MOLLUSC RECORDS FROM

Colin-Cornwall Lakes Wildland Park

Mollusc habitat along Woodman Creek (Photo by W. Nordstrom 2002)

Lymnaea stagnalis
(Great Pond Snail)

Helisoma trivolvis
(Larger Prairie Ramshorn)

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Parks and Protected Areas Division
Alberta Community Development

Introduction

Colin-Cornwall Lakes Wildland Park (Figure 1) was established in January of 1998. It is located about 100 km northeast of Fort Chipewyan and lies adjacent to the Saskatchewan border. The park encompasses an area of 704 km^2 of granitic uplands, lakes and wetlands in the Kazan Upland Subregion of the Canadian Shield Natural Region. Along with the classic granitic outcrops and deep clear lakes typical of the Canadian Shield, there are extensive glaciofluvial deposits and numerous wetland complexes located within the park.

Many of the lakes and ponds in the park have been formed by the scouring action of ice that has removed loose material or carved depressions in zones of weaker rock along fractures, faults and joints. The orientation of some of the lake shorelines reflects the direction of these fault lines. There are a number of typical 'kettle lakes' in the park – most situated in locations where glaciofluvial deposits occur. Extensive rocky and sandy beaches are present on many lakeshores in the area, and rocky islands are a common feature on the larger lakes.

A number of organic and mineral wetland types occur in the area, including bogs, fens, swamps and marshes. Discontinuous permafrost in the area is believed to be the causal agent for some of the wetland features that are found in the park.

The diversity of landscapes and habitats in the park (see images below) supports a wide variety of plant and animal species. Many species found here are typical of those known from the Canadian Shield region of northern Alberta. Others are poorly understood in terms of their presence, numbers and distribution. This is the case for the mollusc fauna of Colin-Cornwall Lakes Wildland Park. As far as is known, there have been no previous studies on or collections made of the molluscs in the park.

Alexander Lake area

Colin Lake

Pond near Esker Lake

Woodman Creek

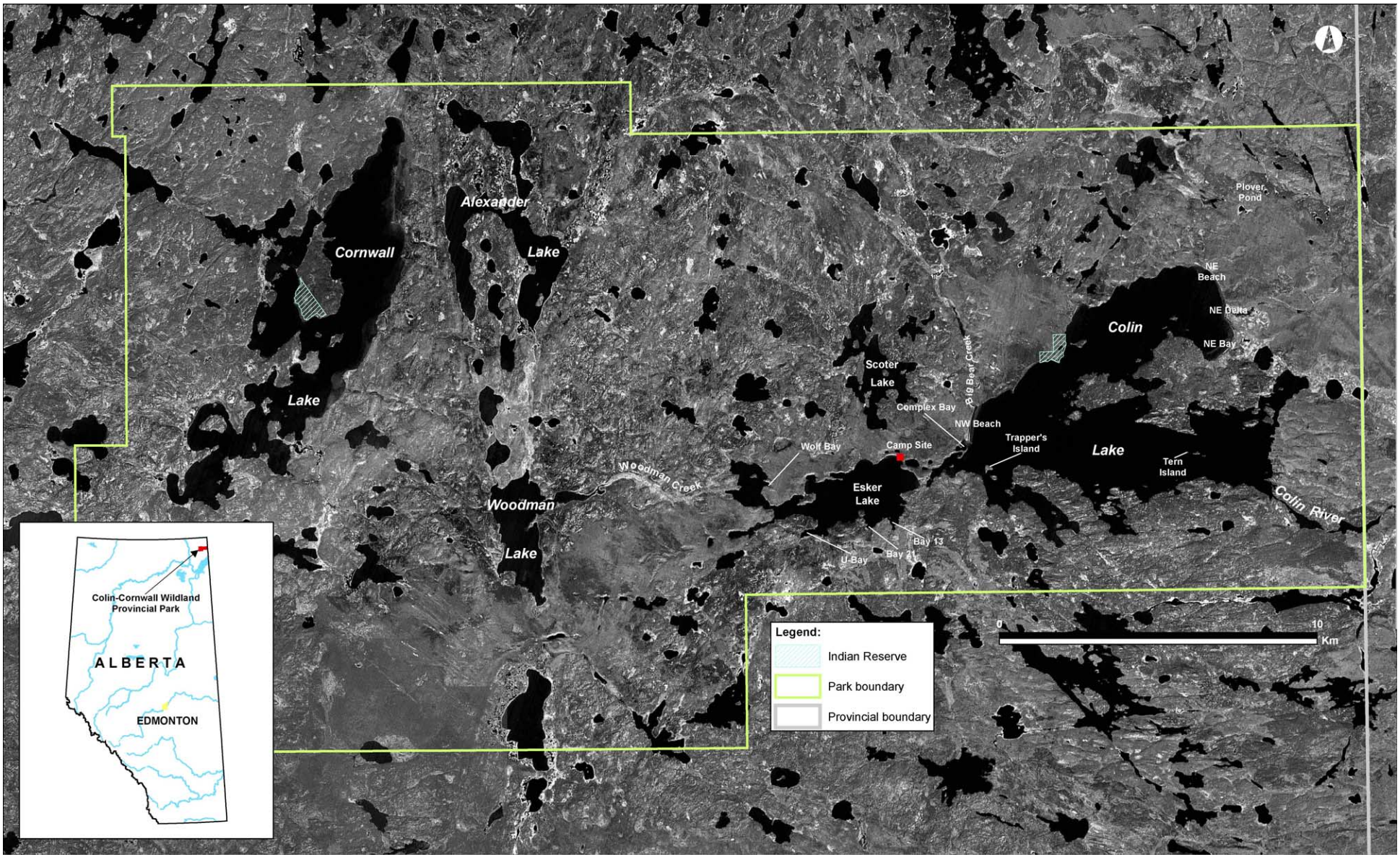


Figure 1: Location and selected geographic features of Colin-Cornwall Lakes Wildland Park in NE Alberta.

Methods

In 2002, Colin-Cornwall Lakes Wildland Park was visited on 6-13 June and 6-10 July. Molluscs were randomly and sporadically collected in the park during the course of inventory work that focused on other taxa. As a result, systematic searches or well-designed collection protocols for molluscs did not take place. All mollusc collecting was done by hand-picking as opportunities presented themselves and the specimens were preserved in 95% ethanol. Molluscs were collected from a variety of habitats, including creeks and rivers, riparian areas, moist meadows and lakeshores. The majority of the collecting took place along or in creeks and rivers, and along lakeshores.

Dr. Eva Pip of the University of Winnipeg identified collected specimens. Taxonomy follows Clarke 1981. Specimens will be deposited in the collections of the Provincial Museum of Alberta, Edmonton.

Results and Discussion

Molluscs representing one order, three families, and eight species were collected in the park (Table 2). None of the collected species are "at risk" in Alberta. One species, *Helisoma anceps anceps*, the Two-ridged Ramshorn, appears to be distributed over much of Alberta (Clarke 1981, p199). The Fish and Wildlife Division has ranked this species as 'sensitive'. ANHIC has ranked it as S3 due to the uncertainty in terms of its distribution. This species is being tracked by ANHIC and it is now confirmed in the park. Finding viable populations of this species at more locations in the province would likely elevate its rank to either S4 or S5.

Table 2. Mollusc species collected at Colin-Cornwall Wildland Park in June and July 2002 (taxonomy after Clarke 1981).

Order	Family	Species	Srank*	Status rank**
Basommatophora	Lymnaeidae	*Lymnaea stagnalis* forma *jugularis*	S5	secure
Basommatophora	Lymnaeidae	*Stagnicola elodes*	S5	secure
Basommatophora	Physidae	*Physa gyrina gyrina*	S5	secure
Basommatophora	Physidae	*Physa jennessi skinneri*	SU	undetermined
Basommatophora	Planorbidae	*Helisoma anceps anceps*	S3	sensitive
Basommatophora	Planorbidae	*Helisoma pilsbryi infracarinatum*	SU	undetermined
Basommatophora	Planorbidae	*Helisoma trivolvis binneyi*	SU	undetermined
Basommatophora	Planorbidae	*Helisoma trivolvis* forma *subcrenatum*	S5	secure

* S-rank supplied by the Alberta Natural Heritage Information Centre (2002) – see http://www.cd.gov.ab.ca/preserving/parks/anhic/definitions.asp for definitions of S-rank.

** Proposed status rank supplied by Lepitzki for the Fish and Wildlife Division (2001)

The following pages describe where and when each species was collected in the park as well as their general distribution and habitat. Images of each species are included. Appendix 1 contains the raw data.

Family: Lymnaeidae (pond snails)

Great Pond Snail
***Lymnaea stagnalis jugularis* (Say, 1817)**

- Several specimens were collected from submerged vegetation in ponds, slow-moving streams and along lakeshores in the park during June and July (Appendix 1). It is a common snail found throughout suitable habitats in the park.
- The species is found throughout Alberta in numerous locations. It is present throughout Canada south of the tree line, but is absent from the region east of northern James Bay and Hudson Bay and also from the Atlantic Provinces. In the United States, it occurs south in the Rockies to Colorado and east to the Mississippi-Missouri River drainage area in Illinois and Ohio (Clarke 1981, p124).
- The species occurs in all perennial-water habitats. Vegetation is always present and bottom sediments are of diverse types. The species is often found among cattails (Clarke 1981, p124).
- It is currently ranked as S5 by the Alberta Natural Heritage Information Centre and as 'secure' by Alberta Sustainable Resource Development (2001, p74).

Common Stagnicola
***Stagnicola elodes* (Say, 1821)**

- Several specimens were collected from submerged vegetation along lakeshores (e.g., Colin, Woodman, Esker Lake) and small slow-moving streams in the park on June 9th and July 7th, 8th and 10th (Appendix 1). It is a relatively common species in the park wherever suitable habitat occurs.

- This species is ubiquitous and is abundant almost everywhere in the Prairie Provinces. The species occurs throughout Canada below the tree line, and south in the United States to about 38°N (Clarke 1981, p142).
- It is found in all kinds of aquatic habitats. It is especially numerous in thick vegetation and on muddy substrates (Clarke 1981, p142).
- The species is currently ranked as S5 by the Alberta Natural Heritage Information Centre and as 'secure' by Alberta Sustainable Resource Development (2001, p82).

Family: Physidae (tadpole snails)

Tadpole Snail

***Physa gyrina* (Say, 1821)** [Also known as: *Physella gyrina* (Say 1821)].

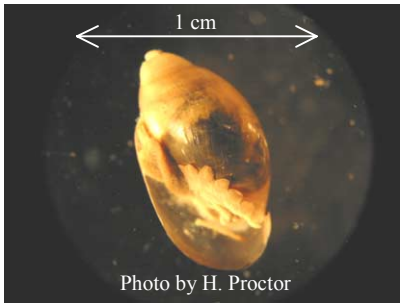
- A number of specimens were collected from / observed on submerged vegetation in small lakes and along shorelines of larger lakes in the park on June 10th and July 7th, 2002 (Appendix 1). Specimens were obtained from a small lake north of Woodman Lake and from Colin and Esker Lakes. This snail can be easily overlooked due to its relatively small size. It is expected to occur throughout the park in suitable habitat.
- This species occurs throughout Alberta and is usually abundant where it occurs. It is found from Quebec westwards within the tree line to the northwestern Northwest Territories, Alaska and British Columbia and south in the central and western states to the Gulf of Mexico and California (Clarke 1981, p152).

- The Tadpole Snail is present in almost all perennial-water habitats and in temporarily flooded pools and swamps. The species is often abundant in mildly polluted water bodies and where it occurs alone and in abundance it can be indicative of organic pollution. This snail moves quite rapidly (Clarke 1981, p152).
- This species is currently ranked as S5 by the Alberta Natural Heritage Information Centre and as 'secure' by Alberta Sustainable Resource Development (2001, p92).

Blunt Prairie Physa

***Physa jennessi skinneri* (Taylor, 1953)** [Also known as: *Physa skinneri*, Taylor, 1954]

- Two specimens were collected from submerged vegetation in a small fen / slow-moving stream area on Esker Lake on July 7th, 2002 (Appendix 1). It is unknown how common the Blunt Prairie Physa might be in the park. The specimens from the park represent some of the most northerly ones known for Alberta.
- This species is known from a number of locations along the South Saskatchewan and Athabasca River systems, and from Vermilion Lakes and the Cave and Basin Marsh in Banff National Park. It is believed to occur throughout Alberta except in an area from the mid Bow Valley of Banff National Park extending to and including Jasper National Park and into the Swan Hills (Alberta Sustainable Resource Development 2001).
- The species occurs from southern Canada and northern United States from Ontario northwest to the vicinity of Great Slave Lake, west to British Columbia, and south to Utah (Clarke 1981, p164).
- The species occurs in lakes, ponds, marshes, and slow-moving streams of all widths. It is found mainly on muddy bottoms among thick or moderately thick aquatic vegetation (Clarke 1981, p164).
- It is currently ranked as SU by the Alberta Natural Heritage Information Centre and as 'undetermined' by Alberta Sustainable Resource Development (2001, p90) due to uncertainties regarding whether some Alberta species are *Physa skinneri* or *Physa megalochlamys*.



Family: Planorbidae (ramshorn snails)

Two-ridged Ramshorn

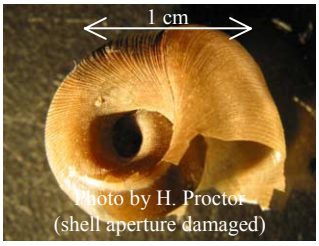
***Helisoma anceps anceps* (Menke, 1830)**

- Several specimens were collected on submerged vegetation along the shorelines of Colin and Esker Lake on July 7th, 8th and 10th of 2002 (Appendix 1). It is likely distributed throughout the park where suitable habitat occurs.
- The species has been observed or collected in Jasper National Park, Lake Wabamun, Banff National Park, La Biche River, and at the confluence of the Blindman and Red Deer Rivers (Alberta Sustainable Resource Development 2001). The species' distribution appears to cover much of Alberta.
- The species occurs throughout most of southern Canada south of the tree line. It also extends south to Georgia and northwestern Mexico (Clarke 1981, p198).
- The species lives in lakes, ponds, rivers and streams among vegetation and on various substrates. It is absent from temporary-water habitats (Clarke 1981, p198).
- It is currently ranked as S3 by the Alberta Natural Heritage Information Centre due to the uncertainty in terms of its distribution in Alberta. With additional collection records, its rank could be elevated to S4 or S5. The species is ranked as 'sensitive' by Alberta Sustainable Resource Development (2001, p103).

Greater Carinate Ramshorn

***Helisoma pilsbryi infracarinatum* (Baker 1932)** [Also known as *Planorbella pilsbryi infracarinatum* (Baker 1932)].

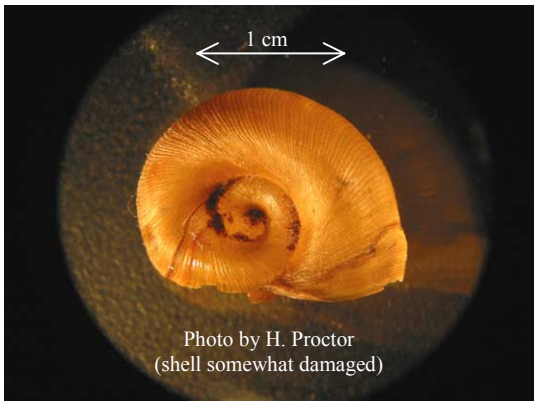
- One specimen was collected on submerged vegetation along the shoreline of Esker Lake on 7 July 2002 (Appendix 1). Its numbers and distribution in the park are unknown.
- In Alberta, the species is known only from the Lac La Biche area. It occurs in the boreal forest from Lac La Biche east through central Saskatchewan, the southern two-thirds of Manitoba, and into southwestern Quebec and southern Ontario (Alberta Sustainable Resource Development 2001).
- The species generally occurs in lakes, ponds, or quiet backwaters of streams, among vegetation, and on various substrates (Clarke 1981, p210).
- The species is currently ranked as SU by the Alberta Natural Heritage Information Centre and as 'undetermined' by Alberta Sustainable Resource Development (2001, p106) due to the uncertainty in terms of its taxonomy and identification.



Binney's Stout Ramshorn

***Helisoma trivolvis binneyi* (Tryon 1867)** [Also known as *Planorbella binneyi* (Tryon 1867)]**.**

- Five specimens were collected on submerged vegetation and underwater rock surfaces along the south shoreline of Esker Lake on 7 July 2002 (Appendix 1). Its numbers and distribution in the park are unknown. The presence of this species at Esker Lake is the most northerly location known for Alberta.
- In Alberta, the species has only been found at only a few locations – Wabamun Lake, 2nd Vermilion Lake in Banff National Park and the Lac La Biche area. The species occurs from California to British Columbia in the Pacific drainage area and in the headwaters of the Peace and North Saskatchewan Rivers in British Columbia and Alberta (Alberta Sustainable Resource Development 2001).
- The species occurs in eutrophic, well-vegetated lakes (Clarke 1981, p214).
- The species is currently ranked as SU by the Alberta Natural Heritage Information Centre and as 'undetermined' by Alberta Sustainable Resource Development (2001, p105) due to the uncertainty in terms of its taxonomy and identification.



Larger Prairie Ramshorn

***Helisoma trivolvis subcrenatum* (Carpenter, 1856)** [Also known as *Planorbella subcrenata* (Carpenter 1857)].

- Several specimens were collected in June and July of 2002 on submerged vegetation and rock surfaces in Woodman Lake, Colin Lake, the second small lake north of Woodman Lake, and the two lakes on the east side of the park boundary through which the Colin River flows (Appendix 1). The species is believed to occur throughout the park where suitable habitat is present.
- The species is known from several localities throughout the province and is believed to be relatively widespread. The Larger Prairie Ramshorn occurs in western North America from California and Utah to the Yukon Territory and Manitoba (Clarke 1981, p216).
- The species occurs in nearly all perennial-water habitats that support significant rooted vegetation. Mud is a frequent substrate (Clarke 1981, p216).
- It is currently ranked as S5 by the Alberta Natural Heritage Information Centre and as 'secure' by Alberta Sustainable Resource Development (2001, p107).

REFERENCES

Alberta Sustainable Resource Development. 2001. *Gastropods: Preliminary Status Ranking Forms. The General Status of Alberta Wild Species 2000.* Prepared for Alberta Sustainable Resource Development, Fish and Wildlife Division, Edmonton, AB. 126pp.

Clarke, A.H. 1981. *The freshwater mollucsc of Canada.* National Museum of Natural Sciences, National Museums of Canada. 446pp.

Appendix 1. Molluscs collected at Colin-Cornwall Lakes Wildland Park in 2002. [Species and common names follow Clarke 1981].

VIAL #	FAMILY	SPECIES	COMMON NAME	LOCATION COLLECTED	UTM (in NAD 27)	DATE	COMMENTS	COLLECTOR	ID by
15	Planorbidae (ramshorn snails)	Helisoma anceps anceps (Menke, 1830)	Two-ridged Ramshorn	Colin Lake	542500 E 6601100 N	July 7, 2002		W. Nordstrom	Eva Pip, University of Winnipeg
9	Planorbidae (ramshorn snails)	Helisoma anceps anceps (Menke, 1830)	Two-ridged Ramshorn	Esker Lake	536500 E 6600800 N	July 8, 2002		W. Nordstrom	Eva Pip, University of Winnipeg
11	Planorbidae (ramshorn snails)	Helisoma anceps anceps (Menke, 1830)	Two-ridged Ramshorn	Colin Lake	543929 E 6604570 N	July 10, 2002		W. Nordstrom	Eva Pip, University of Winnipeg
7	Planorbidae (ramshorn snails)	Helisoma pilsbryi infracarinatum (Baker, 1932)	Greater Carinate Ramshorn	Esker Lake	541319 E 6599922 N	July 7, 2002		W. Nordstrom	Eva Pip, University of Winnipeg
6	Planorbidae (ramshorn snails)	Helisoma trivolvis binneyi (Tryon, 1867)	Binney's Stout Ramshorn	Esker Lake	541319 E 6599922 N	July 7, 2002		W. Nordstrom	Eva Pip, University of Winnipeg
14	Planorbidae (ramshorn snails)	Helisoma trivolvis binneyi (Tryon, 1867)	Binney's Stout Ramshorn	Esker Lake	541319 E 6599922 N	July 7, 2002		W. Nordstrom	Eva Pip, University of Winnipeg
10	Planorbidae (ramshorn snails)	Helisoma trivolvis subcrenatum (Carpenter, 1856)	Larger Prairie Ramshorn	Woodman Lake - NW arm, sedge fen along creek channel	528700 E 6601350 N	June 10, 2002		W. Nordstrom	Eva Pip, University of Winnipeg
12	Planorbidae (ramshorn snails)	Helisoma trivolvis subcrenatum (Carpenter, 1856)	Larger Prairie Ramshorn	second small lake north of Woodman Lake	529500 E 6603650 N	June 10, 2002		T. Johnson	Eva Pip, University of Winnipeg
18	Planorbidae (ramshorn snails)	Helisoma trivolvis subcrenatum (Carpenter, 1856)	Larger Prairie Ramshorn	second small lake north of Woodman Lake	529500 E 6603650 N	June 10, 2002		T. Johnson	Eva Pip, University of Winnipeg
4	Planorbidae (ramshorn snails)	Helisoma trivolvis subcrenatum (Carpenter, 1856)	Larger Prairie Ramshorn	Woodman Lake	532350 E 6601150 N	July 8, 2002		W. Nordstrom	Eva Pip, University of Winnipeg
13	Planorbidae (ramshorn snails)	Helisoma trivolvis subcrenatum (Carpenter, 1856)	Larger Prairie Ramshorn	lakes east of Colin River	555500 E 6599700 N	July 9, 2002		W. Nordstrom	Eva Pip, University of Winnipeg
8	Planorbidae (ramshorn snails)	Helisoma trivolvis subcrenatum (Carpenter, 1856)	Larger Prairie Ramshorn	Colin Lake	544400 E 6600450 N	July 10, 2002		W. Nordstrom	Eva Pip, University of Winnipeg
16	Planorbidae (ramshorn snails)	Helisoma trivolvis subcrenatum (Carpenter, 1856)	Larger Prairie Ramshorn	Colin Lake	544400 E 6600450 N	July 10, 2002		W. Nordstrom	Eva Pip, University of Winnipeg

Appendix 1 (continued). Molluscs collected at Colin-Cornwall Lakes Wildland Park in 2002. [Species and common names follow Clarke 1981].

VIAL #	FAMILY	SPECIES	COMMON NAME	LOCATION COLLECTED	UTM (in NAD 27)	DATE	COMMENTS	COLLECTOR	ID by
3	Lymnaeidae (pond snails)	Lymnaea stagnalis jugularis (Say, 1817)	Great Pond Snail	second pond east of camp on Esker Lake	542400 E 6601700 N	June 6, 2002	leatherleaf / sedge / Sphagnum / Labrador tea	W. Nordstrom	Eva Pip, University of Winnipeg
1	Lymnaeidae (pond snails)	Lymnaea stagnalis jugularis (Say, 1817)	Great Pond Snail	Woodman Lake	529900 E 6601600 N	June 8, 2002	collected on the fen / lake margin on north end of the lake	W. Nordstrom	Eva Pip, University of Winnipeg
10	Lymnaeidae (pond snails)	Lymnaea stagnalis jugularis (Say, 1817)	Great Pond Snail	Woodman Lake - NW arm, sedge fen along creek channel	528700 E 6601350 N	June 10, 2002		W. Nordstrom	Eva Pip, University of Winnipeg
12	Lymnaeidae (pond snails)	Lymnaea stagnalis jugularis (Say, 1817)	Great Pond Snail	second small lake north of Woodman Lake	529500 E 6603650 N	June 10, 2002		T. Johnson	Eva Pip, University of Winnipeg
2	Lymnaeidae (pond snails)	Lymnaea stagnalis jugularis (Say, 1817)	Great Pond Snail	east pond north of Esker Lake	541600 E 6602150 N	July 6, 2002	juvenile	W. Nordstrom	Eva Pip, University of Winnipeg
5	Lymnaeidae (pond snails)	Lymnaea stagnalis jugularis (Say, 1817)	Great Pond Snail	east pond north of Esker Lake	541600 E 6602150 N	July 6, 2002	decollated	W. Nordstrom	Eva Pip, University of Winnipeg
7	Lymnaeidae (pond snails)	Lymnaea stagnalis jugularis (Say, 1817)	Great Pond Snail	Esker Lake	541319 E 6599922 N	July 7, 2002		W. Nordstrom	Eva Pip, University of Winnipeg
4	Lymnaeidae (pond snails)	Lymnaea stagnalis jugularis (Say, 1817)	Great Pond Snail	Woodman Lake	532350 E 6601150 N	July 8, 2002		W. Nordstrom	Eva Pip, University of Winnipeg
9	Lymnaeidae (pond snails)	Lymnaea stagnalis jugularis (Say, 1817)	Great Pond Snail	Esker Lake	536500 E 6600800 N	July 8, 2002		W. Nordstrom	Eva Pip, University of Winnipeg
13	Lymnaeidae (pond snails)	Lymnaea stagnalis jugularis (Say, 1817)	Great Pond Snail	lakes east of Colin River	555500 E 6599700 N	July 9, 2002		W. Nordstrom	Eva Pip, University of Winnipeg
8	Lymnaeidae (pond snails)	Lymnaea stagnalis jugularis (Say, 1817)	Great Pond Snail	Colin Lake	544400 E 6600450 N	July 10, 2002		W. Nordstrom	Eva Pip, University of Winnipeg
18	Physidae (tadpole snails)	Physa gyrina gyrina (Say, 1821)	Tadpole Snail	second small lake north of Woodman Lake	529500 E 6603650 N	June 10, 2002		T. Johnson	Eva Pip, University of Winnipeg
15	Physidae (tadpole snails)	Physa gyrina gyrina (Say, 1821)	Tadpole Snail	Colin Lake	542500 E 6601100 N	July 7, 2002		W. Nordstrom	Eva Pip, University of Winnipeg
7	Physidae (tadpole snails)	Physa gyrina gyrina (Say, 1821)	Tadpole Snail	Esker Lake	541319 E 6599922 N	July 7, 2002		W. Nordstrom	Eva Pip, University of Winnipeg
20	Physidae (tadpole snails)	Physa jennessi skinneri (Taylor, 1953)	Blunt Prairie Physa	Esker Lake	539325 E 6599655 N	July 7, 2002	collected in a fen / small stream habitat	W. Nordstrom	Eva Pip, University of Winnipeg

Appendix 1 (continued). Molluscs collected at Colin-Cornwall Lakes Wildland Park in 2002. [Species and common names follow Clarke 1981].

VIAL #	FAMILY	SPECIES	COMMON NAME	LOCATION COLLECTED	UTM (in NAD 27)	DATE	COMMENTS	COLLECTOR	ID by
17	Lymnaeidae (pond snails)	Stagnicola elodes (Say, 1821)	Common Stagnicola	Colin Lake - far NE end of the north arm	551950 E 6606450 N	June 9, 2002		R.Thomas	Eva Pip, University of Winnipeg
20	Lymnaeidae (pond snails)	Stagnicola elodes (Say, 1821)	Common Stagnicola	Esker Lake	539325 E 6599655 N	July 7, 2002	collected in a fen / small stream habitat	W. Nordstrom	Eva Pip, University of Winnipeg
19	Lymnaeidae (pond snails)	Stagnicola elodes (Say, 1821)	Common Stagnicola	Woodman Lake	532350 E 6601150 N	July 8, 2002		W. Nordstrom	Eva Pip, University of Winnipeg
8	Lymnaeidae (pond snails)	Stagnicola elodes (Say, 1821)	Common Stagnicola	Colin Lake	544400 E 6600450 N	July 10, 2002		W. Nordstrom	Eva Pip, University of Winnipeg