1	20-Jul-04	<i>Carex chordorrhiza</i> Ehrh. ex L. f.	Cyperaceae	45°53'42.6"	66°13'16.6"	Lower Timberlake	Queens, NB	Marshy margin	Uncommon	S2S3	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
4319.2	20-Jul-04	<i>Juncus militaris</i> Bigel.	Juncaceae	45°53'42.6"	66°13'16.6"	By channel entrance to Lower Timber Lake	Queens, NB	In 1 m water along lake margin	scattered	S3	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	

Appendix B - Vascular plant collections

Coll #	Date	Species	Family	Latitude (N)	Longitude (W)	Location	County, Province	Habitat	Abundance	SRANK.nb	Collector	Determined by	Notes
4320	20-Jul-04	<i>Utricularia purpurea</i> Walt.	Lentibulariaceae	45°53'42.6"	66°13'16.6"	By channel entrance to Lower Timber Lake	Queens, NB	In organic mud along lake border		S2S3	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
4321	20-Jul-04	<i>Sparganium emersum</i> Rehmann	Sparganiaceae	45°53'42.6"	66°13'16.6"	By channel entrance to Lower Timber Lake	Queens, NB	In organic mud along lake border	scattered	?	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
4322	20-Jul-04	<i>Potamogeton alpinus</i> Balbis	Potamogetonaceae	45°53'41.9"	66°13'16.6"	Lower Timberlake	Queens, NB	In 1 m water	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
4323	20-Jul-04	<i>Utricularia gibba</i> L.	Lentibulariaceae	45°53'41.8"	66°13'16.6"	Lower Timberlake	Queens, NB	In 1 m water	scattered	S1	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
4324	20-Jul-04	<i>Utricularia gibba</i> L.	Lentibulariaceae	45°53'40.3"	66°13'15.3"	Lower Timberlake	Queens, NB	In 1.5 m water	scattered	S1	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
4325	20-Jul-04	<i>Potamogeton robbinsii</i> Oakes	Potamogetonaceae	45°53'40.3"	66°13'15.3"	Lower Timberlake	Queens, NB	In 1.5 m water	scattered	S4?	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
4326	20-Jul-04	<i>Apios americana</i> Medik.	Fabaceae	45°53'41.7"	66°13'13.3"	Lower Timberlake	Queens, NB	Lake margin		S4S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
4327	20-Jul-04	<i>Potamogeton natans</i> L.	Potamogetonaceae	45°53'41.7"	66°13'13.3"	Lower Timberlake	Queens, NB	In the middle of lake, shallow water	Uncommon	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
4328	20-Jul-04	<i>Potamogeton perfoliatus</i> L.	Potamogetonaceae	45°53'37.7"	66°13'10.4"	Lower Timberlake	Queens, NB	In the middle of lake, shallow water	Uncommon	S4S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
4329	20-Jul-04	<i>Chara</i>		45°53'37.7"	66°13'10.4"	Lower Timberlake	Queens, NB	In the middle of lake, shallow water			G. Bishop, S. Dietz, M. Papoulias, M. Arnold		
4330	20-Jul-04	<i>Potamogeton natans</i> L.	Potamogetonaceae	45°53'39.2"	66°13'00.5"	Lower Timberlake	Queens, NB	In the middle of lake, shallow water	Uncommon	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
4331	20-Jul-04	<i>Carex echinata</i> Murray	Cyperaceae	45°53'39.2"	66°13'00.5"	Lower Timberlake	Queens, NB	Shoreline?	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	With Nuphar and Pontederia cordata
4332	20-Jul-04	<i>Myriophyllum verticillatum</i> L.	Haloragaceae	45°53'39.2"	66°12'59.2"	Lower Timberlake	Queens, NB	Pinnate leaves above water, in flotsam at shore	scattered	S2	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	With Juncus militaris
4333	20-Jul-04	<i>Myriophyllum heterophyllum</i> Michx.	Haloragaceae	45°53'49.8"	66°12'32.4"	Maquapit Lake	Queens, NB	In < 1 m water, sandy bottom	scattered	S1	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	Short plants, growing with Myriophyllum
4334	20-Jul-04	<i>Potamogeton pusillus</i> L. ssp. <i>pusillus</i>	Potamogetonaceae	45°53'49.8"	66°12'32.4"	Maquapit Lake	Queens, NB	In quiet water near channel	Uncommon	S4	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
4335	20-Jul-04	<i>Potamogeton natans</i> L.	Potamogetonaceae	45°53'49.8"	66°12'32.4"	Maquapit Lake	Queens, NB	In quiet water near channel	Uncommon	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	Growing with Calamagrostis canadensis and Myrica gale
4336	20-Jul-04	<i>Carex lacustris</i> Willd.	Cyperaceae	45°53'39.2"	66°12'59.2"	Portage from Lower Timber Lake to Maquapit L.	Queens, NB	Wet meadow	Common	S4S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
4337	20-Jul-04	<i>Ludwigia palustris</i> (L.) Eil.	Onagraceae	45°53'39.2"	66°12'59.2"	Portage from Lower Timber Lake to Maquapit L.	Queens, NB	Wet meadow on organic soi.l	Common	S4	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	

Appendix B - Vascular plant collections

Coll #	Date	Species	Family	Latitude (N)	Longitude (W)	Location	County, Province	Habitat	Abundance	SRANK.nb	Collector	Determined by	Notes
4338	20-Jul-04	<i>Salix petiolaris</i> Sm.	Salicaceae	45°53'39.2"	66°12'59.2"	Portage from Lower Timber Lake to Maquapit L.	Queens, NB	Lake margin	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
4339	20-Jul-04	<i>Myriophyllum heterophyllum</i> Michx.	Haloragaceae	45°53'49.8"	66°12'32.4"	Maquapit Lake	Queens, NB	In quiet water, back eddy	Common	S1	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
4340	20-Jul-04	?		45°53'40.3"	66°13'15.3"	Lower Timberlake	Queens, NB	Shallow water (<50 cm)	Very rare	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold		sent for identification
4341	22-Jul-04	<i>Potamogeton natans</i> L.	Potamogetonaceae	45°52'18.1"	66°15'53.7"	Small pond just east of Loder Br mouth, near old TCH	Sunbury, NB	Shallow water (< 1m) silty bottom	Common		G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
4342	22-Jul-04	<i>Salix nigra</i> Marsh.	Salicaceae	45°52'18.1"	66°15'53.7"	Small pond just east of Loder Br mouth, near old TCH	Sunbury, NB	Large tree, 8 m high, leaning over small pond	Common	S2	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
4343	22-Jul-04	<i>Poa palustris</i> L.	Poaceae	45°52'18.1"	66°15'53.7"	Small pond just east of Loder Br mouth, near old TCH	Sunbury, NB	Shaded river bank	scattered	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
4344	22-Jul-04	<i>Schoenoplectus torreyi</i> (Olney) Palla	Cyperaceae	45°52'20.8"	66°15'48.1"	Burpee Lake	Sunbury, NB	Shallow water in southern vegetated bay	Uncommon	S3	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
4345.1	22-Jul-04	<i>Agrimonia striata</i> Michx.	Rosaceae	45°52'01.2"	66°15'16.5"	Burpee Lake	Sunbury, NB	Shaded river bank	scattered	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
4345.2	22-Jul-04	<i>Lindernia dubia</i> (L.) Pennell	Scrophulariaceae	45°52'07.3"	66°14'49.7"	Channel leading to DU impoundment (Tire treads)	Sunbury, NB	Shrubby meadow	Uncommon	S4	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
4346	19-Jul-04	<i>Lemna minor</i> L.	Lemnaceae	45°53'43.3"	66°16'59.4"	Oxbow causeway by Loder Br.	Sunbury, NB	On water's surface	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
4349.1	18-Aug-04	<i>Carex lacustris</i> Willd.	Cyperaceae	45°51'59.8"	66°14'43.8"	By cottage at Otter Br.	Sunbury, NB	In swamp	Common	S4S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
4350	18-Aug-04	<i>Carex vesicaria</i> L.	Cyperaceae	45°51'59.8"	66°14'43.8"	By cottage at Otter Br.	Sunbury, NB	In swamp	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
4446	14-Jun-05	<i>Ranunculus repens</i> L.	Ranunculaceae	45°50'02.5"	66°07'03.5"	Near Jemseg bridge	Queens, NB	in silver maple floodplain forest	common	SE	G. Bishop	G. Bishop	
4447.1	16-Jun-05	<i>Poa nemoralis</i> L.	Poaceae	45°48'56.4"	66°07'21.4"	near barn, south of old TCH	Queens, NB	in open, wet, old pasture	scattered	SE	G. Bishop	G. Bishop	
4447.2	16-Jun-05	<i>Juncus tenuis</i> Willd.	Juncaceae	45°48'56.4"	66°07'21.4"	near barn, south of old TCH	Queens, NB	in open, wet, old pasture	scattered	S5	G. Bishop	G. Bishop	
4447.3	16-Jun-05	<i>Carex vesicaria</i> L.	Cyperaceae	45°48'56.4"	66°07'21.4"	near barn, south of old TCH	Queens, NB	in open, wet, old pasture	scattered	S5	G. Bishop	G. Bishop	
4448	17-Jun-05	<i>Geum</i> spp.	Rosaceae	45°50'09.9"	66°09'28.5"	Near Sheffield exit of Hwy 2	Queens, NB	silver maple floodplain	scattered		G. Bishop		probably laciniatum
4449	17-Jun-05	<i>Hypericum ellipticum</i> Hook.	Clusiaceae	45°50'09.9"	66°09'28.5"	Near Sheffield exit of Hwy 3	Queens, NB	silver maple floodplain	common	S5	G. Bishop	G. Bishop	
4461	18-Aug-05	<i>Pilea pumila</i> (L.) Gray	Urticaceae	45°49'42.2"	66°08'50.7"	Thatch Is. (Saint John River)	Queens, NB	muddy, cow troddened shoreline of channel	common	S2	G. Bishop	G. Bishop	
4462	18-Aug-05	<i>Potamogeton zosteriformis</i> Fern.	Potamogetonaceae	45°48'42.2"	66°08'50.7"	Channel of Thatch Is	Queens, NB	in > 1 m water; quiet, still channel	scattered	S4	G. Bishop	G. Bishop	
4463	18-Aug-05	<i>Myriophyllum farwellii</i> ?	Haloragaceae	45°49'47.6"	66°08'54.5"	Channel of Thatch Is	Queens, NB	in shallow water (<30 cm) densely mixed with <i>Potamogeton pusillus</i>	scattered		G. Bishop	G. Bishop	sent for verification
4464	18-Aug-05	<i>Potamogeton spirillus</i> Tuckerm.	Potamogetonaceae	45°49'47.6"	66°08'54.5"	Channel of Thatch Is	Queens, NB	in 50 cm water	uncommon	S4S5	G. Bishop	G. Bishop	
4465	18-Aug-05	<i>Megalodonta beckii</i> (Torr. ex Spreng) Greene	Asteraceae	45°50'07.5"	66°09'38.1"	Channel of Thatch Is	Queens, NB	40 cm water	common	S3	G. Bishop	G. Bishop	

Appendix B - Vascular plant collections

Coll #	Date	Species	Family	Latitude (N)	Longitude (W)	Location	County, Province	Habitat	Abundance	SRANK.nb	Collector	Determined by	Notes
4466	18-Aug-05	<i>Myriophyllum heterophyllum Michx.</i>	Haloragaceae	45°50'07.5"	66°09'38.1"	Channel of Thatch Is	Queens, NB	> 50 cm water, quiet channel	common	S1	G. Bishop	G. Bishop	
4467	18-Aug-05	<i>Heteranthera dubia (Jacq.) MacM</i>	Pontederiaceae	45°50'07.5"	66°09'38.1"	Channel of Thatch Is	Queens, NB	in 30-50 cm water	uncommon	S1	G. Bishop	G. Bishop	
4468	18-Aug-05			45°50'07.5"	66°09'38.1"	Channel of Thatch Is	Queens, NB	One clump in deadwater channel on North side of Thatch Island (upstream end)	Very rare		G. Bishop		roots separate - sent for identification
4469	18-Aug-05	<i>Potamogeton alpinus Balbis</i>	Potamogetonaceae	45°50'06.6"	66°09'45.0"	Channel of Thatch Is	Queens, NB	in 40 cm water,	very rare	S5	G. Bishop	G. Bishop	
4470	18-Aug-05	<i>Myriophyllum heterophyllum Michx.</i>	Haloragaceae	45°50'08.2"	66°10'00.6"	Channel of Thatch Is	Queens, NB	shoreline, stranded	common	S1	G. Bishop	G. Bishop	
4471	18-Aug-05	<i>Elodea nuttallii (Planch.) Saint John</i>	Hydrocharitaceae	45°50'08.2"	66°10'00.6"	Channel of Thatch Is (west end)	Queens, NB	shallow water (<20 cm) with <i>Mriophyllum heterophyllum</i> and <i>Ceratophyllum demersum</i>	rare	S2	G. Bishop	G. Bishop	
4472	18-Aug-05	<i>Persicaria hydropiper (L.) P.M. Opiz (Polygonum hydropiper)</i>	Polygonaceae	45°50'06.5"	66°08'40.5"	Channel of Thatch Is.	Queens, NB	in 20 -40 cm water along silver maple shaded shoreline	common	S5SE	G. Bishop	G. Bishop	
S0401	21-Jul-04	<i>Carex vesicaria L.</i>	Cyperaceae	45°53'36.8"	66°17'30.0"		Sunbury, NB	With <i>Carex crinata</i> , <i>Carex tuckermanii</i> , <i>Carex lupulinus</i> , Swamp candle, <i>Sparganium</i> sp. and <i>Sagittaria</i> sp.	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S0402	21-Jul-04	<i>Carex tribuloides Wahl.</i>	Cyperaceae	45°53'36.8"	66°17'30.0"		Sunbury, NB	With <i>Carex crinata</i> , <i>Carex tuckermanii</i> , <i>Carex lupulinus</i> , Swamp candle, <i>Sparganium</i> sp. and <i>Sagittaria</i> sp.	Common	S4S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S0403	21-Jul-04	<i>Cuscuta gronovii Willd.</i>	Cuscutaceae	45°53'35.1"	66°17'10.3"		Sunbury, NB	Common with Jewelweed, <i>Onoclea sensibilis</i> , <i>Lycopus</i>	Common	S4S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop, M. Papoulias	
S0404	21-Jul-04	<i>Carex pseudocyperus L.</i>	Cyperaceae	45°53'35.1"	66°17'10.3"		Sunbury, NB	In dead tree, carex meadow	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S0405	21-Jul-04	<i>Eleocharis acicularis (L.) R. & S.</i>	Cyperaceae	45°53'35.1"	66°17'10.3"		Sunbury, NB	In dead tree, carex meadow	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S0406	21-Jul-04	<i>Potamogeton epihydrus Raf.</i>	Potamogetonaceae	45°53'35.1"	66°17'10.3"		Sunbury, NB	In wet pools in dead tree, carex meadow	scattered	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S0407	21-Jul-04	<i>Potamogeton pusillus L. ssp. tenuissimus (Mert. & Koch) Haynes & Hellquist</i>	Potamogetonaceae	45°53'35.1"	66°17'10.3"		Sunbury, NB	In wet pools in dead tree, carex meadow	Common	S4	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S0408	21-Jul-04	<i>Carex tuckermanii Dewey</i>	Cyperaceae	45°53'32.3"	66°17'11.6"		Sunbury, NB	Shoreline of dead arm with <i>Onoclea sensibilis</i> , <i>Laportea</i> , <i>Lysimachia terrestris</i> , <i>Gallium asarine</i> , <i>Rubus pubescens</i>	Common	S3	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	

Appendix B - Vascular plant collections

Coll #	Date	Species	Family	Latitude (N)	Longitude (W)	Location	County, Province	Habitat	Abundance	SRANK.nb	Collector	Determined by	Notes
S0409	21-Jul-04	<i>Mollugo verticillata</i> L.	Molluginaceae	45°53'27.3"	66°17'14.0"		Sunbury, NB	On open shore	Common	SE	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S0410	21-Jul-04	<i>Carex debilis</i> Michx.	Cyperaceae	45°53'27.3"	66°17'14.0"		Sunbury, NB	On silver maple floodplain	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S0411	21-Jul-04	<i>Lysimachia thyrsifolia</i> L.	Primulaceae	45°53'09.6"	66°17'05.9"		Sunbury, NB	Floating sedge meadow with <i>Carex utriculata</i> , <i>Thypha</i> , <i>Onoclea sensibilis</i> (Swinging Swamp)	Common	S3S4	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S0412	21-Jul-04	<i>Utricularia intermedia</i> Hayne	Lentibulariaceae	45°53'09.6"	66°17'05.9"		Sunbury, NB	Pond in middle		S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S0413	21-Jul-04	<i>Myriophyllum verticillatum</i> L.	Haloragaceae	45°53'09.6"	66°17'05.9"		Sunbury, NB	Pond in middle		S2	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S0414	21-Jul-04	<i>Potamogeton pusillus</i> L. ssp. <i>tenuissimus</i> (Mert. & Koch) Haynes & Hellquist	Potamogetonaceae	45°53'09.6"	66°17'05.9"		Sunbury, NB	Pond in middle		S4	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S0415	21-Jul-04	<i>Carex debilis</i> Michx.	Cyperaceae	45°53'20.2"	66°16'59.7"		Sunbury, NB	Butternut grove under maple with lady fern and sensitive fern	Uncommon	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S0416	21-Jul-04	<i>Callitriche</i> spp.	Callitrichaceae	45°53'20.2"	66°16'57.7"		Sunbury, NB				G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	Sterile specimens, either <i>C. palustris</i> or <i>C. heterophylla</i>
S0418	22-Jul-04	<i>Puccinellia distans</i> (Jacq.) Parl	Poaceae	45°52'23.6"	66°16'16.4"	Side of Hwy 105	Sunbury, NB	Roadside	Common	SE	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S0419	22-Jul-04	<i>Rorippa palustris</i> (L.) Bess.	Brassicaceae	45°52'23.6"	66°16'16.4"	Side of Hwy 105	Sunbury, NB	Agricultural field margin with <i>Gnaphalium</i> , <i>Equisetum</i> , <i>Chenopodium</i>	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S0420	22-Jul-04	<i>Galium palustre</i> L.	Rubiaceae	45°52'15.9"	66°15'53.9"	Side of Hwy 105	Sunbury, NB	Edge of field with <i>phalaris</i> , <i>Stachys</i> , <i>Viccia cracca</i>	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S0421	22-Jul-04	<i>Schoenoplectus torreyi</i> (Olney) Palla	Cyperaceae	45°52'15.9"	66°15'53.9"	Side of Hwy 105	Sunbury, NB	Lake shore with <i>Sagittaria</i>	Common	S3	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S0422	22-Jul-04	<i>Salix petiolaris</i> Sm.	Salicaceae	45°52'15.9"	66°15'53.9"	Side of Hwy 105	Sunbury, NB	Along shoreline margins, <i>salix</i> thicket	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S0423	22-Jul-04	<i>Solidago canadensis</i> L. var. <i>canadensis</i>	Asteraceae	45°52'03.0"	66°15'16.8"	Side of Hwy 105	Sunbury, NB	With <i>Solidago</i> , <i>Anemone</i> , <i>Ground Nut</i> , <i>Phleum pratense</i> , along dirt road	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S0424	22-Jul-04	<i>Lobelia inflata</i> L.	Campanulaceae	45°52'03.0"	66°15'16.8"	Side of Hwy 105	Sunbury, NB	With <i>Stachys</i> , <i>Hog peanut</i> , margin of narrow floodplain with field	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	

Appendix B - Vascular plant collections

Coll #	Date	Species	Family	Latitude (N)	Longitude (W)	Location	County, Province	Habitat	Abundance	SRANK.nb	Collector	Determined by	Notes
S0425	22-Jul-04	<i>Oxalis dillenii</i> Jacq.	Oxalidaceae	45°52'03.0"	66°15'16.8"	Side of Hwy 105	Sunbury, NB	With Stachys, Hog peanut, margin of narrow floodplain with field	Common	SE	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	sent for verification
S0426	22-Jul-04	<i>Carex scoparia</i> Schkuhr ex Willd.	Cyperaceae	45°52'05.8"	66°14'52.1"	Side of Hwy 105	Sunbury, NB	In old dry field with Red clover, Vicia cracca, alder	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S0427	22-Jul-04	<i>Carex pallescens</i> L.	Cyperaceae	45°52'05.8"	66°14'52.1"	Side of Hwy 105	Sunbury, NB	In old dry field with Red clover, Vicia cracca, alder	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S0428	22-Jul-04	<i>Carex arctata</i> Boott ex Hook.	Cyperaceae	45°52'05.8"	66°14'52.1"	Side of Hwy 105	Sunbury, NB	In old dry field with Red clover, Vicia cracca, alder	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S0429	22-Jul-04	<i>Potamogeton pusillus</i> L. ssp. <i>tenuissimus</i> (Mert. & Koch) Haynes & Hellquist	Potamogetonaceae	45°52'07.3"	66°14'49.7"	Side of Hwy 105	Sunbury, NB	With Sagittaria, Sium suave, Lemna minor, Alder; in shallow pond	Common	S4	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S0480	16-Aug-04	<i>Leersia virginica</i> Willd.	Poaceae	45°49'29.6"	66°07'10.4"		Queens, NB	On maple floodplain with Onoclea sensibilis	Common	S2	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
S0481	16-Aug-04	<i>Carex vesicaria</i> L.	Cyperaceae	45°49'29.6"	66°07'10.4"		Queens, NB	In wet meadow with Scirpus, Sium, Sagittaria, Alisma	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S0482	16-Aug-04	<i>Ranunculus flabellaris</i> Raf.	Ranunculaceae	45°48'58.3"	66°07'10.7"		Queens, NB	In shallow water	Common	S1	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
S0483	16-Aug-04	<i>Persicaria hydropiper</i> (L.) P.M. Opiz (<i>Polygonum hydropiper</i>)	Polygonaceae	45°48'58.3"	66°07'10.7"		Queens, NB	In dried marshy area with Persicaria amphibia, Phalaris, Swamp Milkweed in large clumps	Common	S5SE	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
S0484	16-Aug-04	grass	Poaceae	45°48'21.9"	66°06'56.6"		Queens, NB	On floodplain with Laportea, silver maple	Common		G. Bishop, S. Dietz, M. Papoulias, M. Arnold		
S0485	16-Aug-04	<i>Veronica peregrina</i> L. ssp. <i>xalapensis</i> (Kunth) Pennell	Scrophulariaceae	45°48'21.9"	66°06'56.6"		Queens, NB	On muddy field margin along floodplain on dirt road	Common	S2?	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
S0486	16-Aug-04	<i>Zizania palustris</i> L.	Poaceae	45°48'21.9"	66°06'56.6"		Queens, NB	In channel	Common	S3	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	
S0487	16-Aug-04	<i>Juncus pelocarpus</i> E. Meyer	Juncaceae	45°48'21.9"	66°06'56.6"		Queens, NB	In channel, submerged, with Sagittaria, Pontederia, Woolgrass	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S0488	17-Aug-04	<i>Potamogeton pusillus</i> L. ssp. <i>pusillus</i>	Potamogetonaceae	45°49'47.9"	66°07'04.1"	Grand Lake	Queens, NB	In channel under bridge, floating	Common	S4	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S0489	17-Aug-04	<i>Salix nigra</i> Marsh.	Salicaceae	45°50'18.8"	66°07'22.9"	Grand Lake	Queens, NB	Along shore, with Myrica gale, Alnus, Sensitive Fern	Common	S2	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S0490	17-Aug-04	<i>Vallisneria americana</i> Michx.	Hydrocharitaceae	45°50'18.8"	66°07'22.9"	Grand Lake	Queens, NB	In Grand Lake	Common	S4	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S0491	17-Aug-04	<i>Myriophyllum heterophyllum</i> Michx.	Haloragaceae	45°50'23.9"	66°08'38.4"	Grand Lake	Queens, NB	With Pontederia, Zizania, Nuphar	Common	S1	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias	

Appendix B - Vascular plant collections

Coll #	Date	Species	Family	Latitude (N)	Longitude (W)	Location	County, Province	Habitat	Abundance	SRANK.nb	Collector	Determined by	Notes
S0492	17-Aug-04	<i>Heteranthera dubia</i> (Jacq.) MacM	Pontederiaceae	45°50'23.9"	66°08'38.4"	Grand Lake	Queens, NB	In lake		S1	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S0493a	17-Aug-04	<i>Potamogeton pusillus</i> L. ssp. <i>pusillus</i>	Potamogetonaceae	45°50'23.9"	66°08'38.4"	Grand Lake	Queens, NB	In lake		S4	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S0493b	17-Aug-04	<i>Potamogeton pusillus</i> L. ssp. <i>pusillus</i>	Potamogetonaceae	45°50'23.9"	66°08'38.4"	Grand Lake	Queens, NB	In lake		S4	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S0494	17-Aug-04	<i>Potamogeton spirillus</i> Tuckerm.	Potamogetonaceae	45°50'23.9"	66°08'38.4"	Grand Lake	Queens, NB	In lake		S4S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S0495	17-Aug-04	<i>Potamogeton spirillus</i> Tuckerm.	Potamogetonaceae	45°50'23.9"	66°08'38.4"	Grand Lake	Queens, NB	In lake		S4S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S0496	18-Aug-04	<i>Callitriche palustris</i> (L.)	Callitricaceae	45°49'33.4"	66°06'55.7"	Bean Pond	Queens, NB	In pond	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S0498	18-Aug-04	<i>Utricularia macrorhiza</i> Le Conte	Lentibulariaceae	45°49'18.9"	66°06'49.1"	Bean Pond	Queens, NB	In pond	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S0499	18-Aug-04	<i>Utricularia minor</i> L.	Lentibulariaceae	45°49'18.9"	66°06'49.1"	Bean Pond	Queens, NB	In pond	Common	S2	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S04100	18-Aug-04	<i>Myriophyllum</i> spp.	Haloragaceae	45°49'18.9"	66°06'49.1"	Bean Pond	Queens, NB	In pond	Common		G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	sent for identification
S04101	18-Aug-04	<i>Callitriche palustris</i> (L.)	Callitricaceae	45°48'29.8"	66°06'19.6"	String Lake	Queens, NB	In pond	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S04102	18-Aug-04	<i>Potamogeton spirillus</i> Tuckerm.	Potamogetonaceae	45°48'29.8"	66°06'19.6"	String Lake	Queens, NB	In pond	Common	S4S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S04103	18-Aug-04	<i>Poa pratensis</i> L.	Poaceae	45°48'29.8"	66°06'19.6"	String Lake	Queens, NB	In pond	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S04104a	18-Aug-04	<i>Panicum capillare</i> L.	Poaceae	45°48'29.8"	66°06'19.6"	String Lake	Queens, NB	In pond	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S04104b	18-Aug-04	<i>Bidens frondosa</i> L.	Asteraceae	45°48'29.8"	66°06'19.6"	String Lake	Queens, NB	In pond		S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S04105	18-Aug-04	<i>Schoenoplectus torreyi</i> (Olney) Palla	Cyperaceae	45°48'29.8"	66°06'19.6"	String Lake	Queens, NB	In channel towards tip, with <i>Equisetum fluviatile</i> , <i>Sium suave</i> , <i>Mimulus</i> , <i>Schoenoplectus</i> and <i>Leersia</i>	Common	S3	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S04106	18-Aug-04	<i>Cyperus esculentus</i> L.	Cyperaceae	45°48'29.8"	66°06'19.6"	String Lake	Queens, NB	Along sandy shore	Uncommon	S3	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S04107	18-Aug-04	<i>Eragrostis pectinacea</i> (Michx.) Nees	Poaceae	45°48'29.8"	66°06'19.6"	String Lake	Queens, NB	Along sandy shore	Uncommon	S2?	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	

Appendix B - Vascular plant collections

Coll #	Date	Species	Family	Latitude (N)	Longitude (W)	Location	County, Province	Habitat	Abundance	SRANK.nb	Collector	Determined by	Notes
S04108	18-Aug-04	<i>Carex lacustris Willd.</i>	Cyperaceae	45°51'59.8"	66°14'43.8"	Otter Brook	Queens, NB	In marsh at access path to Otter Brook	Common	S4S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S04109	18-Aug-04	<i>Carex utriculata Boott</i>	Cyperaceae	45°51'59.8"	66°14'43.8"	Otter Brook	Queens, NB	In marsh at access path to Otter Brook	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S04110	18-Aug-04	<i>Eleocharis obtusa (Willd.) Schultes</i>	Cyperaceae	45°51'59.8"	66°14'43.8"	Otter Brook	Queens, NB	Muddy path to Otter Brook	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	Many styles are trigonous.
S04111	19-Aug-04	<i>Salix pyrifolia Anderss.</i>	Salicaceae	45°53'32.5"	66°13'59.8"	Otter Brook	Queens, NB	Shrubby meadow with Leatherleaf, Sphagnum scattered, Carex and Spirea (both)	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S04112	19-Aug-04	<i>Rosa nitida Willd.</i>	Rosaceae	45°53'32.5"	66°13'59.8"	Otter Brook	Queens, NB	Shrubby meadow with Leatherleaf, Sphagnum scattered, Carex and Spirea (both)	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S04113	19-Aug-04	<i>Aster novi-belgii L. (Symphotrichium novi-belgii)</i>	Asteraceae	45°53'32.5"	66°13'59.8"	Otter Brook	Queens, NB	Shrubby meadow with Leatherleaf, Sphagnum scattered, Carex and Spirea (both)	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	Phyllaries are stubby with densely fringed margins.
S04114	19-Aug-04	<i>Carex echinata Murray</i>	Cyperaceae	45°53'32.5"	66°13'59.8"	Otter Brook	Queens, NB	Shrubby meadow with Leatherleaf, Sphagnum scattered, Carex and Spirea (both)	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S04115	19-Aug-04	<i>Carex debilis Michx.</i>	Cyperaceae	45°53'26.3"	66°14'02.9"	Otter Brook	Queens, NB	Smaller sedge meadow with Equisetum fluviatile	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S04116	19-Aug-04	<i>Eriophorum gracile Koch</i>	Cyperaceae	45°53'26.3"	66°14'02.9"	Otter Brook	Queens, NB	Smaller sedge meadow with Equisetum fluviatile	Common	S1	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S04117	19-Aug-04	<i>Carex lanuginosa Michx. (Carex pellita)</i>	Cyperaceae	45°53'26.3"	66°14'02.9"	Otter Brook	Queens, NB	Smaller sedge meadow with Equisetum fluviatile	Common	?	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S04118	19-Aug-04	<i>Utricularia intermedia Hayne</i>	Lentibulariaceae	45°53'26.3"	66°14'02.9"	Otter Brook	Queens, NB	Watery ATV track, only in track	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S04119	19-Aug-04	<i>Hypericum canadense L.</i>	Clusiaceae	45°53'12.8"	66°14'05.9"	DU Embankment	Sunbury, NB	Banked up area around DU channels	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S04120a	19-Aug-04	<i>Juncus nodosus L.</i>	Juncaceae	45°53'12.8"	66°14'05.9"	DU Embankment	Sunbury, NB	Common in banked up area around DU channels	Common	S4S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S04120b	20-Aug-04	<i>Juncus articulatus L.</i>	Juncaceae	45°53'12.8"	66°14'05.9"	DU Embankment	Sunbury, NB	Common in banked up area around DU channels	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S04121	19-Aug-04	<i>Panicum acuminatum Sw. var fasciculatum (Torr.) Fern.</i>	Poaceae	45°53'12.8"	66°14'05.9"	DU Embankment	Sunbury, NB	Common in banked up area around DU channels	Common	?	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S04122	19-Aug-04	<i>Drosera intermedia Hayne</i>	Droseraceae	45°53'12.8"	66°14'05.9"	DU Embankment	Sunbury, NB	Common in banked up area around DU channels	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S04123	19-Aug-04	<i>Eleocharis acicularis (L.) R. & S.</i>	Cyperaceae	45°53'12.8"	66°14'05.9"	DU Embankment	Sunbury, NB	Common in banked up area around DU channels	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	

Appendix B - Vascular plant collections

Coll #	Date	Species	Family	Latitude (N)	Longitude (W)	Location	County, Province	Habitat	Abundance	SRANK.nb	Collector	Determined by	Notes
S04124	19-Aug-04	<i>Bidens discoidea</i> (T. & G.) Britt.	Asteraceae	45°53'09.4"	66°13'55.5"	DU Embankment	Sunbury, NB	Common in banked up area around DU channels	Common	S1	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	M. Papoulias, G. Bishop	
S04125	19-Aug-04	<i>Agrostis scabra</i> Willd.	Poaceae	45°53'01.0"	66°14'04.6"	DU Embankment	Sunbury, NB	Common in banked up area around DU channels	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S04127a	19-Aug-04	<i>Juncus pelocarpus</i> E. Meyer	Juncaceae	45°53'12.8"	66°14'05.9"	DU Embankment	Sunbury, NB	Muddy path along banked up area	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S04127b	19-Aug-04	<i>Carex utriculata</i> Boott	Cyperaceae	45°53'12.8"	66°14'05.9"	DU Embankment	Sunbury, NB	Shrubby meadow with Leatherleaf, Sphagnum scattered, Carex and Spirea (both)	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S04127c	19-Aug-04	<i>Maianthemum trifolium</i> (L.) Sloboda	Liliaceae	45°53'12.8"	66°14'05.9"	DU Embankment	Sunbury, NB	Shrubby meadow with Leatherleaf, Sphagnum scattered, Carex and Spirea (both)	Common	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
S04128	19-Aug-04	<i>Rosa palustris</i> Marsh.	Rosaceae	45°53'32.5"	66°13'59.8"	DU Embankment	Sunbury, NB	Shrubby meadow with Leatherleaf, Sphagnum scattered, Carex and Spirea (both)	Common	S2	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
GB1	17-Aug-04	<i>Salix sericea</i> Marsh.	Salicaceae	45°49'56.8"	66°08'25.2"	GLM, north of Hwy	Queens, NB	In open wet grassy meadow	Scattered	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
GB2	17-Aug-04	<i>Salix pyrifolia</i> Anderss.	Salicaceae	45°49'56.8"	66°08'25.2"	GLM, north of Hwy	Queens, NB	In open wet grassy meadow	Scattered	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
GB3	17-Aug-04	<i>Salix pellita</i> (Anderss.) Anderss. ex Schneid.	Salicaceae	45°49'56.8"	66°08'25.2"	GLM, north of Hwy	Queens, NB	In open wet grassy meadow	Scattered	S4S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
GB4	17-Aug-04	<i>Potamogeton pusillus</i> L. ssp. <i>pusillus</i>	Potamogetonaceae	45°49'50.3"	66°08'27.9"	GLM	Queens, NB	Margin of small meadow pond, with floating sedge mat margin	Scattered	S4	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
GB5	17-Aug-04	<i>Utricularia minor</i> L.	Lentibulariaceae	45°49'50.3"	66°08'27.9"	GLM	Queens, NB	Margin of small meadow pond, with floating sedge mat margin	Scattered	S2	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
GB6	17-Aug-04	<i>Eleocharis acicularis</i> (L.) R. & S.	Cyperaceae	45°49'50.3"	66°08'27.9"	GLM	Queens, NB	Margin of small meadow pond, with floating sedge mat margin	Scattered	S5	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
GB7	17-Aug-04	<i>Panicum dichotomiflorum</i> Michx.	Poaceae	45°49'46.0"	66°07'06.6"	GLM, Under Highway bridge at Jemseg R	Queens, NB	On dry gravel road bed	Uncommon	SE	G. Bishop, S. Dietz, M. Papoulias, M. Arnold	G. Bishop	
1 MC	22-Jul-04	<i>Bromus latiglumis</i> (Shear) A.S. Hitchc.	Poaceae	45°48'20.6"	66°06'57.0"	St. John River, about 2km upstream from Jemseg	Queens, NB	Silver maple floodplain with very sandy soil, <i>Leersia virginica</i>	Rare	S2	G. Bishop, M. Chaplin	M. Papoulias	sent for verification
2 MC	22-Jul-04	<i>Agrostis capillaris</i> L.	Poaceae	45°48'20.6"	66°06'57.0"	St. John River, about 2km upstream from Jemseg	Queens, NB	Silver maple floodplain with very sandy soil, <i>Leersia virginica</i>	Scattered	SE	G. Bishop, M. Chaplin	G. Bishop	

Appendix B - Vascular plant collections

Coll #	Date	Species	Family	Latitude (N)	Longitude (W)	Location	County, Province	Habitat	Abundance	SRANK.nb	Collector	Determined by	Notes
3 MC	22-Jul-04	<i>Carex tribuloides</i> Wahl.	Cyperaceae	45°48'36.5"	66°07'11.4"	St. John River, about 3.5km upstream from Jemseg	Queens, NB	Silver maple floodplain with very sandy soil, <i>Leersia virginica</i>	Rare	S4S5	G. Bishop, M. Chaplin	M. Papoulias	
4 MC	22-Jul-04	<i>Leersia</i> sp.	Poaceae	45°48'36.5"	66°07'11.4"	St. John River, about 3.5km upstream from Jemseg	Queens, NB	Silver maple floodplain with very sandy soil, <i>Leersia virginica</i>	Scattered		G. Bishop, M. Chaplin	M. Papoulias	Probably <i>L. virginica</i>
5 MC	22-Jul-04	<i>Agrostis scabra</i> Willd.	Poaceae	45°48'45.2"	66°07'22.7"	St. John River, about 4.5km upstream from Jemseg	Queens, NB	Sandy beach about 7m from shore, under Silver maple	Rare	S5	G. Bishop, M. Chaplin	M. Papoulias	
6 MC	22-Jul-04	<i>Angelica sylvestris</i> L.	Apiaceae	45°49'20.2"	66°08'19.1"	St. John River, about 1km from Thatch Island crossing	Queens, NB	Silver maple floodplain adjacent to field margin	Scattered	SE	G. Bishop, M. Chaplin	G. Bishop	
7 MC	22-Jul-04	<i>Calamagrostis canadensis</i> (Michx.) P.Beauv.	Poaceae	45°49'20.2"	66°08'19.1"	St. John River, about 1km from Thatch Island crossing	Queens, NB	Silver maple floodplain adjacent to field margin	Rare	S5	G. Bishop, M. Chaplin	M. Papoulias	
8 MC	04-Aug-05	<i>Angelica</i> sp. (probably)	Apiaceae	45°50'51.0"	66°13'23.7"	St. John River, about 1km from Thatch Island	Queens, NB	Riverbank, dominated by <i>Equisetum fluviatile</i>	Rare		G. Bishop, M. Chaplin, M. Papoulias	M. Papoulias	
9 MC	04-Aug-05	<i>Cyperus esculentus</i> L.	Cyperaceae	45°50'00.9"	66°09'42.2"	Tip of Thatch Island	Queens, NB	Sandy bank of river near cow pasture	Scattered	S3	G. Bishop, M. Chaplin, M. Papoulias	M. Papoulias	
10 MC	04-Aug-05	<i>Sagittaria graminea</i> Michx.	Alismataceae	45°49'58.7"	66°09'37.7"	Tip of Thatch Island	Queens, NB	Sandy bank of river near cow pasture	Rare	S4	G. Bishop, M. Chaplin, M. Papoulias	M. Papoulias	
11 MC	04-Aug-05			45°49'51.8"	66°09'22.4"	Thatch Island	Queens, NB	Wet inland area in cow pasture	Scattered		G. Bishop, M. Chaplin, M. Papoulias		
12 MC	04-Aug-05	<i>Gratiola aurea</i> ?		45°49'30.9"	66°08'45.6"	Thatch Island	Queens, NB	Heavily grazed muddy riverbank	Scattered		G. Bishop, M. Chaplin, M. Papoulias		
13 MC	04-Aug-05	<i>Elatine</i> spp.	Elatinaceae	45°49'30.9"	66°08'45.6"	Thatch Island	Queens, NB	Heavily grazed muddy riverbank	Rare	S2	G. Bishop, M. Chaplin, M. Papoulias	M. Papoulias, G.Bishop	
14 MC	05-Aug-05	<i>Kochia scoparia</i> (L.) Schrad	Caryophyllaceae	45°49'22.4"	66°08'04.6"	Hwy 105 near Jemseg	Queens, NB	Sandy roadside	Uncommon	SE	G. Bishop, M. Chaplin, M. Papoulias	M. Papoulias	
15 MC	05-Aug-05	<i>Portulaca oleracea</i> L.	Portulacaceae	45°49'22.4"	66°08'04.6"	Hwy 105 near Jemseg	Queens, NB	Sandy roadside	Scattered	SE?	G. Bishop, M. Chaplin, M. Papoulias	M. Papoulias	
16 MC	05-Aug-05	<i>Spercularia salina</i> J. & K. Presl	Caryophyllaceae	45°49'22.4"	66°08'04.6"	Hwy 105 near Jemseg	Queens, NB	Sandy roadside	Scattered	S5	G. Bishop, M. Chaplin, M. Papoulias	M. Papoulias	
17 MC	05-Aug-05	<i>Carex arcta</i> Boott	Cyperaceae	45°49'21.2"	66°07'36.9"	Near Hwy 105 near Jemseg	Queens, NB	In floodplain forest bordering emergent marsh	Rare	S3	G. Bishop, M. Chaplin, M. Papoulias	M. Papoulias	One clump
18 MC	05-Aug-05	<i>Sonchus arvensis</i> L.	Asteraceae	45°49'35.2"	66°06'57.8"	Under Old Jemseg Bridge	Queens, NB	Gravelly surface near bridge support	Rare	SE	G. Bishop, M. Chaplin, M. Papoulias	M. Papoulias	
19 MC	18-Aug-05	<i>Carex tribuloides</i> Wahl.	Cyperaceae	45°49'05.1"	66°07'54.6"	500m S. of Hwy 105 near Jemseg	Queens, NB	Silver maple floodplain near hay field	Scattered	S4S5	G. Bishop, M. Chaplin, M. Papoulias		
20 MC	18-Aug-05	<i>Raphanus raphanistrum</i> L.	Brassicaceae	45°50'09.8"	66°10'01.3"	Hwy 105 near Hwy 2 interchange	Queens, NB	Sandy roadside	Scattered	SE	G. Bishop, M. Chaplin, M. Papoulias	M. Papoulias	
21 MC	18-Aug-05	<i>Spercularia salina</i> J. & K. Presl	Caryophyllaceae	45°49'57.1"	66°09'10.1"	Hwy 105 near Hwy 2 interchange	Queens, NB	Gravelly roadside	Scattered	S5	G. Bishop, M. Chaplin, M. Papoulias	M. Papoulias	
22 MC	19-Aug-05	<i>Lonicera x bella</i> Zabel	Caprifoliaceae	45°49'26.3"	66°07'18.2"	W. side of old Jemseg bridge	Queens, NB	Disturbed roadside, rocky embankment	Rare	SE	G. Bishop, M. Chaplin, M. Papoulias	M. Papoulias	One shrub
23 MC	19-Aug-05	<i>Prunus virginiana</i> L.	Rosaceae	45°49'26.3"	66°07'18.2"	W. side of old Jemseg bridge	Queens, NB	Disturbed roadside, rocky embankment	Scattered	S5	G. Bishop, M. Chaplin, M. Papoulias	M. Papoulias	
24 MC	19-Aug-05	<i>Carex (ovales)</i>	Cyperaceae	45°49'30.0"	66°08'06.7"	2.5 km W. of new Jemseg bridge	Queens, NB	Herbaceous meadow, codominant with <i>Sagittaria latifolia</i>	Very common		G. Bishop, M. Chaplin, M. Papoulias		unidentifiable
25 MC	19-Aug-05	<i>Chenopodium denticatum</i>	Chenopodiaceae	45°49'30.0"	66°08'06.7"	2.5 km W. of new Jemseg bridge	Queens, NB	Gravelly roadside	Scattered		G. Bishop, M. Chaplin, M. Papoulias		sent for verification
26 MC	19-Aug-05	<i>Chenopodium botrys</i> L.	Chenopodiaceae	45°49'37.4"	66°08'28.6"	Near the 336km marker of Hwy 2, on N. side	Queens, NB	Gravelly roadside	Common	SE	G. Bishop, M. Chaplin, M. Papoulias	M. Papoulias	

Appendix B - Vascular plant collections

Coll #	Date	Species	Family	Latitude (N)	Longitude (W)	Location	County, Province	Habitat	Abundance	SRANK.nb	Collector	Determined by	Notes
27 MC	19-Aug-05	<i>Chamaesyce vermiculata</i> (Raf.) House	Euphorbiaceae	45°49'37.4"	66°08'28.6"	Near the 336km marker of Hwy 2, on N. side	Queens, NB	Gravelly roadside	Scattered	S4	G. Bishop, M. Chaplin, M. Papoulias	M. Papoulias	
28 MC	19-Aug-05	<i>Salix pellita</i> (Anderss.) Anderss. ex Schneid forma <i>psila</i>	Salicaceae	45°49'37.4"	66°08'28.6"	Near the 336km marker of Hwy 2, on N. side	Queens, NB	Shrub meadow near roadside	Uncommon	S4S5	G. Bishop, M. Chaplin, M. Papoulias	J. Goltz, G. Bishop, M. Papoulias	
29 MC	19-Aug-05	<i>Salix sericea</i> Marsh.	Salicaceae	45°50'16.4"	66°09'54.8"	1km E. of Coytown Bridge	Queens, NB	Edge of herbaceous meadow, bordering a Silver maple floodplain	Uncommon	S5	G. Bishop, M. Chaplin, M. Papoulias	M. Papoulias, G. Bishop	
30 MC	19-Aug-05	<i>Utricularia gibba</i> L.	Lentibulariaceae	45°50'20.6"	66°10'13.2"	0.8 km E of Coytown Bridge	Queens, NB	Wet shrub meadow near a stand of <i>Cephalanthus occidentalis</i> , on edge of embankment, creeping over muddy substrate	Locally common	S1	G. Bishop, M. Chaplin, M. Papoulias	M. Papoulias	
31 MC	19-Aug-05	<i>Carex tribuloides</i> Wahl.	Cyperaceae	45°50'20.6"	66°10'13.2"	0.8 km E of Coytown Bridge	Queens, NB	Wet shrub meadow dominated by Buttonbush	Uncommon	S4S5	G. Bishop, M. Chaplin, M. Papoulias	M. Papoulias	

APPENDIX C

Bryophyte collections

Appendix C - Bryophyte collections

Species	Date	Latitude (N)	Longitude (W)	County	Location	Habitat	Notes
<i>Ricciocarpus natans</i>	2-Aug-05	45°50'45.3"	66°12'24.7"	Queens	near old TCH, DU picnic shelter	in small linear depression	
<i>Riccia fluitans</i>	18-Jul-05	45°53'20.7"	66°16'42.3"	Sunbury	Loders Br, near Mc Gowan's Corner	on old leaf layer along wet bank of stillwater, common	
<i>Leptodictyum riparium</i>	4-Aug-05	45°50'18.6"	66°09'58.6"	Queens	north of New TCH by exit	on the base of Buttonbush	
<i>Fontinalis novae-angliae</i>	3-Aug-05	45°52'47.0"	66°17'28.5"	Sunbury	1 km E of McGowans Corner	common in shallow water on clay shelf bank of St. John R.	
<i>Pellia epiphylla</i>	17-Aug-05	45°54'02.2"	66°14'38.2"	Sunbury	Main Thoroughfare	abundant on clay/sandy bank	
<i>Sphagnum angustifolium</i>	18-Jul-05	45°53'22.9"	66°16'51.6"	Sunbury	in Ducks Unlimited Impoundment, NE of McGownans Corner	in wet Salix pedicellaris/Carex lasiocarpa meadow	
<i>Aulacomnium palustre</i>	18-Jul-05	45°53'22.9"	66°16'51.6"	Sunbury	in Ducks Unlimited Impoundment, NE of McGownans Corner	in wet Salix pedicellaris/Carex lasiocarpa meadow	
<i>Calliergon cordifolium</i>	18-Jul-05	45°53'22.9"	66°16'51.6"	Sunbury	in Ducks Unlimited Impoundment, NE of McGownans Corner	in wet Salix pedicellaris/Carex lasiocarpa meadow	
<i>Leskea polycarpa</i>	2-Aug-05	45°50'54.5"	66°12'12.7"	Queens	North of old Hwy toward Grand Lake	on base of silver maple	Plot FR11
<i>Dichelyma capillaceum</i>	2-Aug-05	45°50'54.5"	66°12'12.7"	Queens	North of old Hwy toward Grand Lake	on base of silver maple	Plot FR12
<i>Fontinalis novae-angliae</i>	22-Jul-05	45°48'20.6"	66°06'57.0"	Queens	Shoreline of St. John R.	in 30 cm water along sandy shore	
<i>Dichelyma capillaceum</i>	5-Aug-05	45°49'34.4"	66°07'24.8"	Queens	BB plot #3, near Trout Cr.	on base of stems of Buttonbush	
<i>Leptodictyum riparium</i>	5-Aug-05	45°49'34.4"	66°07'24.8"	Queens	BB plot #3, near Trout Cr.	on base of stems of Buttonbush	
<i>Calliergon cordifolium</i>	5-Aug-05	45°49'34.4"	66°07'24.8"	Queens	BB plot #3, near Trout Cr.	on base of stems of Buttonbush	
<i>Cratoneuron filicinum</i>	5-Aug-05	45°49'34.4"	66°07'24.8"	Queens	BB plot #3, near Trout Cr.	on base of stems of Buttonbush	
<i>Sphagnum inundatum</i>	20-Jul-05	45°53'16.1"	66°11'56.3"	Queens	Shores of Maquapit L.	growing around bases of Alnus and	
Hornwort (immature)	17-Aug-05	45°54'07.1"	66°14'11.6"	Sunbury	Main Thoroughfare between French and Maquapit lakes	on sandy/clay bank	
<i>Sphagnum affine</i>	29-Jun-05	45°53' "	66°14' "	Sunbury	S. of Upper Timber Lake		
<i>Sphagnum subsecundum</i>	29-Jun-05	45°53' "	66°14' "	Sunbury	S. of Upper Timber Lake		
<i>Sphagnum affine</i>	29-Jun-05	45°53' "	66°14' "	Sunbury	S. of Upper Timber Lake		
<i>Campylium stellatum</i>	29-Jun-05	45°53' "	66°14' "	Sunbury	S. of Upper Timber Lake		Plot S-1 collection
<i>Sphagnum affine</i>	29-Jun-05	45°53' "	66°14' "	Sunbury	S. of Upper Timber Lake	growing with Royal fern	
<i>Dichelyma capillaceum</i>	28-Jun-05	45°52'40.7"	66°11'23.3"	Queens	Back Lake	Shoreline under silver maple	known from Queens, York and Charlotte counties and is tentatively ranked S2 for NB
<i>Sphagnum subsecundum</i> , possibly <i>Sphagnum lescurii</i> (= <i>S. subsecundum</i> var. <i>rufescens</i>)	28-Jun-05	45°53'27.2"	66°15'50.4"	Sunbury	DU impoundment	in wet margin of channel	
<i>Sphagnum subsecundum</i>	27-Jun-05	45°53'19.6"	66°15'45.4"	Sunbury	Moose Ridge DU impoundment, E of Loders Br.	around Myrica roots	
<i>Sphagnum subsecundum</i>	5-Jul-05	45°53'10.4"	66°13'58.0"	Sunbury	Interior of Ash swamp impoundment, NE corner	Low shrub meadow with Pogonia and Menyanthes	PL-2, SMR-3
<i>Campylium stellatum</i>	5-Jul-05	45°53'10.4"	66°13'58.0"	Sunbury	Interior of Ash swamp impoundment, NE corner	Low shrub meadow with Pogonia and Menyanthes	PL-2, SMR-4
<i>Calliergonella cuspidata</i> (S2)	5-Jul-05	45°53'10.4"	66°13'58.0"	Sunbury	Interior of Ash swamp impoundment, NE corner	Low shrub meadow with Pogonia and Menyanthes	PL-2, SMR-5
<i>Sphagnum fimbriatum</i>	5-Jul-05	~45°53'10.4"	~66°13'58.0"	Sunbury	Interior of Ash swamp impoundment, NE corner	under Alder in dense thicket	SMR-1
<i>Sphagnum affine</i>	5-Jul-05	45°52'49.1"	66°14'13.5"	Sunbury	Ash Swamp DU impoundment	around roots of 5' high alnus, Salix and Myrica, wet marsh	
<i>Warnstorfia exannulata</i>	7-Jul-05	45°51'18.3"	66°13'46.5"	Sunbury	North of Hwy 10, crescent #1	in shallow pond dominated with Alisma, Sparganium eurycarpum and	
<i>Fontinalis novae-angliae</i>	17-Jun-05	45°50'28.5"	66°09'14.2"	Queens	Grand Lake Shoreline	on shoreline and draping Salix sp. And Myrica sp.	
<i>Calliergon cordifolium</i>	15-Jun-05	45°50'03.2"	66°07'35.7"	Queens	West of Boomerang	wet marsh/fen ?, base of Salix clump	
<i>Leskea polycarpa</i>	14-Jun-05	45°49'58.7"	66°07'06.5"	Queens	Just N of new Jemseg Bridge	On Siler maple, lower trunk to higher	

APPENDIX D

Sample community ecology
data sheets

Appendix D – Sample community ecology data sheets

Floodplain Forest Data Sheet
Grand Lake Meadows Vascular Plant Survey, 2005

Site Name: _____ Date: _____

Coordinates: _____ Plot #: _____

Surveyors: _____ Photo: _____

Location: _____ Plot dimensions: _____

Community	
Community type	
Dominant species	
Disturbance	

Soil	
Depth of humus	
Soil composition	
Moisture	
Rocks?	

Topography			Hydrology	
Topographic features			Hydrologic features	
			Depth of water table	
			Seepage?	
Slope (%)	Aspect (°)	Altitude (m)		

Trees	
Height of canopy	
Epiphytes?	
Core sample #	Age:
Description of cored tree:	
Location on plot of cored tree:	

Appendix D – Sample community ecology data sheets

Trees (record all)			Shrubs			Ground vegetation	
Species	DBH	% cover	Species	# of stems	% cover	Species	% cover
Total cover			Total cover			Total cover	

Notes:

Appendix D – Sample community ecology data sheets

Wetland Data Sheet
Grand Lake Meadows Vascular Plant Survey, 2005

Site Name: _____ Date: _____

Coordinates: _____ Plot #: _____

Surveyors: _____ Photo: _____

Location: _____ Plot dimensions: _____

Community	
Community type	
Dominant species	
Disturbance	

Substrate			Water	
Type			Temperature (°C) at base	
Submerged? Yes / No	Depth of water (m)	Depth of peat / mud (m):	OR at depth _____ m	
			pH	
Peat / mud underlaid by:			DO (mg/L)	
			Conductivity (S/cm)	

Topography			Hydrology	
Topographic features			# of inlets:	Description:
			# of outlets:	Description:
			Fringing waterbodies	
Hummocks?			Depth of water table (m)	
Slope (%)	Aspect (°)	Altitude (m)		

Appendix D – Sample community ecology data sheets

Trees (record all)			Submerged (S), Emergent (E) and Ground (G) vegetation		
Species	DBH	% cover	Species	S, E or G	% cover
Total cover			Total cover		

Notes:

APPENDIX E

Community ecology plot data

Appendix E - Community ecology plot data

High Shrub Meadow

Plot #

Shrubs		
Species	# of stems	% cover

Submerged (S), Emergent (E) and Ground (G) vegetation		
Species	S, E or G	% cover

HS1

Alnus incana	>500	90
Spiraea alba	>50	10
Rosa virginiana	3	<10
Myrica gale	10	<10
Ilex verticillata	3	<10
Chaemadaphne calyculata	2	<10
Cornus sericea	1	<10
Total cover		95

Total species 7

SUMMARY PLOT DATA

Total species 26
% trees 0
% shrubs 26.92308
% ground vegetation 73.07692

Impatiens capensis	G	<10
Thalictrum pubescens	G	<10
Osmunda regalis	G	25
Galium trifidum	G	<10
Lysimachia terrestris	G	15
Viola spp.	G	<10
Calla palustris	E	<10
Cicuta bulbifera	E	<10
Thelypteris palustris	G	<10
Iris versicolor	G	<10
Lysimachia thyriflora	G	<10
Sagittaria spp.	E	<10
Carex echinata	G	<10
Scutellaria lateriflora	G	<10
Arisaema triphyllum	G	<10
Lycopus uniflorus	G	<10
Triadenum fraseri	G	<10
Hypericum ellipticum	G	<10
Galium aparine	G	<10
Total cover		40

Total species 19

HS2

Spiraea alba	25	<10
Salix petiolaris	>200	70
Salix lucida	1	<10
Alnus incana	<10	<10
Chaemadaphne calyculata	1	<10
Total cover		70

Total species 5

SUMMARY PLOT DATA

Total species 19
% trees 0
% shrubs 26.31579
% ground vegetation 73.68421

Sagittaria latifolia	E	15
Equisetum fluviatile	E	<10
Carex lacustris	E	35
Calamagrostis canadensis	E	<10
Thelypteris palustris	E	<10
Lysimachia terrestris	E	<10
Lycopus uniflora	E	<10
Acer saccharinum	E	<10
Galium tinctorium	E	<10
Salix pedicellaris	E	<10
Comarum palustre	E	<10
Triadenum fraseri	E	<10
Dulicium arundinaceum	E	<10
Carex canescens	E	<10
Total cover		75

Total species 14

HS3

Alnus incana	>100	80
Cornus sericea	50	<10
Ilex verticillata	50	<10
Salix petiolaris	50	15
Spiraea alba	50	<10
Myrica gale	20	<10
Salix lucida	1	<10
Total cover		90

Total species 7

SUMMARY PLOT DATA

Total species 28
% trees 0
% shrubs 25
% ground vegetation 75

Viola spp.	G	10
Equisetum fluviatile	G	<10
Hypericum ellipticum	G	<10
Lysimachia terrestris	G	<10
Scutellaria galericulata	G	<10
Scutellaria lateriflora	G	<10
Onoclea sensibilis	G	<10
Lythrum salicaria	G	<10
Lycopus uniflora	G	<10
Glyceria canadensis	G	<10
Persicaria amphibia	G	<10
Carex lacustris	G	<10
Osmunda regalis	G	<10
Eleocharis acicularis	G	<10
Calamagrostis canadensis	G	<10
Aster novi-belgii	G	<10
Bidens spp.	G	<10
Epilobium spp.	G	<10
Dulicium arundinaceum	G	<10
Galium tinctorium	G	<10
Lycopus americana	G	<10

High Shrub Meadow

Plot #

Shrubs		
Species	# of stems	% cover

Submerged (S), Emergent (E) and Ground (G) vegetation		
Species	S, E or G	% cover
Total cover		40

Total species 21

HS4

Myrica gale		10
Salix lucida	1	<10
Cornus rugosa		35
Alnus incana		35
Spiraea alba		<10
Salix discolor		<10
Salix petiolaris		<10
Total cover		90

Total species 7

SUMMARY PLOT DATA

Total species 16
% trees 0
% shrubs 43.75
% ground vegetation 56.25

Onoclea sensibilis	G	<10
Apios americana	G	30
Lycopus uniflora	G	<10
Viola spp.	G	<10
Rubus pubescens	G	<10
Arisaema triphyllum	G	<10
Lysimachia terrestris	G	<10
Scutellaria lateriflora	G	<10
Leersia oryzoides	G	10
Total cover		40

Total species 9

HS5

Alnus incana		80
Ilex verticillata		<10
Cornus sericea		15
Spiraea alba		<10
Rubus pubescens		<10
Total cover		90

Total species 5

SUMMARY PLOT DATA

Total species 13
% trees 0
% shrubs 38.46154
% ground vegetation 61.53846

Osmunda regalis	G	<10
Equisetum fluviatile	G	10
Onoclea sensibilis	G	<10
Lysimachia terrestris	G	<10
Lycopus americana	G	<10
Carex intumescens	G	<10
Galium tinctorium	G	<10
Carex lacustris	G	15
Total cover		25

Total species 8

HS6

Alnus incana		75
Spiraea alba		<10
Rubus pubescens		<10
Ilex verticillata		15
Cornus rugosa		<10
Myrica gale		<10
Total cover		85

Total species 6

SUMMARY PLOT DATA

Total species 19
% trees 0
% shrubs 31.57895
% ground vegetation 68.42105

Equisetum fluviatile		<10
Osmunda regalis		<10
Carex lacustris		15
Viola spp.		<10
Lycopus americana		<10
Lysimachia terrestris		<10
Triadenum fraseri		<10
Rumex crispus		<10
Galium tinctorium		<10
Sagittaria spp.		<10
Comarum palustre		<10
Scutellaria lateriflora		<10
Bidens frondosa		<10
Total cover		35

Total species 13

Low Shrub Meadow

Plot #

Shrubs		
Species	# of stems	% cover

Submerged (S), Emergent (E) and Ground (G) vegetation		
Species	S, E or G	% cover

RANDOM

LS1

Myrica gale		65
Salix pedicellaris		15
Salix petiolaris		<10
Spiraea alba		10
Total cover		70

Total species 4

SUMMARY PLOT DATA

Total species 18
% trees 0
% shrubs 22.22222222
% ground vegetation 77.77777778

Carex lacustris	G	15
Carex lasiocarpa	G	20
Comarum palustre	G	<10
Menyanthes trifoliata	G	<10
Thelypteris palustris	G	<10
Sagittaria latifolia	G	<10
Triadenum fraseri	G	<10
Lycopus uniflora	G	<10
Bidens spp.	G	<10
Dulichium arundinaceum	G	<10
Calamagrostis canadense	G	<10
Lysimachia terrestris	G	<10
Carex utriculata	G	<10
Pericaria spp.	G	<10
Total cover		40

Total species 14

LS2

Spiraea alba	70	<10
Myrica gale	>100	40
Vaccinium macrocarpon	many	10
Salix pedicellaris	many	15
Total cover		60

Total species 4

SUMMARY PLOT DATA

Total species 18
% trees 0
% shrubs 22.22222222
% ground vegetation 77.77777778

Dulichium arundinaceum	G	10
Spartina pectinata	G	10
Carex utriculata	G	50
Comarum palustre	G	<10
Equisetum fluviatile	G	<10
Lysimachia terrestris	G	<10
Sagittaria spp.	G	<10
Pericaria amphibia	G	<10
Thelypteris palustris	G	<10
Triadenum fraseri	G	<10
Menyanthes trifoliata	G	<10
Calamagrostis canadensis	G	<10
Carex lasiocarpa	G	<10
Eleocharis smallii	G	<10
Total cover		70

Total species 14

LS3

Cornus rugosa		<10
Salix pedicellaris		10
Spiraea alba		10
Alnus incana		<10
Myrica gale		15
Ilex verticillata		<10
Salix petiolaris		<10
Vaccinium macrocarpon		<10
Rosa palustris		<10
Chaemadaphne calyculata		<10
Total cover		60

Total species 10

SUMMARY PLOT DATA

Total species 27
% trees 0
% shrubs 37.03703704
% ground vegetation 62.96296296

Lycopus uniflora	G	<10
Carex lacustris	G	35
Osmunda regalis	G	10
Carex vesicaria	G	<10
Carex lasiocarpa	G	10
Iris versicolor	G	<10
Menyanthes trifoliata	G	10
Sagittaria spp.	G	15
Lysimachia terrestris	G	<10
Dulichium arundinaceum	G	<10
Comarum palustre	G	<10
Campanula aparinoides	G	<10
Equisetum fluviatile	G	<10
Calamagrostis canadensis	G	<10
Carex utriculata	G	<10
Thelypteris palustris	G	<10
Triadenum fraseri	G	<10
Total cover		60

Total species 17

Low Shrub Meadow

Plot #

LS4

Shrubs		
Species	# of stems	% cover
Cephalanthus occidentalis	1	<10
Myrica gale	many	75
Spiraea alba	10	<10
Cornus rugosa	3	<10
Ilex verticillata	1	<10
Total cover		80

Total species 5

SUMMARY PLOT DATA

Total species 33
% trees 0
% shrubs 15.15151515
% ground vegetation 84.84848485

Submerged (S), Emergent (E) and Ground (G) vegetation		
Species	S, E or G	% cover
Sparganium emersum	E	<10
Lycopus uniflorus	E	<10
Sium suave	E	<10
Triadenum fraseri	E	<10
Osmunda regalis	G	<10
Lysimachia terrestris	G	<10
Leersia oryzoides	G	<10
Torreyochloa pallida	E	<10
Cicuta bulbifera	E	<10
Dulichium arundinaceum	E	<10
Utricularia macrorrhiza	S	<10
Eleocharis smallii	E	<10
Eleocharis acicularis	E	<10
Carex lasiocarpa	G	<10
Thelypteris palustris	G	<10
Equisetum fluviatile	E	<10
Comarum palustre	E	<10
Alisma triviale	E	<10
Carex utriculata	G	<10
Iris versicolor	G	<10
Hypericum boreale	G	<10
Myriophyllum spp.	S	<10
Campanula aparinoides	G	<10
Cicuta bulbifera	E	<10
Scirpus pedicellaria	E	<10
Glyceria boreale	E	<10
Carex lacustris	G	15
Sagittaria latifolia	E	<10
Total cover		25

Total species 28

LS5

Cornus rugosa	11	<10
Ilex verticillata	>30	10
Alnus incana	12	10
Myrica gale	200	65
Spiraea alba	40	<10
Total cover		80

Total species 5

SUMMARY PLOT DATA

Total species 22
% trees 0
% shrubs 22.72727273
% ground vegetation 77.27272727

Equisetum fluviatile		<10
Lycopus uniflora		<10
Triadenum fraseri		<10
Carex lacustris		15
Cicuta bulbifera		<10
Sium suave		<10
Comarum palustre		<10
Lysimachia terrestris		<10
Bidens frondosa		<10
Galium trifidum var. trifidum		<10
Carex lasiocarpa		<10
Sagittaria spp.		10
Dulichium arundinaceum		<10
Acorus americana		<10
Carex utriculata		<10
Epilobium spp.		<10
Eleocharis acicularis		<10
Total cover		30

Total species 17

LS6

Salix pedicellaris	>150	20
Myrica gale	>50	20
Spiraea alba		20
Vaccinium macrocarpon		<10
Chaemadaphne calyculata		10
Total cover		70

Total species 5

SUMMARY PLOT DATA

Total species 20
% trees 0
% shrubs 25
% ground vegetation 75

Lycopus uniflora		<10
Lysimachia terrestris		10
Equisetum fluviatile		15
Carex lacustris		20
Carex lasiocarpa		15
Comarum palustre		<10
Thelypteris palustris		<10
Carex utriculata		<10
Triadenum fraseri		<10
Stachys palustris		<10
Menyanthes trifoliata		<10
Sagittaria spp.		<10
Calamagrostis canadensis		10
Scutellaria galericulata		<10
Lycopus americana		<10
Total cover		60

Total species 15

Appendix E - Community ecology plot data

Low Shrub Meadow

Plot #

Shrubs		
Species	# of stems	% cover
<i>Spiraea tomentosa</i>		<10
<i>Myrica gale</i>		10
<i>Alnus incana</i>		<10
<i>Chaemadaphne calyculata</i>		20
<i>Vaccinium macrocarpon</i>		10
<i>Spiraea alba</i>		10
<i>Salix pedicellaris</i>		10
Total cover		65

Total species 7

SUMMARY PLOT DATA

Total species 17
% trees 0
% shrubs 41.17647059
% ground vegetation 58.82352941

Submerged (S), Emergent (E) and Ground (G) vegetation		
Species	S, E or G	% cover
<i>Carex lasiocarpa</i>		35
<i>Thelypteris palustris</i>		<10
<i>Menyanthes trifoliata</i>		20
<i>Triadenum fraseri</i>		<10
<i>Sagittaria latifolia</i>		10
<i>Lysimachia terrestris</i>		<10
<i>Viola</i> spp.		<10
<i>Osmunda regalis</i>		<10
<i>Comarum palustre</i>		<10
<i>Lycopus uniflora</i>		<10
Total cover		55

Total species 10

NONRANDOM

LS8

<i>Spiraea alba</i>	>30	15
<i>Ilex verticillata</i>	15	<10
<i>Alnus incana</i>	>30	10
<i>Chaemadaphne calyculata</i>	>100	35
<i>Salix pedicellaris</i>	>100	10
<i>Cornus sericea</i>	>30	<10
<i>Myrica gale</i>	>30	15
<i>Rosa virginiana</i>	5	<10
Total cover		55

Total species 8

SUMMARY PLOT DATA

Total species 18
% trees 0
% shrubs 44.44444444
% ground vegetation 55.55555556

<i>Menyanthes trifoliata</i>	E	40
<i>Vaccinium macrocarpon</i>	E	20
<i>Calamagrostis canadensis</i>	E	<10
<i>Equisetum fluviatile</i>	E	<10
<i>Lysimachia terrestris</i>	E	<10
<i>Comarum palustre</i>	E	<10
<i>Thelypteris palustris</i>	E	<10
<i>Osmunda regalis</i>	E	<10
<i>Viola</i> spp.	E	<10
<i>Carex lasiocarpa</i>	E	15
Total cover		55

Total species 10

LS9

<i>Spiraea alba</i>	15-20	15
<i>Rosa virginiana</i>	>50	30
<i>Alnus incana</i>	30	<10
<i>Myrica gale</i>	50	15
<i>Chaemadaphne calyculata</i>	>100	30
<i>Ilex verticillata</i>	20	<10
<i>Rhamnus alnifolia</i>	>30	<10
<i>Cornus sericea</i>	20	<10
<i>Salix petiolaris</i>	40	<10
<i>Vaccinium macrocarpon</i>	many	<10
Total cover		65

Total species 10

SUMMARY PLOT DATA

Total species 23
% trees 0
% shrubs 43.47826087
% ground vegetation 56.52173913

<i>Aster</i> spp.	E	<10
<i>Carex lasiocarpa</i>	E	15
<i>Sagittaria</i> spp.	E	<10
<i>Thelypteris palustris</i>	E	<10
<i>Equisetum fluviatile</i>	E	<10
<i>Viola</i> spp.	E	<10
<i>Menyanthes trifoliata</i>	E	20
<i>Dulichium arundinaceum</i>	E	<10
<i>Calamagrostis canadensis</i>	E	<10
<i>Comarum palustre</i>	E	<10
<i>Thalictrum pubescens</i>	E	<10
<i>Lysimachia terrestris</i>	E	<10
<i>Carex echinata</i>	E	<10
Total cover		40

Total species 13

Appendix E - Community ecology plot data

Herbaceous Meadow

Plot #

Shrubs		
Species	# of stems	% cover

Submerged (S), Emergent (E) and Ground (G) vegetation		
Species	S, E or G	% cover

5m x 5m plots

H1

Myrica gale	one clump	10
Salix pedicellaris	>50	15
Vaccinium macrocarpon	many	30
Total cover		30

Total species 3

SUMMARY PLOT DATA

Total species 17
% trees 0
% shrubs 17.647059
% ground vegetation 82.352941

Menyanthes trifoliata	E	10
Comarum palustre	E	10
Carex lasiocarpa	E	20
Dulichium arundinaceum	E	<10
Spartina pectinata	E	10
Iris versicolor	E	<10
Eleocharis smallii	E	<10
Sagittaria spp.	E	<10
Galium spp.	E	<10
Campanula aparinoides	E	<10
Lysimachia terrestris	E	<10
Calamagrostis canadensis	E	<10
Sium suave	E	<10
Hypericum ellipticum	E	<10
Total cover		70

Total species 14

H2

Salix pedicellaris	>30	10
Vaccinium macrocarpa	many	15
Spiraea alba	2	<10
Total cover		20

Total species 3

SUMMARY PLOT DATA

Total species 14
% trees 0
% shrubs 21.428571
% ground vegetation 78.571429

Iris versicolor	E	<10
Comarum palustre	E	50
Dulichium arundinaceum	E	60
Menyanthes trifoliata	E	30
Carex lasiocarpa	E	10
Sagittaria spp.	E	<10
Spartina pectinata	E	<10
Lysimachia terrestris	E	<10
Hypericum ellipticum	E	<10
Eleocharis smallii	E	<10
Equisetum fluviatile	E	<10
Total cover		95

Total species 11

H3

Myrica gale	4	<10
Salix pedicellaris	5	<10
Spiraea tomentosa	5	<10
Vaccinium macrocarpa	10	<10
Total cover		<10

Total species 4

SUMMARY PLOT DATA

Total species 17
% trees 0
% shrubs 23.529412
% ground vegetation 76.470588

Carex lasiocarpa	E	70
Menyanthes trifoliata	E	<10
Thelypteris palustris	E	<10
Sagittaria spp.	E	<10
Comarum palustre	E	<10
Dulichium arundinaceum	E	<10
Lysimachia terrestris	E	<10
Cyperaceae (coll 442)	E	15
Carex lacustris	E	<10
Galium spp.	E	<10
Triadenum fraseri	E	<10
Calamagrostis canadense	E	<10
Galium tinctorium	E	<10
Total cover		99

Total species 13

H4

Salix pedicellaris	25	<10
Total cover		<10

Total species 1

SUMMARY PLOT DATA

Total species 11
% trees 0
% shrubs 9.0909091
% ground vegetation 90.909091

Spartina pectinata	G	20
Eleocharis smallii	G	10
Carex utriculata	G	35
Persicaria amphibia	G	<10
Thelypteris palustris	G	<10
Sagittaria spp.	G	<10
Calamagrostis canadensis	G	<10
Carex vesicaria	G	<10
Lysimachia terrestris	G	<10
Alisma triviale	G	<10
Total cover		95

Total species 10

Herbaceous Meadow

Plot #

Shrubs		
Species	# of stems	% cover

Submerged (S), Emergent (E) and Ground (G) vegetation		
Species	S, E or G	% cover

H5

Salix pedicellaris	many	10
Spiraea alba	30	10
Vaccinium macrocarpon		<10
Total cover		20

Sagittaria latifolia	G	10
Campanula aparinoides	G	<10
Spartina pectinata	G	70
Comarum palustre	G	10
Lysimachia terrestris	G	<10
Thelypteris palustris	G	<10
Dulichium arundinaceum	G	<10
Calamagrostis canadensis	G	<10
Carex lasiocarpa	G	<10
Total cover		85

Total species 3

Total species 9

SUMMARY PLOT DATA

Total species 12
% trees 0
% shrubs 25
% ground vegetation 75

10m x 10m plots

H6

Alnus incana	>50	10
Ilex verticillata	>50	5
Cornus sericea	>50	10
Myrica gale	>50	<10
Spiraea alba	>50	<10
Salix pedicellaris	1	<10
Salix pyrifolia	25	<10
Total cover		40

Typha latifolia	E	40
Osmunda regalis	G	20
Equisetum fluviatile	E	10
Thelypteris palustris	G	<10
Carex lacustris	E	10
Sagittaria spp.	E	<10
Comarum palustre	E	<10
Onoclea sensibilis	G	<10
Lysimachia terrestris	G	<10
Total cover		60

Total species 7

Total species 9

SUMMARY PLOT DATA

Total species 16
% trees 0
% shrubs 43.75
% ground vegetation 56.25

H7

Ilex verticillata	30	<10
Alnus incana	20	<10
Photinia floribunda	15	<10
Chaemadaphne calyculata	100	10
Spiraea alba	15	<10
Rosa virginiana	20	<10
Salix pedicellaris	30	<10
Myrica gale	2	<10
Vaccinium macrocarpon	many	<10
Total cover		20

Carex lasiocarpa	E	60
Menyanthes trifoliata	E	60
Pogonia ophioglossoides	E	<10
Carex echinata	E	<10
Osmunda regalis	E	<10
Equisetum fluviatile	E	<10
Comarum palustre	E	<10
Total cover		90

Total species 9

Total species 7

SUMMARY PLOT DATA

Total species 16
% trees 0
% shrubs 56.25
% ground vegetation 43.75

Herbaceous Meadow

Plot #

H8

Shrubs		
Species	# of stems	% cover
<i>Alnus incana</i>		10
<i>Ilex verticillata</i>		15
<i>Cornus rugosa</i>		<10
<i>Myrica gale</i>		<10
<i>Spiraea alba</i>		<10
<i>Salix pedicellaris</i>		<10
Total cover		40

Total species 6

SUMMARY PLOT DATA

Total species 19
% trees 0
% shrubs 31.578947
% ground vegetation 68.421053

Submerged (S), Emergent (E) and Ground (G) vegetation		
Species	S, E or G	% cover
<i>Osmunda regalis</i>	G	70
<i>Sagittaria</i> spp.	G	<10
<i>Carex lacustris</i>	G	15
<i>Comarum palustre</i>	G	<10
<i>Lysimachia terrestris</i>	G	<10
<i>Thelypteris palustris</i>	G	<10
<i>Thalictrum pubescens</i>	G	<10
<i>Carex lasiocarpa</i>	G	<10
<i>Campanula aparinoides</i>	G	<10
<i>Dulichium arundinaceum</i>	G	<10
<i>Rubus pubescens</i>	G	<10
<i>Lycopus uniflora</i>	G	<10
<i>Spartina pectinata</i>	G	<10
Total cover		80

Total species 13

Appendix E - Community ecology plot data

Emergent Marsh

Plot #

Shrubs		
Species	# of stems	% cover

Submerged (S), Emergent (E) and Ground (G) vegetation		
Species	S, E or G	% cover

E1

Total species	0	0
---------------	---	---

SUMMARY PLOT DATA

Total species	7
% trees	0
% shrubs	0
% ground vegetation	100

Sparganium eurycarpum	E	70
Equisetum fluviatile	E	70
Acorus americanus	E	<10
Persicaria amphibia	E	<10
Calamagrostis canadensis	E	<10
Sagittaria spp.	E	<10
Mentha canadensis	E	<10
Total cover		100

Total species 7

E5

Cephalanthus occidentalis	1 clump	<10
Total cover		<10

Total species 1

SUMMARY PLOT DATA

Total species	12
% trees	0
% shrubs	8.3333333
% ground vegetation	91.666667

Equisetum fluviatile	E	90
Sagittaria spp.	E	<10
Menyanthes trifoliata	E	<10
Veronica scutellata	E	10
Comarum palustre	E	15
Acorus americana	E	<10
Galium trifidum	E	<10
Lysimachia terrestris	E	<10
Cicuta bulbifera	E	<10
Spirodela polyrhiza	E	<10
Lemna minor	E	<10
Total cover		100

Total species 11

E4

Ilex verticillata	1	<10
Acer saccharinum		<10
Total cover		<10

Total species 2

SUMMARY PLOT DATA

Total species	24
% trees	0
% shrubs	8.3333333
% ground vegetation	91.666667

Glyceria borealis	E	25
Phalaris arundinacea	E	<10
Sium suave	E	<10
Sparganium eurycarpum	E	20
Menyanthes trifoliata	E	<10
Eleocharis acicularis	E	10
Ranunculus gmelinii	E	10
Lysimachia terrestris	E	<10
Scirpus pedicellaris	E	<10
Sagittaria spp.	E	20
Galium tinctorium	E	10
Alisma triviale	E	<10
Veronica scutellata	E	<10
Lysimachia thyrsoflora	E	<10
Scutellaria galericulata	E	<10
Triadenum fraseri	E	<10
Carex vesicaria	E	<10
Thelypteris palustris	E	<10
Spirodela polyrhiza	E	<10
Bidens spp.	E	<10
Cicuta bulbifera	E	<10
Hypericum boreale	E	<10
Total cover		95

Total species 22

Appendix E - Community ecology plot data

Emergent Marsh

Plot #

Shrubs		
Species	# of stems	% cover

Submerged (S), Emergent (E) and Ground (G) vegetation		
Species	S, E or G	% cover

E3

Salix pedicellaris	100	30
Myrica gale	2	10
Total cover		35

Carex lasiocarpa	E	50
Comarum palustre	E	<10
Menyanthes trifoliata	E	15
Carex canescens	E	<10
Lycopus uniflora	E	<10
Cicuta bulbifera	E	<10
Eriophorum angustifolium	E	<10
Triadenum fraseri	E	<10
Galium tinctorium	E	<10
Onoclea sensibilis	E	<10
Epilobium palustre	E	<10
Total cover		65

Total species 2

Total species 11

SUMMARY PLOT DATA

Total species 13
% trees 0
% shrubs 15.384615
% ground vegetation 84.615385

E2

Total species	0	0
----------------------	---	---

Lythrum salicaria	E	20
Lemna minor	E	35
Sparganium eurycarpum	E	15
Sparganium americanum	E	10
Alisma triviale	E	10
Sium suave	E	<10
Bidens spp.	E	<10
Bidens spp.	E	<10
Cicuta bulbifera	E	<10
Ranunculus gmelinii	E	<10
Eleocharis acicularis	E	<10
Lysimachia terrestris	E	<10
Total cover		85

SUMMARY PLOT DATA

Total species 12
% trees 0
% shrubs 0
% ground vegetation 100

Total species 12

Appendix E - Community ecology plot data

Saint John River Margin

Plot # Plot #

AQUATIC
Submerged (S), Emergent (E) and Ground (G) vegetation

Species	S, E or G	% cover
---------	-----------	---------

SJR1 SJR7

Schoenoplectus tabernaemontani	E	10
Potamogeton perfoliatus	S	<10
Valisneria americana	S	15
Elodea canadensis	S	<10
Eleocharis smallii	E	<10
Zizania spp.	S	<10
Alisma triviale	E	<10
Eleocharis acicularis	S	<10
Lysimachia terrestris	E	<10
Total cover		35

Total species 9

SHORELINE
Submerged (S), Emergent (E) and Ground (G) vegetation

Species	S, E or G	% cover
---------	-----------	---------

SJR7 SJR13

Eleocharis smallii	E	95
Sagittaria spp.	E	<10
Schoenoplectus tabernaemontani	E	<10
Bulboschoenus fluviatile	E	<10
Lythrum salicaria	E	<10
Mentha canadensis	G	<10
Sium suave	G	<10
Spartina pectinata	G	<10
Phalaris arundinacea	G	<10
Total cover		95

Total species 9

PHALARIS MEADOWS
Submerged (S), Emergent (E) and Ground (G) vegetation

Species	S, E or G	% cover
---------	-----------	---------

SJR13

Phalaris arundinacea	G	95
Onoclea sensibilis	G	20
Lythrum salicaria	G	<10
Spartina pectinata	G	<10
Apios americana	G	<10
Sium suave	G	<10
Equisetum fluviatile	G	<10
Calamagrostis canadensis	G	<10
Impatiens capensis	G	<10
Bidens spp.	G	<10
Carex crinita	G	<10
Total cover		100

Total species 11

SJR2 SJR8

Nuphar rubrodisca	E	10
Schoenoplectus tabernaemontani	E	10
Valisneria americana	S	30
Equisetum fluviatile	E	<10
Eleocharis smallii	E	<10
Sagittaria sp.	E	<10
Total cover		40

Total species 6

Eleocharis smallii	G	94
Sagittaria spp.	G	<10
Bulboschoenus fluviatile	G	<10
Schoenoplectus tabernaemontani	G	<10
Total cover		95

Total species 4

SJR14

Phalaris arundinacea	G	20
Spartina pectinata	G	80
Equisetum fluviatile	G	<10
Lythrum salicaria	G	<10
Onoclea sensibilis	G	<10
Lycopus uniflorus	G	<10
Bidens spp.	G	<10
Persicaria spp.	G	<10
Total cover		100

Total species 8

Appendix E - Community ecology plot data

Saint John River Margin

Plot # Plot #

AQUATIC
Submerged (S), Emergent (E) and Ground (G) vegetation

Species	S, E or G	% cover
---------	-----------	---------

SJR3 SJR9

Valisneria americana	S	70
Sagittaria spp.	E	<10
Schoenoplectus tabernaemontani	E	<10
Equisetum fluviatile	E	10
Eleoidea canadensis	S	<10
Potamogeton perfoliatus	S	10
Zizania spp.	E	<10
Total cover		80

Total species 7

SHORELINE
Submerged (S), Emergent (E) and Ground (G) vegetation

Species	S, E or G	% cover
---------	-----------	---------

SJR15

Equisetum fluviatile	E	60
Bulboschoenus fluviatile	E	10
Eleocharis smallii	E	15
Schoenoplectus tabernaemontanii	E	<10
Sagittaria spp.	E	<10
Phalaris arundinacea	G	10
Sium suave	G	<10
Dulichium arundinaceum	G	<10
Lythrum salicaria	G	<10
Lysimachia terrestris	G	<10
Mentha canadensis	G	<10
Spartina pectinata	G	<10
Onoclea sensibilis	G	<10
Eleocharis acicularis	G	<10
Total cover		85

Total species 14

PHALARIS MEADOWS
Submerged (S), Emergent (E) and Ground (G) vegetation

Species	S, E or G	% cover
---------	-----------	---------

SJR15

Phalaris arundinacea	G	50
Lythrum salicaria	G	<10
Apios americana	G	25
Onoclea sensibilis	G	<10
Sium suave	G	<10
Spartina pectinata	G	<10
Calystegia sepium	G	<10
Total cover		100

Total species 7

SJR4 SJR10

Valisneria americana	S	10
Sagittaria spp.	E	15
Schoenoplectus tabernaemontanii	E	<10
Zizania spp.	E	<10
Elodea canadensis	S	<10
Potamogeton perfoliatus	S	<10
Potamogeton zosteriformis	S	<10
Equisetum fluviatile	E	<10
Eleocharis smallii	E	<10
Total cover		30

Total species 9

Equisetum fluviatile	G	40
Eleocharis smallii	G	15
Zizania spp.	G	<10
Bulboschoenus fluviatile	G	<10
Onoclea sensibilis	G	<10
Lysimachia terrestris	G	<10
Sium suave	G	<10
Persicaria amphibia	G	<10
Lythrum salicaria	G	<10
Spartina pectinata	G	<10
Schoenoplectus tabernaemontanii	G	<10
Phalaris arundinacea	G	<10
Total cover		85

Total species 12

SJR16

Phalaris arundinacea	G	85
Apios americana	G	<10
Spartina pectinata	G	20
Lythrum salicaria	G	<10
Onoclea sensibilis	G	10
Acer saccharinum	G	<10
Persicaria amphibia	G	10
Equisetum fluviatile	G	<10
Eleocharis smallii	G	<10
Sium suave	G	<10
Total cover		100

Total species 10

SJR5 SJR11

Sagittaria spp.	E	25
Valisneria americana	S	20
Potamogeton spirillus	S	10
Nuphar microphylla	E	<10
Eleoidea canadensis	S	<10
Persicaria spp.	E	<10
Zizania spp.	S	<10
Sparganium eurycarpum	E	<10
Total cover		40

Total species 8

Zizania spp.	E	<10
Equisetum fluviatile	E	<10
Eleocharis smallii	E	15
Sagittaria spp.	E	10
Bulboschoenus fluviatile	E	<10
Sium suave	E	<10
Lythrum salicaria	E	<10
Persicaria amphibia	E	<10
Potamogeton spirillus	S	<10
Phalaris arundinacea	G	<10
Sparganium eurycarpum	E	<10
Total cover		35

Total species 11

SJR17

Phalaris arundinacea	G	95
Lythrum salicaria	G	15
Xanthium strumarium	G	<10
Acer saccharinum	G	<10
Total cover		100

Total species 4

Appendix E - Community ecology plot data

Saint John River Margin

Plot # Plot #

AQUATIC
Submerged (S), Emergent (E) and Ground (G) vegetation

Species	S, E or G	% cover
---------	-----------	---------

SHORELINE
Submerged (S), Emergent (E) and Ground (G) vegetation

Species	S, E or G	% cover
---------	-----------	---------

PHALARIS MEADOWS
Submerged (S), Emergent (E) and Ground (G) vegetation

Species	S, E or G	% cover
---------	-----------	---------

SJR6

Nuphar rubrodisca	E	10
Potamogeton epihydrus	S	<10
Equisetum fluviatile	E	<10
Potamogeton zosteriformis	S	10
Potamogeton spirillus	S	15
Elodea canadensis	S	<10
Najas flexilis	S	<10
Potamogeton perfoliatus	S	<10
Valisneria americana	S	30
Potamogeton pusillus	S	<10
Zizania spp.	E	<10
Ranunculus aquatilis	S	<10
Total cover		40

Total species 12

SJR12

Equisetum fluviatile	E	80
Phalaris arundinacea	E	15
Sium suave	E	<10
Mentha canadensis	E	<10
Sagittaria spp.	E	<10
Lysimachia terrestris	E	<10
Eleocharis smallii	E	<10
Schoenoplectus tabernaemontani	E	<10
Myriophyllum spp.	S	<10
Total cover		85

Total species 9

SJR18

Phalaris arundinacea	E	90
Lysimachia terrestris	E	<10
Onoclea sensibilis	E	<10
Equisetum fluviatile	E	<10
Eleocharis palustris	E	<10
Lythrum salicaria	E	<10
Total cover		95

Total species 6

SJR19

Phalaris arundinacea	G	85
Lythrum salicaria		<10
Persicaria spp.		<10
Sium suave		<10
Galium spp.		<10
Callitriche palustre		<10
Calamagrostis canadensis		<10
Total cover		87

Total species 7

Silver Maple Floodplain (interior)

Plot #	Ground vegetation	
	Species	% cover

Shrubs		
Species	# of stems	% cover

Trees (record all)		
Species	% cover	DBH

RANDOM

SM1

Onoclea sensibilis	45
Matteucia struthiopteris	15
Rubus pubescens	15
Rubus spp.	10
Thalictrum pubescens	<10
Maianthemum canadense	10
Eupatorium maculatum	<10
Solidago rugosa	<10
Solidago canadensis	<10
Athyrium filix-femina	<10
Smilax herbacea	<10
Cardamine pennsylvanica	<10
Arisaema triphyllum	<10
Galium aparine	<10
Equisetum arvense	<10
Carex intumescens	<10
Lysimachia ciliata	<10
Ilex verticillata	<10
Carex spp.	<10
Lysimachia terrestris	<10
Uvularia sessifolia	<10
Scutellaria galericulata	<10
Rubus idaeus	<10
Viburnum cassinoides	<10
Moringia lateriflora	<10
Aster spp.	<10
(grass)	<10
Total cover	90

Alnus incana	4	<10
Acer saccharinum	4	<10
Frangula alnus	10	<10
Ulmus americana	4	<10
Ilex verticillata	10-20	<10
Fraxinus pennsylvanica	2	<10
Total cover	2	15

Total species 6

Acer saccharinum	55	64
		16
		5
		4
		25
		5
		63
		25
	4	10
		27
		8
		29
		19
		6
		15
		10
		7
		18
		18
Fraxinus pennsylvanica	<10	5
		10
Ulmus americana	25	9
		7
		11
		13
		6
		5
		34
		5
		10
		6
		23
		16
		7
		16
		14
		4
Total cover	70	

Total species 3
 Average # of stems 1.05555556
 Average DBH of stems 15.31578947

Species	Acer saccharinum	Fraxinus pennsylvanica	Ulmus americana
Average # of stems	1.11111111	1	1
Average DBH of stems	18.95	7.5	11.75
# of trees	18	2	16

1st stem 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Total stems

Total species 27

SUMMARY PLOT DATA

Total species 36
 % trees 8.333333
 % shrubs 16.66667
 % ground vegetation 75

Silver Maple Floodplain (interior)

Plot #	Ground vegetation	
	Species	% cover

SM2	Onoclea sensibilis	55
	Uvularia sessifolia	45
	Athyrium filix-femina	20
	Galium aparine	<10
	Rubus pubescens	10
	Aster spp.	<10
	Ansaema triphyllum	<10
	Carex spp.	<10
	Rubus spp.	10
	Thalictrum pubescens	<10
	Maianthemum canadense	<10
	Smilax herbacea	<10
	Lysimachia terrestris	<10
	Cornus sericea	<10
	Osmunda regalis	<10
	Rubus idaeus	<10
	Moeringia lateriflora	<10
	Scutellaria galeniculata	<10
	Carex intumescens	<10
	Ilex verticillata	<10
	Aster rugosa	<10
	Hydrotelophium telephium	<10
	Lysimachia ciliata	<10
	Total cover	95

Total species 23

SUMMARY PLOT DATA

Total species	29
% trees	10.34483
% shrubs	10.34483
% ground vegetation	79.31034

Species	Shrubs	
	# of stems	% cover

Ainus incana	>100	35
Sambucus canadensis	2	<10
Ilex verticillata	5	<10
Total cover		40

Total species 3

Species	Trees (record all)	
	% cover	DBH

Species	Trees (record all)		1st stem	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total stems
	% cover	DBH																
Ulmus americana	5	20																1
		24																1
		24																1
		13																1
		29																1
		19																1
		5																1
		25																1
		16																1
		26																1
Acer saccharinum	25	3																1
		2																1
		5																1
		7																1
		4																1
		22																1
		9																5
Fraxinus pennsylvanica	5	13																1
		2																1
		8																1
	40	Lower canopy																
Total cover	30	Upper canopy																

Total species 3

Average # of stems 1.210526316

Average DBH of stems 14.34782609

Species	Acer saccharinum	Fraxinus pennsylvanica	Ulmus americana
Average # of stems	1.666666667	1	1
Average DBH of stems	10.6	7.66666667	20.1
# of trees	6	3	10

SM3

Onoclea sensibilis	65
Matteucia struthiopteris	15
Athyrium filix-femina	<10
Cicuta bulbifera	<10
Thelypteris palustris	<10
Lysimachia terrestris	<10
Acer saccharinum	<10
Maianthemum canadense	<10
Apios americana	<10
Carex intumescens	<10
Uvularia sessifolia	<10
Impatiens capensis	<10
Smilax herbacea	<10
Thalictrum pubescens	<10
Carex tuckermanni	<10
Carex spp.	<10
Amphicarpea bracteata	<10
Lycopus uniflora	<10
Scutellaria spp.	<10
Total cover	85

Total species 19

SUMMARY PLOT DATA

Total species	25
% trees	4
% shrubs	20
% ground vegetation	76

Ainus incana	>50	10
Ilex verticillata	2	<10
Fraxinus pennsylvanica	2	<10
Cornus sericea	10	<10
Spirea alba	5	<10
Total cover		15

Total species 5

Acer saccharinum	70	20	17	7	6	10	7	21	21	23	14	18	12	5	10	24	19	Total stems
		12	10															16
		28																2
		29																1
		29																1
		34																2
		37																2
		13																8
Total cover	70																	

Total species 1

Average # of stems 4.571428571

Average DBH of stems 20.53125

Species	Acer saccharinum
Average # of stems	4.571428571
Average DBH of stems	20.53125
# of trees	7

Silver Maple Floodplain (interior)

Plot #	Ground vegetation	
	Species	% cover

Shrubs		
Species	# of stems	% cover

Trees (record all)		
Species	% cover	DBH

SM4

Onoclea sensibilis	25
Laportea canadensis	40
Matteucia struthiopteris	35
Impatiens capensis	<10
Scutellaria lateriflora	<10
Viola spp.	<10
Athyrium filix-femina	<10
Ansaema triphyllum	<10
Carex spp.	<10
Rubus idaeus spp. strigosus	<10
Rubus pubescens	<10
Maianthemum canadense	<10
Thalictrum pubescens	<10
Galium aparine	<10
Moeringia lateriflora	<10
Carex debilis?	<10
Smilax herbacea	<10
Total cover	95

Alnus incana	>30	15
Ulmus americana	7	10
Cornus sericea	10	<10
Ilex verticillata	4	<10
Fraxinus americana	5	<10
Total cover	5	30

Acer saccharinum	25	10
		11
		50
		12
		4
		3
Juglans cinerea	10	66
Total cover	35	66

1st stem 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Total species 2
Average # of stems 2.428571429
Average DBH of stems 15.11764706

Species	Acer saccharinum	Juglans cinerea
Average # of stems	2.666666667	1
Average DBH of stems	11.9375	66
# of trees	6	1

Total species 17

SUMMARY PLOT DATA

Total species 24
% trees 8.333333
% shrubs 20.833333
% ground vegetation 70.833333

SM5

Athyrium filix-femina	<10
Scutellaria lateriflora	10
Lycopus uniflora	10
Onoclea sensibilis	10
Impatiens capensis	30
Solidago gigantea	<10
Carex (ovales)	<10
Cicuta bulbifera	<10
Bidens spp.	<10
Bidens spp.	<10
Carex tuckermanii	<10
Carex crinita	<10
Lysimachia terrestris	<10
Oxalis stricta	<10
Smilax herbacea	<10
Eupatorium maculatum	<10
Ansaema triphyllum	<10
Ranunculus repens	<10
Aster spp.	<10
Rubus pubescens	<10
Agrostis capillaris	<10
Total cover	95

Cornus rugosa	>50	10
Spiraea alba	10	<10
Alnus incana	>30	10
Fraxinus pennsylvanica	30	<10
Ilex verticillata	35	<10
Total cover	5	25

Acer saccharinum	65	24
		15
		17
		17
		5
		12
		7
		42
		27
Fraxinus pennsylvanica	10	36
		13
		20
		18
Total cover	70	18

Total species 2
Average # of stems 2.636363636
Average DBH of stems 18.86206897

Species	Acer saccharinum	Fraxinus pennsylvanica
Average # of stems	3.571428571	1
Average DBH of stems	18.4	21.75
# of trees	7	4

Total stems

3
5
2
2
9
2
2
2
1
1
1
1

Total species 21

SUMMARY PLOT DATA

Total species 28
% trees 7.142857
% shrubs 17.85714
% ground vegetation 75

Appendix E - Community ecology plot data

Silver Maple Floodplain (interior)

Plot #	Ground vegetation	
Species	% cover	

SM6

Arisaema triphyllum ssp. st.	15
Apios americana	20
Onoclea sensibilis	35
Carex tuckermanii	<10
Scutellaria lateriflora	<10
Lycopus americana	<10
Impatiens capensis	<10
Toxicodendron rydbergii	<10
Triadenum fraseri	<10
Acer saccharinum	<10
Bidens spp.	<10
Cicuta bulbifera	<10
Galium tinctorium	<10
Lemna minor	<10
Carex crinita	<10
Cornus rugosa	<10
Lysimachia terrestris	<10
Carex arcta	<10
Angelica spp.	<10
Sum suave	<10
Total cover	65

Total species 20

SUMMARY PLOT DATA

Total species 27

% trees 7.407407

% shrubs 18.51852

% ground vegetation 74.07407

SM7

Onoclea sensibilis	85
Maianthemum canadense	<10
Thelypteris palustris	<10
Carex intumescens	<10
Thalictrum pubescens	<10
Smilax herbacea	<10
Galium aparine	<10
Uvularia sessifolia	<10
Athyrium filix-femina	10
Lycopus uniflorus	<10
Elymus virginiana	<10
Rubus pubescens	<10
Carex (ovales)	<10
Arisaema triphyllum	<10
Itis versicolor	<10
Carex tuckermanii	<10
Mentha canadensis	<10
Osmunda regalis	<10
Total cover	95

Total species 18

SUMMARY PLOT DATA

Total species 27

% trees 3.703704

% shrubs 29.62963

% ground vegetation 66.66667

Shrubs		
Species	# of stems	% cover

Alnus incana		14
Acer saccharinum		<10
Fraxinus pennsylvanicum		<10
Ilex verticillata		<10
Cornus rugosa		<10
Total cover		15

Total species 5

Trees (record all)		
Species	% cover	DBH

1st stem	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Acer saccharinum	45	30												
		18												
		15												
		17												
		72												
		28												
		32												
		4												
		5												
		4												
		3												
		7												
		6												
		5												
		2												
		5												
		6												
		4												
		10												
Fraxinus pennsylvanica	<10	29												
Total cover	45													

Total species 2
Average # of stems 2.05
Average DBH of stems 16.17073171

Species	Acer saccharinum	Fraxinus pennsylvanic
Average # of stems	2.105263158	1
Average DBH of stems	15.85	29
# of trees	19	1

Species	% cover	DBH
Acer saccharinum	75	42
		47
		47
		31
		33
		19
		56
		42
		46
		5
		41
Total cover	75	

Total species 1
Average # of stems 2.727272727
Average DBH of stems 21.56666667

Species	Acer saccharinum
Average # of stems	2.727272727
Average DBH of stems	21.56666667
# of trees	11

Silver Maple Floodplain (interior)

Ground vegetation	
Species	% cover

Shrubs		
Species	# of stems	% cover

Trees (record all)		
Species	% cover	DBH
		1st stem

2 3 4 5 6 7 8 9 10 11 12 13 14 15

NONRANDOM

SM8

Lysimachia terrestris	<10
Lycopus uniflora	<10
Onoclea sensibilis	<10
Acer saccharinum	<10
Thelypteris palustris	<10
Total cover	<10

Total cover		0
Total species		0

Acer saccharinum		18.5
		61.5
		18.3
		14.3
		11.3
		11.6
		19.4
		14.3
		18.3
		21.7
		17.5
		19.2
		25.2
		21
		14.8
		22.4
		10.1
		11.2
		20.3
		18.9
		18.7
		18.8
		21.5
		23.2
		13.6
		23.5
		14.7
		14.2
		17.6
		18.2
		14.9
		22.6
		21.5
		27.1
Total cover	80	

Total species 5

SUMMARY PLOT DATA

Total species	6
% trees	16.66667
% shrubs	0
% ground vegetation	83.33333

Total species 1

SM9

Smilax herbacea	<10
Onoclea sensibilis	95
Thalictrum pubescens	<10
Arisaema triphyllum	<10
Rubus pubescens	<10
Maianthemum canadense	15
Moeringia lateriflora	<10
Lycopus uniflorus	<10
Carex sp. 1	<10
Thelypteris palustris	<10
Uvularia sessifolia	<10
Galium aparine	<10
Iris versicolor	<10
Laportea canadensis	<10
Galium triflorum	<10
Carex sp. 2	<10
Total cover	98

Alnus incana	20
Ulmus americana	<10
Fraxinus pennsylvanica	<10
Cornus rugosa	<10
Ilex verticillata	<10
Spirea alba	<10
Acer saccharinum	<10
Total cover	30

Acer saccharinum	60	20-70
Total cover	60	

Total species 16

SUMMARY PLOT DATA

Total species	24
% trees	4.166667
% shrubs	29.16667
% ground vegetation	66.66667

Total species 1

Total species 7

Silver Maple Floodplain (interior)

Plot #	Ground vegetation	
	Species	% cover

Shrubs		
Species	# of stems	% cover

Trees (record all)		
Species	% cover	DBH

1st stem 2 3 4 5 6 7 8 9 10 11 12 13 14 15

SM10

Onoclea sensibilis	90
Scutellaria laterifolia	<10
Laportea canadensis	<10
Lycopus uniflora	<10
Carex sp.	<10
Sium suave	<10
Galium sp. (4 blunt leaves)	<10
Lysimachia terrestris	<10
Arisaema triphyllum	<10
Phalaris?	<10
Total cover	90

Total species 10

Cornus sericea		10
Alnus incana		<10
Total cover		15

Total species 2

Acer saccharinum	45
Ulmus americana	10
Total cover	50

Total species 2

SUMMARY PLOT DATA

Total species	14
% trees	14.28571
% shrubs	14.28571
% ground vegetation	71.42857

SM11

Maianthemum canadense	<10
Impatiens capensis	<10
Matteucia struthiopteris	75
Onoclea sensibilis	20
Arisaema triphyllum	>10
Galium triflorum	>10
Uvularia sessifolia	>10
Scutellaria laterifolia	>10
Laportea canadensis	>10
Acer saccharinum	>10
Fraxinus pennsylvanica	>10
Lysimachia ciliatus	>10
Athyrium filix-femina	>10
Viola sp.	>10
Sambucus canadensis	>10
Carex sp.	>10
Amphicarpa bracteata	>10
Cardamine pratensis	>10
Thalictrum pubescens	>10
Smilax herbacea	>10
Total cover	95

Total species 20

Cornus sericea		<10
Alnus incana		10
Fraxinus pennsylvanica		<10
Total cover		25

Total species 2

Fraxinus pennsylvanica	25
Acer saccharinum	25
Betula allegheniensis	5
Total cover	50

Total species 3

SUMMARY PLOT DATA

Total species	25
% trees	12
% shrubs	8
% ground vegetation	80

SM12

Matteucia struthiopteris	85
Onoclea sensibilis	30
Uvularia sessifolia	<10
Arisaema triphyllum	<10
Acer saccharinum	<10
Cardamine pratensis	<10
Galium triflorum	<10
Maianthemum canadense	<10
Thalictrum pubescens	<10
Laportea canadensis	<10
Impatiens capensis	<10
Cornus sericea	<10
Sanicula marilandica	<10
Athyrium filix-femina	<10
Smilax herbacea	<10
Scutellaria laterifolia	<10
Lycopus uniflorus	<10
Total cover	97

Total species 17

SUMMARY PLOT DATA

Total species	21
% trees	19.04762
% shrubs	9.52381
% ground vegetation	80.95238

Alnus incana		<10
Quercus rubra		<10
Total cover		

Total species 2

Acer saccharinum	60
Quercus macrocarpa	<10
Fraxinus pennsylvanica	<10
Quercus rubra	<10
Total cover	70

Total species 4

Saint John River Silver Maple Floodplain

Plot #	Ground vegetation	
	Species	% cover
SJF1	Phalaris arundinacea	<10
	Laportea canadensis	45
	Thalictrum pubescens	<10
	Impatiens capensis	10
	Onoclea sensibilis	15
	Arisaema triphyllum	<10
	Amphicarpaea baccata	<10
	Mateucia struthiopteris	<10
	Echinocystis lobata	<10
	Lysimachia terrestris	<10
	Uvularia sessifolia	<10
	Aster spp.	<10
	Oxalis stricta	<10
	Gallium spp.	<10
	Hydrocotyllum telephium	<10
	(grass)	<10
	Solidago gigantea	<10
	Equisetum arvense	<10
	Scutellaria lateriflora	<10
	Geum canadense	<10
	Poa spp.	<10
	Ranunculus hispidus	<10
	Calystegia sepium	<10
	Trifolium repens	<10
	Stachys hispidula	<10
	Aster lateriflorus	<10
	Carex spp.	<10
	Calamagrostis canadensis	<10
	Athyrium filix-femina	<10
	Gallium aparine	<10
	Eupatorium maculatum	<10
	Carex ornitha	<10
	Lytium salicaria	<10
	Solanum dulcamara	<10
Total cover	80	

Total species 34
SUMMARY PLOT DATA
Total species 41
% trees 4.878049
% shrubs 12.19512
% ground vegetation 82.92683

SJF2	Equisetum arvense	<10
	Laportea canadensis	10
	Solanum dulcamara	10
	Scutellaria lateriflora	<10
	Impatiens capensis	<10
	Phalaris arundinacea	20
	Arisaema triphyllum ssp. stewardsonii	<10
	Thalictrum pubescens	<10
	Oxalis stricta	<10
	Lycopus uniflorus	<10
	Echinocystis lobata	<10
	Onoclea sensibilis	<10
	Bidens spp.	<10
	Stachys palustris	<10
	Sum suave	<10
	Gallium spp.	<10
	Penstemon spp.	<10
	Lytium salicaria	<10
	Gnaphalium uliginosa	<10
	Apocynum androsaemifolium	<10
	Cardamine pennsylvanica	<10
	Lindernia dubia	<10
	Urtica dioica	<10
	Carex spp.	<10
Total cover	35	

Total species 24
SUMMARY PLOT DATA
Total species 29
% trees 10.34483
% shrubs 6.896552
% ground vegetation 82.75862

Shrubs		
Species	# of stems	% cover
Spirea alba	2 clumps	<10
Ailurus incana	>50	15
Fraxinus pennsylvanica	10	<10
Acer saccharinum	5	10
Sambucus canadensis	5	<10
Total cover		
Total species	5	

Trees (record all)		
Species	% cover	DBH
1st stem		
Acer saccharinum	30	6
Ailurus incana		21
Fraxinus pennsylvanica	55	34
Acer saccharinum		41
Sambucus canadensis		44
Total cover	80	41

Total species 2
Average # of stems 4.66666667
Average DBH of stems 15.92857143
Species Acer saccharinum Fraxinus pennsylvanica
Average # of stems 12 1
Average DBH of stems 11.91666667 40
of trees 2 4

	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total stems
Acer saccharinum															9
Ailurus incana	4	7	6	18	7	17	10	25							15
Fraxinus pennsylvanica	11	16	8	8	10	21	9	19	6	16	9	6	7	19	1
Acer saccharinum															1
Sambucus canadensis															1
Total cover															1

Fraxinus pennsylvanica	3	<10
Acer saccharinum	7	<10
Total cover		
Total species	2	

Acer saccharinum	65	8
		17
Acer saccharinum		<10
		49
		60
		33
		22
		5
		41
		10
		13
Ulmus americana	5	11
		7
Fraxinus pennsylvanica	15	23
Total cover	85	

Total species 3
Average # of stems 3
Average DBH of stems 17.02564103

Species Acer saccharinum Ulmus americana Fraxinus pennsylvanica
Average # of stems 3.5 1.5 1
Average DBH of stems 17.51428571 9.333333333 23
of trees 10 2 1

Total stems

	14	5	18												4
															4
															1
															1
															6
															5
															1
															6
															6
															1
															2
															1

Saint John River Silver Maple Floodplain

Plot #	Ground vegetation	
	Species	% cover

Ajocis americana	<10
Impatiens capensis	35
Phalaris arundinacea	10
Gallium spp.	<10
Bidens spp.	<10
Bidens spp.	<10
Laportea canadensis	<10
Echinocystis lobata	<10
Eupatorium maculatum	<10
Scutellaria lateriflora	<10
Lythrum salicaria	<10
Equisetum arvense	<10
Solanum dulcamara	10
Urtica dioica	<10
Angelica sylvestris	<10
Mallotia struthocarpus	<10
Poa spp.	<10
Arisaema triphyllum spp. triphyllum	<10
Onoclea sensibilis	<10
Lysimachia terrestris	<10
Carex spp.	<10
Stum suave	<10
Total cover	45

Total species 22

SUMMARY PLOT DATA

Total species	26
% trees	11.53846
% shrubs	3.846154
% ground vegetation	84.61538

SJF4

Laportea canadensis	25
Phalaris arundinacea	<10
Bidens spp.	<10
Solanum dulcamara	<10
Onoclea sensibilis	<10
Equisetum arvense	<10
Poa spp.	<10
Euphorbia spp.	<10
Aster spp.	<10
Stachys palustris	10
Thalictrum pubescens	<10
Hypericum ellipticum	<10
Glechoma hederacea	<10
Myosotis spp.	<10
Oxalis stricta	<10
Impatiens capensis	<10
Aquilegia spp. (col # 2MC)	<10
Cuscuta spp.	<10
Echinocystis lobata	<10
Scutellaria lateriflora	<10
Arisaema triphyllum	<10
Urtica dioica	<10
Ajocis americana	<10
Caryostegia sepium	<10
Carex spp.	<10
Geum spp.	<10
Total cover	50

Total species 26

SUMMARY PLOT DATA

Total species	30
% trees	6.666667
% shrubs	6.666667
% ground vegetation	86.66667

Shrubs		
Species	# of stems	% cover

Acer saccharinum	4	<10
Total cover	4	<10
Total species	1	

Trees (record all)		
Species	% cover	DBH

Acer saccharinum	45	59
Total cover	45	59
Total species	3	
Average # of stems	2.181818182	
Average DBH of stems	23.91666667	

Total species 3
Average # of stems 2.181818182
Average DBH of stems 23.91666667

Species	Acer saccharinum	Salix nigra	Fraxinus pennsylvanica
Average # of stems	3.166666667	1	1
Average DBH of stems	23.89473684	29.5	20.33333333
# of trees	6	2	3

2 3 4 5 6 7 8 9 10 11 12 13 14 15

1st stem	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total stems
19															1
26	24	8	23												2
15															5
14	25	34	10	52	17	16									8
15															1
28															1
22															1
22															1
28															1
Total cover	65														1

Species	Acer saccharinum	Salix nigra	Fraxinus pennsylvanica
Average # of stems	3.166666667	1	1
Average DBH of stems	23.89473684	29.5	20.33333333
# of trees	6	2	3

24 Total stems

Acer saccharinum	65	7													2
Fraxinus pennsylvanica	3	<10													1
Acer saccharinum	3	<10													1
Total cover	68	<10													2
Total species	2														2
19		6	4												4
25	19	28	4	6	7										7
9	4	8	16												5
5	12	4	4												4
7	19	4													4
13															2
11															1
18															2
7	5	9	8												4
5															1
8															1
35															1
9															1
8															1
5															1
2															1
13															1
11															1
18															2
7															1
5															1
8															1
4															1
6															1
9															1
4															1
7															1
14															1
7															1
4															1
3															1
25															1
4															1
10															2
7															2
2															4
6															4
20															2
19															1
30															1
19															1
29															1
23															1
22															1
23															1
15															1
22															1
14															1
Total cover	75														1

Total species 2
Average # of stems 1.673913043
Average DBH of stems 11.03896104

Species	Acer saccharinum	Salix nigra
Average # of stems	1.815789474	1
Average DBH of stems	9.941176471	20.875
# of trees	38	8

Saint John River Silver Maple Floodplain

Plot #	Ground vegetation	
	Species	% cover
SJF5	Phalaris arundinacea	<10
	Laportea canadensis	40
	Poa spp.	<10
	Stachys palustris	<10
	Onoclea sensibilis	<10
	Echinochloa lobata	<10
	Bidens spp.	<10
	Solanum dulcivara	<10
	Impatiens capensis	10
	Thalictrum pubescens	<10
	Oxalis stricta	<10
	Aster spp.	<10
	Eupatorium maculatum	<10
	Urtica dioica	<10
	Veronica scutellata	<10
	Apocis americana	<10
	Lysimachia terrestris	<10
	Agrostis spp.	<10
	Carex spp.	<10
	Scutellaria lateriflora	<10
Total cover	59	
Total species	20	
SUMMARY PLOT DATA		
Total species	26	
% trees	7.692308	
% shrubs	15.38462	
% ground vegetation	76.92308	

Shrubs		
Species	# of stems	% cover
Acer saccharinum	10	<10
Fraxinus pennsylvanica	2	<10
Ulmus americana	1	<10
Salix nigra	2	<10
Total cover	<10	
Total species	4	

Trees (record all)		
Species	% cover	DBH
Salix nigra	<10	22
Acer saccharinum		26
Fraxinus pennsylvanica		23
Ulmus americana		1
Salix nigra		20
		24
		17
		17
		27
Acer saccharinum	70	10
		27
		10
		34
		5
		16
		24
		11
		14
		24
		3
		7
		7
		12
		11
		3
		57
		6
		10
		5
		16
		8
		16
		6
		10
		23
		1
		21
Total cover	75	21

Total species	2
Average # of stems	1.655172414
Average DBH of stems	16.40425532

Species	Acer saccharinum	Salix nigra
Average # of stems	1.904761905	1
Average DBH of stems	15.28205128	21.875
# of trees	21	8

Species	Acer saccharinum	Salix nigra
Acer saccharinum	45	2
		11
		8
		10
		68
		34
		115
Fraxinus pennsylvanica	20	40
		63
		3
		19
Ulmus americana	<10	12
Total cover	63	1

Total species	3
Average # of stems	1.272727273
Average DBH of stems	30.5

Species	Acer saccharinum	Fraxinus pennsylvanica	Ulmus americana
Average # of stems	1.333333333	1.25	1
Average DBH of stems	35.75	25.8	12
# of trees	6	4	1

Plot #	Ground vegetation	
	Species	% cover
SJF6	Thalictrum pubescens	<10
	Phalaris arundinacea	<10
	Laportea canadensis	70
	Apocis americana	<10
	Echinochloa lobata	<10
	Onoclea sensibilis	<10
	Aster umbellatus	<10
	Equisetum arvense	<10
	Andelica sylvaticum	10
	Impatiens capensis	<10
	Solidago gigantea	<10
	Lilium canadensis	<10
	Oxalis stricta	<10
	Smilax herbacea	<10
	Cardamine pennsylvanica	<10
	Amphicarpaea bracteata	<10
	Stachys palustris	<10
	Mentha canadensis	<10
	Gallium asprellum	<10
	Arisaema triphyllum var. triphyllum	<10
	Cicuta maculata	<10
	Toxicodendron radicans	<10
	Carex spp.	<10
	Anemone canadensis	<10
	Aquilegia spp.	<10
	Geum spp.	<10
	Polygonatum pubescens	<10
	Hydroleiphium telephium	<10
	Cirsium spp.	<10
	Sambucus canadensis	<10
	Clematis virginiana	<10
	Viola spp.	<10
	Scutellaria lateriflora	<10
	Lythrum salicaria	<10
Total cover	95	
Total species	34	
SUMMARY PLOT DATA		
Total species	43	
% trees	6.976744	
% shrubs	13.95349	
% ground vegetation	79.06977	

Shrubs		
Species	# of stems	% cover
Cornus sericea	3	<10
Fraxinus pennsylvanica	4	<10
Alnus incana	30	13
Ilex verticillata	1	<10
Ulmus americana	6	<10
Spiraea alba	4	<10
Total cover	20	
Total species	6	

	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Total stems														

Total stems	
--------------------	--

Total stems	
--------------------	--

Appendix E - Community ecology plot data

Saint John River Silver Maple Floodplain

Plot #	Ground vegetation	
	Species	% cover

Onoclea sensibilis	70
Arisaema triphyllum	10
Matteucia struthopteria	15
Phalaris arundinacea	<10
Lythrum tetrastrum	<10
Stachys palustris	<10
Lythrum salicaria	<10
Laportea canadensis	<10
Mentha canadensis	<10
Impatiens capensis	<10
Bidens frondosa	<10
Scutellaria latiflora	<10
Agrostis americana	<10
Thalictrum pubescens	<10
Lycopus uniflorus	<10
Aster spp.	<10
Iris versicolor	<10
Total cover	85

Total species 17

SUMMARY PLOT DATA

Total species	23
% trees	8.695652
% shrubs	17.3913
% ground vegetation	73.91304

Shrubs		
Species	# of stems	% cover

Fraxinus pennsylvanica	1	<10
Cornus rugosa	5	<10
Ulmus americana	1	<10
Acer saccharinum	5	<10
Total cover	12	<10

Total species 4

Trees (record all)		
Species	% cover	DBH

Acer saccharinum	85	10
Cornus rugosa		32
Ulmus americana		35
		43
		14
		40
		24
		27
		42
		19
		7
		55
		24
		8
		46
		40
		2
Ulmus americana	<10	
		9
Total cover	85	

Total species 2
Average # of stems 2.611111111
Average DBH of stems 18.04255319

Species	Acer saccharinum	Ulmus americana
Average # of stems	2.8125	1
Average DBH of stems	18.6	5.5
# of trees	16	2

Solanum dulcamara	<10
Laportea canadensis	10
Echinocystis lobata	<10
Stachys palustris	<10
Ampelisquea bracteata	<10
Onoclea sensibilis	<10
Bidens frondosa	<10
Impatiens capensis	<10
Thalictrum pubescens	<10
Leersia virginica	<10
Acer saccharinum	<10
Angelica sylvestris	<10
Lycopus americana	<10
Persicaria spp.	<10
Scutellaria latiflora	<10
Oxalis stricta	<10
Fraxinus pennsylvanica	<10
Total cover	25

Total species 17

SUMMARY PLOT DATA

Total species	20
% trees	10
% shrubs	5
% ground vegetation	85

Cornus rugosa	<10
Total cover	<10

Total species 1

Species	Acer saccharinum		Ulmus americana		Total stems
	% cover	DBH	% cover	DBH	
Acer saccharinum	80	20	14	19	3
Cornus rugosa		20	8	11	3
		9			2
		7			2
		6			1
		17			1
		6			1
		8			1
		20			1
		12			1
		10			1
		9			1
		11			1
		20			1
		34			1
		15	3	25	3
		19			2
		14			2
		19			1
		6			1
		26			1
		5			1
		4	17	6	4
		27			1
		6			2
		6			2
		7	5	3	4
		22			1
		6			1
Salix nigra	20	20			1
		23			1
		20			1
		19			1
		19			1
		15			1
		25			1
		10			1
		20			1
		20			1
		27			1
Total cover	85				

Total species 2
Average # of stems 1.45
Average DBH of stems 14.74137931

Species	Acer saccharinum	Salix nigra
Average # of stems	1.620689655	1
Average DBH of stems	13.55319149	19.81818182
# of trees	29	11

Saint John River Silver Maple Floodplain

Plot #	Ground vegetation	
	Species	% cover

SJF9	<i>Onoclea sensibilis</i>	60
	<i>Acer saccharinum</i>	<10
	<i>Acer americana</i>	<10
	<i>Bidens</i> spp.	<10
	<i>Arisaema triphyllum</i>	<10
	<i>Laportea canadensis</i>	<10
	<i>Solanum dulcomara</i>	<10
	<i>Lysimachia terrestris</i>	<10
	<i>Impatiens capensis</i>	<10
	<i>Ulmus americana</i>	<10
	<i>Phalaris arundinacea</i>	<10
	<i>Phleum pratense</i>	<10
	Total cover	65

Total species 12

SUMMARY PLOT DATA

Total species	14
% trees	14.28571
% shrubs	0
% ground vegetation	85.71429

Shrubs		
Species	# of stems	% cover

Total cover		0
Total species	0	

Trees (record all)		
Species	% cover	DBH

1st stem		
<i>Acer saccharinum</i>	85	44
		47
		41
		55
		14
		10
		7
		10
		7
		11
		8
		4
		10
<i>Salix nigra</i>	<10	18
Total cover	85	

Total species 2
Average # of stems 3.4
Average DBH of stems 16.19607843

Species	# of stems	Average DBH of stems	# of trees
<i>Acer saccharinum</i>	16.14285714	17.5	2
<i>Salix nigra</i>	14	1	1

	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Total stems	68	18	8	8	8	7	7							
<i>Acer saccharinum</i>														
<i>Salix nigra</i>														

APPENDIX F

Buttonbush (*Cephalanthus occidentalis*)
site observations

Appendix F - Buttonbush (*Cephalanthus occidentalis*) site observations

Site #	Clump width (m)		Average <i>Cephalanthus</i> height (m)		Water depth (cm)		Species within 2m of colony	Species within colony
	min	max	min	max	min	max		
1	6	7	1	1.25	10	40	<i>Acer saccharinum</i>	
							<i>Acorus americanus</i>	X
							<i>Alisma triviale</i>	
							<i>Apios americana</i>	
							<i>Bidens sp.</i>	X
							<i>Carex vesicaria</i>	
							<i>Comarum palustre</i>	X
							<i>Dulichium arundinaceum</i>	
							<i>Equisetum fluviatile</i>	X
							<i>Lemna minor</i>	X
							<i>Lythrum salicaria</i>	X
							<i>Onoclea sensibilis</i>	
							<i>Persicaria amphibia</i>	X
							<i>Sagittaria sp.</i>	X
							<i>Salix eriocephala</i>	
							<i>Spiraea alba</i>	
							<i>Thelypteris palustris</i>	
							<i>Triadenum fraseri</i>	
2	8	10		2	15	20	<i>Acer saccharinum</i>	
							<i>Alisma triviale</i>	
							<i>Bidens sp.</i>	X
							<i>Comarum palustre</i>	
							<i>Equisetum fluviatile</i>	X
							<i>Lemna minor</i>	X
							<i>Lycopus uniflorus</i>	
							<i>Lysimachia thyrsiflora</i>	
							<i>Lythrum salicaria</i>	X
							<i>Persicaria amphibia</i>	
							<i>Sagittaria sp.</i>	X
							<i>Salix lucida</i>	X
							<i>Sium suave</i>	
							<i>Sparganium eurycarpum</i>	
							<i>Spiraea alba</i>	X
							<i>Spirodela polyrrhiza</i>	X
							<i>Thelypteris palustris</i>	X
							<i>Triadenum fraseri</i>	
3	10	25		1.6	15	70	<i>Acorus americanus</i>	
							<i>Alisma triviale</i>	X
							<i>Bidens spp.</i>	X
							<i>Ceratophyllum demersum</i>	X
							<i>Cicuta bulbifera</i>	X
							<i>Comarum palustris</i>	
							<i>Dulichium arundinaceum</i>	
							<i>Eleocharis acicularis</i>	X
							<i>Elodea canadensis</i>	X
							<i>Equisetum fluviatile</i>	X
							<i>Galium trifidum</i>	X
							<i>Lemna minor</i>	X
							<i>Lycopus uniflorus</i>	X
							<i>Lysimachia terrestris</i>	
							<i>Lythrum salicaria</i>	
							<i>Menyanthes trifoliata</i>	X
							<i>Myriophyllum spp.</i>	
							<i>Nuphar variegata</i>	
							<i>Persicaria amphibia</i>	
							<i>Pontederia cordata</i>	
							<i>Potamogeton pusillus</i>	X
							<i>Sagittaria spp.</i>	X
							<i>Sium suave</i>	X
							<i>Sparganium eurycarpum</i>	
							<i>Spirodela polyrrhiza</i>	X
							<i>Veronica scutellata</i>	

Appendix F - Buttonbush (*Cephalanthus occidentalis*) site observations

Site #	Clump width (m)		Average <i>Cephalanthus</i> height (m)		Water depth (cm)		Species within 2m of colony	Species within colony
	min	max	min	max	min	max		
4	6	6	1.5	2	15	20	Bidens spp. Cicuta bulbifera Comarum palustre Eleocharis acicularis Equisetum fluviatile Lemna minor Persicaria amphibia Sagittaria sp. Sium suave Spirodela polyrrhiza	X X X X X X X X X X
5	6	20	1.5	2	70	100	Acorus americanus Bidens sp. Eleocharis acicularis Equisetum fluviatile Lysimachia terrestris Myriophyllum spp. Potamogeton pusillus Sagittaria cuneata Sagittaria latifolia Sium suave Veronica scutellata	X X X X X X X X X X
6	1	5	1	1	15	50	Acorus americanus Calamagrostis canadensis Carex lasiocarpa Comarum palustre Dulichium arundinaceum Eleocharis acicularis Eleocharis palustris Equisetum fluviatile Galium trifidum Lysimachia terrestris Lythrum salicaria Myrica gale Myriophyllum spp. Nuphar variegata Rumex sp. Sagittaria sp. Sium suave Sparganium eurycarpum Thelypteris palustris	X X X X X X X X X X X X X X X X X X X X
7	15	20	1.5	2	15	60	Calamagrostis canadensis Comarum palustre Lycopus uniflorus Lysimachia terrestris Lythrum salicaria Myrica gale Osmunda regalis Persicaria amphibia Sagittaria sp. Salix eriocephala Sium suave Sparganium eurycarpum Thelypteris palustris	X X X X X X X X X X X X X

Appendix F - Buttonbush (*Cephalanthus occidentalis*) site observations

Site #	Clump width (m)		Average <i>Cephalanthus</i> height (m)		Water depth (cm)		Species within 2m of colony	Species within colony
	min	max	min	max	min	max		
8		25		1.5	15	50		
							<i>Alisma triviale</i>	X
							<i>Carex lacustris</i>	
							<i>Carex lasiocarpa</i>	
							<i>Carex utriculata</i>	
							<i>Cicuta bulbifera</i>	X
							<i>Comarum palustre</i>	X
							<i>Eleocharis palustris</i>	
							<i>Equisetum fluviatile</i>	X
							<i>Galium trifidum</i>	X
							<i>Lemna minor</i>	X
							<i>Lysimachia terrestris</i>	
							<i>Lythrum salicaria</i>	X
							<i>Myrica gale</i>	X
							<i>Myriophyllum</i> spp.	X
							<i>Nuphar variegata</i>	
							<i>Persicaria amphibia</i>	
							<i>Sagittaria latifolia</i>	X
							<i>Salix exigua</i>	
							<i>Sium suave</i>	
							<i>Sparganium eurycarpum</i>	X
							<i>Spartina pectinata</i>	
							<i>Spiraea alba</i>	X
							<i>Spirodela polyrrhiza</i>	X
							<i>Triadenum fraseri</i>	
							<i>Utricularia macrorhiza</i>	
							<i>Utricularia minor</i>	X
9	10	10	1.5	2		50		
							<i>Acer saccharinum</i>	X
							<i>Alnus incana</i>	X
							<i>Bidens</i> spp.	X
							<i>Comarum palustre</i>	X
							<i>Cornus rugosa</i>	X
							<i>Ilex verticillata</i>	X
							<i>Lemna minor</i>	X
							<i>Persicaria amphibia</i>	X
							<i>Sagittaria</i> spp.	X
							<i>Sparganium eurycarpum</i>	X
10	5	20	2.5	3	30	100		
							<i>Acer saccharinum</i>	
							<i>Alisma triviale</i>	
							<i>Alnus incana</i>	X
							<i>Apios americana</i>	X
							<i>Asclepias incarnata</i>	X
							<i>Bidens</i> spp.	X
							<i>Bulboschoenus fluviatilis</i>	X
							<i>Calystegia sepium</i>	
							<i>Cicuta bulbifera</i>	X
							<i>Comarum palustre</i>	X
							<i>Galium trifidum</i>	X
							<i>Ilex verticillata</i>	X
							<i>Impatiens capensis</i>	
							<i>Lemna minor</i>	X
							<i>Lysimachia terrestris</i>	X
							<i>Lythrum salicaria</i>	
							<i>Onoclea sensibilis</i>	X
							<i>Persicaria amphibia</i>	X
							<i>Salix nigra</i>	X
							<i>Salix petiolaris</i>	X
							<i>Sium suave</i>	X
							<i>Sparganium eurycarpum</i>	X
							<i>Spiraea alba</i>	X
							<i>Spirodela polyrrhiza</i>	X
							<i>Thalictrum pubescens</i>	
							<i>Thelypteris palustris</i>	X
							<i>Triadenum fraseri</i>	X

Appendix F - Buttonbush (*Cephalanthus occidentalis*) site observations

Site #	Clump width (m)		Average <i>Cephalanthus</i> height (m)		Water depth (cm)		Species within 2m of colony	Species within colony
	min	max	min	max	min	max		
11	2	3	2	3		30	<i>Alnus incana</i> <i>Calamagrostis canadensis</i> <i>Carex lacustris</i> <i>Cicuta bulbifera</i> <i>Cornus rugosa</i> <i>Eleocharis acicularis</i> <i>Galium tinctorium</i> <i>Ilex verticillata</i> <i>Lycopus uniflorus</i> <i>Lysimachia terrestris</i> <i>Myrica gale</i> <i>Sagittaria</i> spp. <i>Sium suave</i> <i>Spiraea alba</i> <i>Triadenum fraseri</i>	X
12	2	15	1.5	2	0	0	<i>Alisma triviale</i> <i>Bidens</i> spp. <i>Cicuta bulbifera</i> <i>Cornus rugosa</i> <i>Galium</i> spp. <i>Galium tinctorium</i> <i>Hydrocotyle americana</i> <i>Lemna minor</i> <i>Myrica gale</i> <i>Persicaria amphibia</i> <i>Rorippa palustris</i> <i>Sagittaria latifolia</i> <i>Salix exigua</i> <i>Salix lucida</i> <i>Salix petiolaris</i> <i>Salix sericea</i> <i>Scirpus pedicellatus</i> <i>Sium suave</i> <i>Sparganium eurycarpum</i> <i>Utricularia gibba</i>	X