KEEYASK PROJECT

Generating Station

February 2008

Report # 04-17

Aquatic Macrophyte and Associated Epiphytic Invertebrate Data Collected from the Keeyask Study Area, Manitoba, Summer 2004

Draft

ENVIRONMENTAL STUDIES PROGRAM

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AQUATIC MACROPHYTE AND ASSOCIATED EPIPHYTIC INVERTEBRATE DATA COLLECTED FROM THE KEEYASK STUDY AREA, MANITOBA, SUMMER 2004

Draft Report Prepared for Manitoba Hydro

by
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OVERVIEW

Manitoba Hydro and its potential partners (Tataskweyak Cree Nation, War Lake First Nation, Fox Lake Cree Nation, and York Factory First Nation) are currently looking into building a hydroelectric generating station at Gull Rapids on the Nelson River. Studies are being done to support predictions of possible effects of this generating station on the environment. This information is required to prepare an Environmental Impact Statement (EIS), a document required by government for its consideration when deciding about licensing the generating station. The aquatic part of these studies is looking at the water, algae (microscopic plants in the water), weeds, bugs, and fish. The area being studied includes Split, Stephens, Clark, Gull, and Assean lakes and adjoining parts of the rivers (Burntwood, Nelson, Aiken, and Assean) and the streams that flow into them. Separate reports are being issued on each topic and for each different area.

This report presents the results of the fourth year of aquatic macrophyte and epiphytic invertebrate sampling conducted in the Keeyask Study Area. Aquatic macrophytes and epiphytic invertebrates were collected from Gull Lake, Clark Lake, and portions of the Nelson River between Birthday and Gull rapids during the 2004 open water season. Aquatic macrophyte and epiphytic invertebrate sampling was also conducted in the Keeyask Study Area in 2001, 2002, and 2003 (Dolce and Sotiropoulos 2004a and b, Dolce and Burt 2007, respectively).

TECHNICAL SUMMARY

Manitoba Hydro and its potential partners (Tataskweyak Cree Nation, War Lake First Nation, Fox Lake Cree Nation, and York Factory First Nation) are currently investigating the feasibility of developing a **hydroelectric generating station*** at Gull Rapids located at the upstream end of Stephens Lake on the Nelson River (Figure 1). An Environmental Studies Program has been developed to provide the data and information required for an **environmental impact assessment** of the above-mentioned hydroelectric **Project**, should a decision be made to proceed with a licensing submission to **regulatory authorities**. Manitoba Hydro and the potential partners have established a cooperative approach to assessing the potential effects of future development on the **environment** and for producing the information required for regulatory review and impact **monitoring**.

The Keeyask **aquatic monitoring** and impact assessment program was designed to investigate and document interrelated components of the Burntwood, Nelson, Aiken, and Assean rivers as well as the associated lake (Split, Stephens, Clark, Gull, and Assean) aquatic **ecosystems**. Investigations of physical **habitat**, **water quality**, **detritus**, **algae**, aquatic **macrophytes**, **aquatic invertebrates**, and fish were to be undertaken. Individual reports are being prepared and issued on each topic and for specific waterbodies.

The following report presents information collected from aquatic macrophyte and **epiphytic invertebrate** sampling conducted in the Keeyask Study Area during the 2004 open-water season. Specific objectives of this study were the following:

- to provide a description of the aquatic macrophyte and associated epiphytic invetebrate community in terms of abundance, composition, and distribution within the Study Area; and
- to compare the abundance and diversity of epiphytic invertebrates collected with a 400 versus a 500 μm mesh.

Sampling was attempted at 60 sites within eight areas in Gull Lake, Clark Lake, and portions of the Nelson River between Birthday and Gull rapids during the summer of 2004. Seven of these sites could not be sampled due to high water levels and only 60% of the sites sampled contained macrophytes. In four of the eight areas sampled, *Eleocharis palustris* was the dominant macrophyte **species**. *Stuckenia vaginatus* was dominant in two of the eight areas sampled. Area 1: Pahwaypanik Bay had the highest mean total macrophyte dry weight

* *Definitions for words appearing in bold are provided in the glossary (see Section 5.0).*

(33.58 g/m²), while Area 6: John Kitch Bay had the lowest mean total macrophyte dry weight (5.64 g/m²).

Epiphytic invertebrates were collected in conjunction with aquatic macrophyte sampling. The highest number of epiphytic invertebrate **taxa** was collected in Area 1: Pahwaypanik Bay (24 taxa), while Area 2: John Garson Bay had the lowest number of epiphytic invertebrate taxa collected (8). In six out of the eight areas sampled, Insecta (primarily Orthocladiinae, Chironominae, and Corixidae) were the dominant epiphytic invertebrate. Mollusca (primarily Planorbidae and Lymnaeidae) were the dominant epiphytic invertebrate in Area 5: Gull Lake at Caribou Island. Annelida (primarily Oligochaeta) were the dominant epiphytic invertebrate in Area 8: Clark Lake. The mean total epiphytic invertebrate abundance in the 500 µm mesh ranged from 5 to 320 individuals/m² in Area 2: John Garson Bay and Area 5: Gull Lake at Caribou Island, respectively. The additional epiphytic invertebrates collected in the 400 µm mesh had a mean total abundance that ranged from 1 to 64 individuals/m² in Area 2: John Garson Bay and Area 4: Tub Bay, respectively. The 500 µm mesh retained between 62.6 and 88.5% of epiphytic invertebrates. Chironomidae and Oligochaeta accounted for almost all of the invertebrates that passed through the 500 µm mesh and were retained by the 400 µm mesh.

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1.0 INTRODUCTION

Manitoba Hydro and its potential partners (Tataskweyak Cree Nation [TCN], War Lake First Nation [WLFN], Fox Lake Cree Nation [FLCN], and York Factory First Nation [YFFN]) are currently investigating the feasibility of developing a **hydroelectric generating station*** at Gull Rapids located at the upstream end of Stephens Lake on the Nelson River (Figure 1). An Environmental Studies Program has been developed to provide the data and information required for an **environmental impact assessment** of the above-mentioned hydroelectric **Project** (hereafter referred to as the Project), should a decision be made to proceed with a licensing submission to **regulatory authorities**. Manitoba Hydro and the potential partners have established a cooperative approach to assessing the potential effects of the Project on the **environment** and for producing the information required for regulatory review and impact **monitoring**.

The broad objectives of the Environmental Studies Program are the following:

- to describe the **existing environment** of the Study Area using an **ecosystem**-based approach;
- to provide data and information to assist in the planning of the Project;
- to provide data and information to enable assessment of the potential adverse effects that may result from the Project; and
- to provide the basis for monitoring environmental change resulting from development, should the Project proceed.

1.1 AQUATIC ECOSYSTEMS MONITORING AND ASSESSMENT

The collection of **baseline** information on the **aquatic environment** was initiated at the Project site in 1999. Manitoba Hydro expanded the program in 2001, and again in 2002, in response to concerns raised by the Cree Nations to include a broader geographic area to better characterize all aspects of the environment that may be affected by development at Gull Rapids. This included the **reach** of the Nelson River between, and including, Split Lake to Stephens Lake, the Burntwood, Aiken, and Assean rivers, as well as the associated lake (Split, Clark, Gull, and Assean) aquatic ecosystems. Biological investigations included measurements of physical **habitat**, **water quality**, **detritus**, **algae**, aquatic **macrophytes**, **aquatic invertebrates**, and fish.

* *Definitions for words appearing in bold are provided in the glossary (see Section 5.0).*

Individual reports are being prepared and issued on each of these topics and for specific waterbodies. These reports will describe the existing environment, provide information to assist in Project planning, and provide the basis for predicting and assessing the significance of potential adverse effects that may result from construction and operation of the Project.

This report is one of a series of reports produced from the Keeyask Environmental Studies Program. The following report presents results of the aquatic macrophyte and associated **epiphytic invertebrate** sampling program conducted in Gull Lake, Clark Lake and portions of the Nelson River between Birthday and Gull rapids, during the 2004 open water season. Specific objectives are as follows:

- to provide a description of the aquatic macrophyte and associated epiphytic invertebrate community in terms of abundance, composition, and distribution within the Study Area; and,
- to compare the abundance and diversity of epiphytic invertebrates collected with a 400 versus a 500 μm mesh.

2.0 THE KEEYASK STUDY SETTING

2.1 STUDY AREA

The Keeyask Study Area includes the reach of the Nelson River from Kelsey Generating Station (GS) to Kettle GS, including Split, Clark, Gull, and Stephens lakes; the Burntwood River downstream of First Rapids; the Grass River downstream of Witchai Lake Falls; the Assean River **watershed**, including Assean Lake; and all other tributaries to the above stated reach of the Nelson River (Figure 1).

The entire Study Area lies within the High **Boreal** Land Region characterized by a mean annual temperature of –3.4ºC and an annual precipitation range of 415 to 560 mm. **Topography** is bedrock controlled overlain with fine-grained **glacio-lacustrine deposits** of clays and gravels. Depressional areas have **peat** plateaus and patterned **fens** with **permafrost** present. Black spruce/moss/sedge associations are the dominant vegetation (Canada-Manitoba Soil Survey 1976).

Split Lake, which is immediately downstream of the Kelsey GS at the **confluence** of the Burntwood and Nelson rivers, is the second largest waterbody in the Study Area. Due to the large inflows from the Nelson and Burntwood rivers, the lake has detectable current in several locations. Split Lake has maximum and mean depths of 28.0 m and 3.9 m, respectively, at a water surface elevation of 167.0 m **ASL** (Lawrence et al. 1999). The surface area of Split Lake is 26,100 ha (excluding islands), with a total shoreline length, including islands, of 940.0 km (Lawrence et al. 1999). The numerous islands in Split Lake represent 411.6 km of the total shoreline.

The reach of the Nelson River between Split Lake and Stephens Lake is characterized by: i) narrow sections with swiftly flowing water (including Birthday and Gull rapids); and ii) wider more **lacustrine** sections, including Clark and Gull lakes. Mean winter flow in the reach is 3,006 m^3/s and mean summer flow is 2,812 m^3/s (Manitoba Hydro 1996a).

The Assean River system is north of Split Lake and drains into Clark Lake (Figure 1). Except for the mouth of the Assean River, the hydrology of the watershed has not been affected by hydroelectric development.

Stephens Lake, the largest lake in the Study Area, is located downstream of Gull Rapids and was created through the development of the Kettle GS. Stephens Lake has a surface area of 29,930 ha (excluding islands) and a total shoreline length, including islands, of 740.8 km. The numerous islands encompass an area of 3,340 ha and 336.2 km of shoreline. There is no

detectable current throughout most of this large lake, except for the old Nelson River channel.

Communities in the Study Area include the First Nations communities of Split Lake (TCN) and York Landing (YFFN), both located on Split Lake (Figure 1). Members of WLFN reside in Ilford, south of the Nelson River, while some members of FLCN reside in Gillam, on the south shore of Stephens Lake. Gillam, the largest community in the Study Area, is the regional headquarters for Manitoba Hydro's northern operations.

The names assigned to some of the features described in Section 2.3 and illustrated in Figure 1 may be inconsistent with local names, topographic maps, and/or the Gazetteer of Canada. When field programs were initiated in spring, 2001, names of several features within the Study Area were unknown to North/South Consultants Inc. biologists and First Nation assistants. Therefore, some features for which no name was known were assigned names by field personnel. Chief and council of TCN, YFFN, WLFN, and FLCN or the Canadian Permanent Committee on Geographical Names have not approved names of features described within this document.

2.2 PREVIOUS HYDROELECTRIC DEVELOPMENT

The Study Area is bounded by two Manitoba Hydro hydroelectric generating stations on the Nelson River: the Kelsey GS just upstream of Split Lake and Kettle GS downstream of Stephens Lake. The Kelsey GS came into service in 1961 and is operated as a **run-of-river plant** with very little storage or re-regulation of flows (Manitoba Hydro 1996a).

The Kettle GS was completed in 1974, which raised the water level at the structure by 30.0 m and created a backwater effect upstream to Gull Rapids. Approximately 22,055 ha of land were flooded in creating Stephens Lake (Manitoba Hydro 1996a). Kettle GS is operated as a **peaking-type plant**, cycling its **forebay** on a daily, weekly, and seasonal basis. The forebay is operated within an annual water level range of 141.1 m to 139.5 m ASL (Manitoba Hydro 1996a).

Since 1976, two water management projects, the Churchill River Diversion (CRD) and Lake Winnipeg Regulation (LWR), have influenced water levels and flows within the Study Area. These two projects augment and alter flows to generating stations on the lower Nelson River by diverting additional water into the drainage from the Churchill River (CRD) (Manitoba Hydro 1996b) and managing outflow from Lake Winnipeg (LWR). The CRD and LWR projects reversed the Nelson River pre-Project seasonal water level and flow patterns in the Keeyask Study Area by increasing water levels and flow during periods of ice cover and

reducing flows during the open-water period. Overall, there has been a net increase of 246 m^3/s in average annual flow at Gull Rapids since CRD and LWR (Manitoba Hydro 1996a). The historic and current flow regimes are described in "History and First Order Effects, Split Lake Cree Post-Project Environmental Review", Volume Two (Manitoba Hydro 1996a).

2.3 REPORT SPECIFIC STUDY AREA

Most of the land adjacent to Clark Lake and the Nelson River downstream to Gull Rapids is well drained and dominated by black spruce forest, with **sporadic** stands of trembling aspen. Immediately upstream of Gull Lake, the land adjacent to the south shore of the Nelson River is poorly drained and dominated by **organic soils**, black spruce **bogs**, peatlands, and fens. Mineral soils are predominant in the area with sporadic permafrost (Agriculture and Agri-Food Canada 2003).

Clark Lake is located immediately downstream of Split Lake, and approximately 42 km upstream of Gull Rapids on the Nelson River (Figure 1). Current is restricted to the main section of the lake, with off-current bays outside the main channel. Lake **substrates** are composed of fine mineral **sediments** and areas of bedrock. The shoreline is stable and largely bedrock with areas of mineral and organic sediments. **Riparian** vegetation includes willow, alder, and black spruce. Aquatic vegetation is restricted to and abundant in shallow, off-current bays. The Assean River is the only major tributary to Clark Lake, flowing into the north side of the lake. Two small **ephemeral** creeks also flow into the north shore of Clark Lake (Agriculture and Agri-Food Canada 2003).

Downstream from the outlet of Clark Lake, the Nelson River narrows and water **velocity** increases significantly for a 3 km stretch, with numerous rapids that are largely confined within bedrock shorelines. The substrate and shoreline features of this section of the river are largely bedrock and boulder/cobble. For the next 7 km, the river widens, velocity decreases, and fine sediments become predominant. Five small ephemeral creeks drain into the Nelson River between Clark Lake and Birthday Rapids (Agriculture and Agri-Food Canada 2003).

Birthday Rapids is located approximately 10 km downstream of Clark Lake and 30 km upstream of Gull Rapids on the Nelson River (Figure 1). The drop in elevation from the upstream to downstream side of Birthday Rapids is approximately 5 m. The 14 km reach of the Nelson River between Birthday Rapids and Gull Lake is characterized as a large, somewhat uniform channel with medium to high water velocity. A series of exposed shoals and boulders are located within the first 7 km downstream of Birthday Rapids, after which **run** habitat dominates the river. There are a few large bays with reduced water velocity and a number of small tributaries that drain into the Nelson River between Birthday Rapids and

Gull Lake. River substrates are typically bedrock, boulder, cobble, and sand, with some fine sediment in areas with reduced current. The shoreline in this section of the river contains large sections of bedrock and some areas of fine sediments. Riparian vegetation includes willow, alder, black spruce, tamarack, and trembling aspen. Aquatic vegetation is restricted to bays that are removed from the major river current (Agriculture and Agri-Food Canada 2003).

Gull Lake is a section of the Nelson River where the river widens, is lacustrine in nature, with moderate to low water velocity, and features numerous bays. Gull Lake is herein defined as the reach of the Nelson River beginning approximately 17 km upstream of Gull Rapids and 14 km downstream of Birthday Rapids, where the river widens to the north into a bay around a large point of land (Figure 1), and extending downstream to the downstream end of Caribou Island, approximately 3 km upstream of Gull Rapids. Gull Lake has three distinct **basins**, the first extending from the upstream end of the lake downstream approximately 6 km to a large island; the second extending from the large island to Morris Point (a constriction in the river immediately upstream of Caribou Island); and the third extending from Morris Point to the downstream end of Caribou Island. Water velocity in the third basin is somewhat faster than in the first two, particularly under low flows, as the river channel flows around Caribou Island. Gull Lake has numerous small tributaries, with the majority being ephemeral. Lake substrates are predominantly **silt** and sand with some cobble and boulder in the first two basins where current is slow, and predominantly cobble, boulder, and bedrock in the third basin, with soft substrates in off-current areas. Riparian vegetation includes willow, alder, black spruce, tamarack, and trembling aspen. Aquatic vegetation is restricted to bays that are removed from the major river channel (Agriculture and Agri-Food Canada 2003).

The 3 km reach of the Nelson River between Gull Lake and Gull Rapids is characterized by a steep gradient with high water velocity. The river channel is separated into two by a large island at the upstream end of Gull Rapids (Figure 1). The substrate is bedrock, boulder, and cobble with small amounts of clay and silt in off-current bays. Aquatic vegetation is restricted to a bay on the south shore (Agriculture and Agri-Food Canada 2003).

3.0 METHODS

3.1 MACROPHYTE AND EPIPHYTIC INVERTEBRATE SAMPLING

3.1.1 Sampling Locations

Aquatic macrophyte and associated epiphytic invertebrate sampling was conducted in Gull Lake, Clark Lake, and the Nelson River between Birthday and Gull rapids from August 12 to 15, 2004 (Table 1; figures 2 and 3).

Macrophyte beds in the Keeyask Study Area were identified and stratified (shallow: 1.0 – 1.5 m; moderate: 1.5 – 2.0 m; and, deep: 2.0 – 2.5 m) using **bathymetric survey** data collected in 2001 and aerial photos from July 8, 2003. For ease of sampling, the study area was divided into eight areas and each area was then further divided into zones as follows:

- Area 1: Pahwaypanik Bay (Zones 1 to 4);
- Area 2: John Garson Bay (Zones 1 to 4);
- Area 3: Kahpowinik Bay (Zones 1 to 4);
- Area 4: Tub Bay (Zones 1 to 4);
- Area 5: Caribou Isand (Zones East and West);
- Area 6: John Kitch Bay (Zones East and West);
- Area 7: Bay East of Rabbit Creek (Zones 1 to 4); and
- Area 8: Clark Lake (Zones 1 to 4).

A set of random sampling sites were generated for each zone using the Random Point Generator utility in ArcGIS® 8.3. Three sites per zone were generated for the areas in Gull Lake (for a total of 12 sampling sites) and two sites per zone were generated for all other areas (for a total of 48 sites). These randomly generated sites were then mapped on a 1:15,000 scale digital ortho-imagery. Field crews used a handheld Garmin Global Positioning System (GPS) unit to locate and sample the randomly selected sites.

3.1.2 Sample Collection

All sampling locations were accessed by boat. Two subsamples were collected at each site: one off the port side of the boat (Sample A) and a second off the starboard side (Sample B). Water depth was measured at the port and starboard side of the boat with a weighted rope graduated to the nearest 10 cm; an average depth was later calculated for each site (Table 1).

If aquatic macrophytes were found to be absent from a randomly pre-selected site, field crews measured water depth and noted the absence of plants.

Aquatic macrophytes and associated epiphytic invertebrates were collected with a custom designed sampler constructed of industrial ABS grade material. The frame measured 0.6 x 0.7 m in depth, 1.4 m in height, with a surface area of 0.42 m^2, and an attached 1.5 m, 400 µm mesh cod-end. The sampler is functional to water depths of less than 2.5 m; therefore, deeper sites were not sampled. To disturb the aquatic vegetation as little as possible, the sampler was lowered into the water with the cutter blade retracted until it reached the sediment. The cutter blade was then pulled across the bottom of the sampler, severing the rooted macrophytes above the sediment surface. All plants and associated invertebrates were retained within the sampler.

Once the sampler was pulled to the surface, macrophytes were removed by hand, placed in a ziplock bag and a whole wet weight was taken (to the nearest gram) with a Kilotech PC 2000A digital scale. The macrophytes were then placed in a 500 µm mesh-bottom bucket with a 400 µm mesh-bottom bucket directly below it and rinsed thoroughly to remove epiphytic invertebrates. After rinsing, macrophyte samples were placed in a salad spinner and spun to remove excess moisture, placed in labelled ziplock bags and weighed again. Any water collected from the spinning process was added to the rinse buckets to retain all invertebrates. Subsamples A and B were processed separately. Macrophyte samples were transported to the field laboratory, frozen and then transported to the North/South Consultants Inc. laboratory in Winnipeg for further processing. Invertebrate samples from both the 500 and 400 µm mesh-bottom buckets were placed in separate labelled plastic jars, preserved with 10% formalin, and transported to the North/South Consultants Inc. laboratory in Winnipeg for further processing.

The double sieving method allowed for a comparison of catch efficiency between mesh sizes. The values presented in the tables, figures, and appendices for the 500 µm mesh are the total number of epiphytic invertebrates captured in the 500 µm mesh. The values presented for the 400 µm mesh are the additional invertebrates that were captured in this mesh after the initial use of the 500 µm mesh, not the total number of invertebrates that would be captured using just the 400 µm mesh.

3.1.3 Laboratory and Data Analyses

Macrophytes were thawed in cold water and rinsed again using the 500 and 400 µm mesh-bottom buckets to collect any epiphytic invertebrates missed during field processing. Macrophytes were sorted under a 3x magnifying lamp and identified to the lowest

taxonomic group possible (usually **genus** or **species**). Macrophyte identification was based on Fassett (1957), Flora of North America Editorial Committee (2000), Johnson et al. (1995), Lahring (2003), Scoggan (1978-1979), and personal communications with Jackie Krindle (Calyx Consulting). Scientific names were updated according to the Integrated Taxonomic Information System (ITIS 2006). Any macrophyte material that could not be identified was grouped as unidentified.

The wet weight (g) of each macrophyte group was determined by weighing plant material in pre-weighed aluminum pans with a Mettler PM480 Delta Range digital scale to the nearest 0.001 of a gram. Samples were subsequently dried in a Fisher Scientific Isotemp drying oven for approximately 24 hours at a temperature of 106 °C and a dry-weight (g) was determined for each macrophyte group. Dried samples were discarded once processed. Aquatic macrophyte biomass (g/m^2) was determined by dividing the dry weight of the macrophyte group per sample (g) by the surface area of the sampler (0.42 m^2).

Epiphytic invertebrate samples were sorted under a 3x magnifying lamp and invertebrates were transferred to 70% ethanol. Any remaining invertebrates found on macrophytes in the laboratory that were not initially rinsed and placed into bottles in the field were included in the analysis. Invertebrates were identified under an 80-100x stereomicroscope to major group and enumerated with reference texts by Clifford (1991), McCafferty (1998), and Merritt and Cummins (1996). Quality Assurance/Quality Control (QA/QC) procedures were followed for sample processing and invertebrate identification (Appendix 1).

Epiphytic invertebrate abundance (individuals/m^2) was calculated by dividing the number of invertebrates per sample by the surface area of the sampler (0.42 m^2). To determine total number of **taxa**, epiphytic invertebrate groups were identified to the lowest practical taxonomic level as presented in the following table:

Phylum, Subphylum or Class	Major Group	Taxonomic Level of Identification
Annelida	Oligochaeta; Hirudinea	Subclass
Crustacea	Ostracoda	Class
	Amphipoda	Family
Arachnida	Acarina	Subclass
Mollusca	Bivalvia	Family
	Gastropoda	Family
Hydrozoa	-	Class
Insecta	Coleoptera; Hemiptera; Ephemeroptera; Trichoptera; Diptera	Family
	Chironomidae	Subfamily

If aquatic macrophytes were absent from randomly pre-selected sites, values of zero were assigned to those sites when calculating overall dry weights and epiphytic invertebrate abundance. Subsamples (A and B) were averaged for each site and this value was used to calculate the overall mean, **standard deviation**, and percent composition of aquatic macrophyte and epiphytic invertebrates for each area.

4.0 RESULTS

Sampling was attempted at 60 sites within eight areas in Gull Lake, Clark Lake, and portions of the Nelson River between Birthday and Gull rapids during the summer of 2004 (Table 1; figures 2 and 3). Seven of these sites could not be sampled due to high water levels and only 60% of the sites sampled contained macrophytes (Table 1).

Note that invertebrate abundance results for the 500 µm mesh are the total number of invertebrates collected in this mesh size, while the results for the 400 µm mesh are the additional invertebrates collected that passed through the 500 µm mesh.

4.1 AREA 1: PAHWAYPANIK BAY

4.1.1 Macrophytes

Aquatic macrophytes were present at seven out of the eight sites in Pahwaypanik Bay during the 2004 sampling period (Table 1 and Appendix 2). The average depths at the sites in this area ranged from 0.90 to 1.61 m (Table 1).

Eight species of **vascular** aquatic macrophytes and three **nonvascular** taxa were identified from samples collected in Pahwaypanik Bay in 2004 (Table 2 and Appendix 2). The mean dry weight of macrophyte samples from this area was 33.58 g/m^2 and the species composition was primarily *Eleocharis palustris* (35.24%), *Myriophyllum sibiricum* (27.29%), and *Potamogeton richardsonii* (22.91%; Table 2 and Figure 4).

4.1.2 Epiphytic Invertebrates

Twenty-four epiphytic invertebrate taxa were collected in aquatic macrophyte samples from Pahwaypanik Bay in 2004 (Table 3 and Appendix 3). Insecta (primarily Orthocladiinae) was the most common invertebrate group with mean abundances of 34 and 29 individuals/m^2 collected in the 400 and 500 µm mesh, respectively (Table 3). Mollusca, primarily Planorbidae, were also captured with a mean abundance of 34 individuals/m^2 collected in the 500 µm mesh (Table 3). For both mesh sizes, the overall percent composition of Insecta accounted for 53.1% of invertebrates collected from this area, followed by Mollusca with 28.7% (Table 3).

The 500 µm mesh retained 66.2% of the total invertebrates captured in samples from the Pahwaypanik Bay, while 33.8% passed through and were retained by the 400 µm mesh (Figure 5). The 500 µm mesh retained 99.1% of captured molluscs, 95.7% of captured crustaceans, 62.8% of captured annelids, and 45.8% of captured insects (Figure 5).

Chironomidae and Oligochaeta accounted for almost all of the invertebrates that passed through the 500 µm mesh and were retained by the 400 µm mesh (Table 3 and Appendix 3).

4.2 AREA 2: JOHN GARSON BAY

4.2.1 Macrophytes

Aquatic macrophyte samples were collected at only two out of the eight sites in John Garson Bay during the 2004 sampling period (Table 1 and Appendix 2). No macrophytes were present at four sites and two sites were too deep for the sampler. The average depths at the sampled sites in this area ranged from 0.61 to 2.28 m (Table 1).

Six species of vascular aquatic macrophytes were identified in samples collected from John Garson Bay in 2004 (Table 2 and Appendix 2). The mean dry weight of macrophyte samples from this area was 10.81 g/m^2 and the species composition was primarily *Eleocharis palustris* (91.17%; Table 2 and Figure 4).

4.2.2 Epiphytic Invertebrates

Epiphytic invertebrate diversity and abundance was lowest in samples from John Garson Bay in 2004, compared to other areas sampled in this study. Eight epiphytic invertebrate taxa were collected in aquatic macrophyte samples from this area (Table 3 and Appendix 3). Insecta (primarily Corixidae and Orthocladiinae) was the most common invertebrate group with a mean abundance of 4 individuals/m^2 collected in the 500 µm mesh (Table 3). Mollusca, primarily Planorbidae, were also captured with a mean abundance of 1 individual/m^2 collected in the 500 µm mesh (Table 3). For both mesh sizes, the overall percent composition of Insecta accounted for 73.1% of invertebrates collected from this area, followed by Mollusca with 19.2% (Table 3).

The 500 µm mesh retained 88.5% of the total invertebrates captured in samples from the John Garson Bay, while 11.5% passed through and were retained by the 400 µm mesh (Figure 6). The 500 µm mesh retained 100.0% of captured molluscs and 94.7% of captured insects (Figure 6). Although 100% of Annelida were retained in the 400 mesh, the mean individuals/m^2 of this group was less than one.

4.3 AREA 3: KAHPOWINIK BAY

4.3.1 Macrophytes

Aquatic macrophyte samples were collected at five out of the eight sites in Kahpowinik Bay during the 2004 sampling period (Table 1 and Appendix 2). Macrophytes were absent at

three sites. The average depths at the sampled sites in this area ranged from 0.33 to 2.22 m (Table 1).

Ten species of vascular aquatic macrophytes and two nonvascular taxa were identified in samples from Kahpowinik Bay in 2004 (Table 2 and Appendix 2). The mean dry weight of macrophyte samples from this area was 16.44 g/m^2 and the species composition was primarily *Eleocharis palustris* (51.95%) and *Potamogeton friesii* (34.25%; Table 2 and Figure 4).

4.3.2 Epiphytic Invertebrates

Twenty-one epiphytic invertebrate taxa were collected in aquatic macrophyte samples from Kahpowinik Bay in 2004 (Table 3 and Appendix 3). Insecta (primarily Chironominae) was the most common invertebrate group with mean abundances of 57 and 41 individuals/m^2 collected in the 500 and 400 µm mesh, respectively (Table 3). Annelida, primarily Oligochaeta, were also captured with mean abundances of 10 and 7 individuals/m^2 collected in the 500 and 400 µm mesh, respectively (Table 3). For both mesh sizes, the overall percent composition of Insecta accounted for 74.1% of invertebrates collected from this area, followed by Annelida with 12.6% (Table 3).

The 500 µm mesh retained 62.8% of the total invertebrates captured in samples from the Kahpowinik Bay, while 37.2% passed through and were retained by the 400 µm mesh (Figure 7). The 500 µm mesh retained 98.3% of captured molluscs, 89.6% of captured crustaceans, 58.9% of captured annelids, and 58.0% of captured insects (Figure 7). Chironomidae and Oligochaeta accounted for almost all of the invertebrates that passed through the 500 µm mesh and were retained by the 400 µm mesh (Table 3 and Appendix 3).

4.4 AREA 4 : TUB BAY

4.4.1 Macrophytes

Aquatic macrophyte samples were collected at only three out of the eight sites in Tub Bay during the 2004 sampling period (Table 1 and Appendix 2). Macrophytes were absent from site 2-1 and the starboard side (Sample B) of site 3-2. Three sites and the port side (Sample A) of site 3-2 were too deep for the sampler. The average depths at the sampled sites in this area ranged from 0.85 to 2.42 m (Table 1).

Six species of vascular aquatic macrophytes and one nonvascular taxon were identified in samples from Tub Bay in 2004 (Table 2 and Appendix 2). The mean dry weight of macrophyte samples from this area was 16.86 g/m^2 and the species composition was

primarily *Potamogeton richardsonii* (70.99%), followed by small quantities of *Stuckenia vaginatus* and *S. pectinatus* (15.19 and 7.87%, respectively; Table 2 and Figure 4).

4.4.2 Epiphytic Invertebrates

Fourteen epiphytic invertebrate taxa were collected in aquatic macrophyte samples from Tub Bay in 2004 (Table 3 and Appendix 3). Insecta (primarily Orthocladiinae) was the most common invertebrate group with mean abundances of 84 and 52 individuals/m^2 collected in the 500 and 400 µm mesh, respectively (Table 3). Annelida, primarily Oligochaeta, were also captured with mean abundances of 15 and 12 individuals/m^2 collected in the 500 and 400 µm mesh, respectively (Table 3). For both mesh sizes, the overall percent composition of Insecta accounted for 79.1% of invertebrates collected from this area, followed by Annelida with 15.7% (Table 3).

The 500 µm mesh retained 62.6% of the total invertebrates captured in samples from Tub Bay, while 37.4% passed through and were retained by the 400 µm mesh (Figure 8). The 500 µm mesh retained 97.2% of captured molluscs, 61.6% of captured insects, and 55.8% of captured annelids (Figure 8). Chironomidae and Oligochaeta accounted for almost all of the invertebrates that passed through the 500 µm mesh and were retained by the 400 µm mesh (Table 3 and Appendix 3).

4.5 AREA 5: CARIBOU ISLAND

4.5.1 Macrophytes

Aquatic macrophytes were present at all six sites in Gull Lake at Caribou Island during the 2004 sampling period (Table 1 and Appendix 2). The average depths at these sites ranged from 1.16 to 1.53 m (Table 1).

Three species of vascular aquatic macrophytes and one nonvascular taxon were identified in samples from Gull Lake at Caribou Island in 2004 (Table 2 and Appendix 2). The mean dry weight of macrophyte samples from this area was 26.56 g/m^2 and the species composition was primarily *Stuckenia vaginatus* (46.99%), filamentous algae (26.94%), and *Potamogeton richardsonii* (17.52%; Table 2 and Figure 4).

4.5.2 Epiphytic Invertebrates

Sixteen epiphytic invertebrate taxa were collected in aquatic macrophyte samples from Gull Lake at Caribou Island in 2004 (Table 3 and Appendix 3). Mollusca (primarily Planorbidae and Lymnaeidae) was the most common invertebrate group with a mean abundance of 167 and 4 individuals/m^2 collected in the 500 and 400 µm mesh, respectively (Table 3). Insecta

(primarily Orthocladiinae and Chironominae) were captured with mean abundances of 96 and 35 individuals/m^2 collected in the 500 and 400 µm mesh, respectively (Table 3). Annelida (primarily Oligochaeta) were also present with mean abundances of 55 and 21 individuals/m^2 collected in the 500 and 400 µm mesh, respectively. For both mesh sizes, the overall percent composition of Mollusca accounted for 45.0% of invertebrates collected from this area, followed by Insecta with 34.3% and Annelida with 20.0% (Table 3).

The 500 µm mesh retained 84.3% of the total invertebrates captured in samples from Gull Lake at Caribou Island, while 15.7% passed through and were retained by the 400 µm mesh (Figure 9). The 500 µm mesh retained 97.9% of captured molluscs, 73.5% of captured insects, and 72.5% of captured annelids (Figure 9). Chironomidae and Oligochaeta accounted for almost all of the invertebrates that passed through the 500 µm mesh and were retained by the 400 µm mesh (Table 3 and Appendix 3).

4.6 AREA 6: JOHN KITCH BAY

4.6.1 Macrophytes

Aquatic macrophyte samples were collected at four out of the six sites in John Kitch Bay during the 2004 sampling period (Table 1 and Appendix 2). Macrophytes were absent from one site and another site was too deep for the sampler. The average depths at the sampled sites in this area ranged from 1.32 to 1.97 m (Table 1).

Three species of vascular aquatic macrophytes and two nonvascular taxa were identified in samples from John Kitch Bay in 2004 (Table 2 and Appendix 2). The mean dry weight of macrophyte samples from this area was 5.64 g/m^2 and the species composition was primarily *Stuckenia vaginatus* (53.65%), unidentified macrophytes (23.09%), and *Potamogeton richardsonii* (22.04%; Table 2 and Figure 4).

4.6.2 Epiphytic Invertebrates

Sixteen epiphytic invertebrate taxa were collected in aquatic macrophyte samples from John Kitch Bay in 2004 (Table 3 and Appendix 3). Insecta (primarily Orthocladiinae) was the most common invertebrate group with mean abundances of 69 and 44 individuals/m^2 collected in the 500 and 400 µm mesh, respectively (Table 3). Annelida (primarily Oligochaeta) were also present with mean abundances of 15 and 11 individuals/m^2 collected in the 500 and 400 µm mesh, respectively (Table 3). For both mesh sizes, the overall percent composition of Insecta accounted for 65.7% of invertebrates collected from this area, followed by Annelida with 15.6% (Table 3).

The 500 µm mesh retained 66.4% of the total invertebrates captured in samples from John Kitch Bay, while 33.6% passed through and were retained by the 400 µm mesh (Figure 10). The 500 µm mesh retained 97.9% of captured hydrozoans, 91.4% of captured molluscs, 61.1% of captured insects, and 57.5% of captured annelids (Figure 10). Chironomidae and Oligochaeta accounted for almost all of the invertebrates that passed through the 500 µm mesh and were retained by the 400 µm mesh (Table 3 and Appendix 3).

4.7 AREA 7: BAY EAST OF RABBIT CREEK

4.7.1 Macrophytes

Aquatic macrophyte samples were collected at five out of the eight sites in the bay east of Rabbit Creek during the 2004 sampling period (Table 1 and Appendix 2). Macrophytes were absent at two sites and one site was too deep to sample. The average depths at the sampled sites in this area ranged from 0.91 to 2.30 m (Table 1).

Six species of vascular aquatic macrophytes and one nonvascular taxon were identified in samples from the bay east of Rabbit Creek in 2004 (Table 2 and Appendix 2). The mean dry weight of macrophyte samples from this area was 5.74 g/m^2 and the species composition was primarily *Potamogeton gramineus* (42.28%), *P. richardsonii* (25.00%), and *Stuckenia pectinatus* (23.12%; Table 2 and Figure 4).

4.7.2 Epiphytic Invertebrates

Fifteen epiphytic invertebrate taxa were collected in aquatic macrophyte samples from the bay east of Rabbit Creek in 2004 (Table 3 and Appendix 3). Insecta (primarily Orthocladiinae) was the most common invertebrate group with mean abundances of 18 and 17 individuals/m^2 collected in the 500 and 400 µm mesh, respectively (Table 3). Mollusca (primarily Planorbidae) were captured with a mean abundance of 19 individuals/m^2 collected in the 500 µm mesh. Annelida, primarily Oligochaeta, were also present with a mean abundance of 11 individuals/m^2 collected in the 500 µm mesh (Table 3). For both mesh sizes, the overall percent composition of Insecta accounted for 46.2% of invertebrates collected from this area, followed by Mollusca with 25.8% and Annelida with 18.8% (Table 3).

The 500 µm mesh retained 70.9% of the total invertebrates captured in samples from the bay east of Rabbit Creek, while 29.1% passed through and were retained by the 400 µm mesh (Figure 11). The 500 µm mesh retained 97.4% of captured molluscs, 73.8% of captured annelids, and 51.0% of captured insects (Figure 11). Chironomidae and Oligochaeta

accounted for almost all of the invertebrates that passed through the 500 µm mesh and were retained by the 400 µm mesh (Table 3 and Appendix 3).

4.8 AREA 8: CLARK LAKE

4.8.1 Macrophytes

Aquatic macrophyte samples were collected at five out of the eight sites in Clark Lake during the 2004 sampling period (Table 1 and Appendix 2). Macrophytes were absent from one site and two sites were too deep for the sampler. The average depths at the sampled sites in this area ranged from 0.65 to 1.97 m (Table 1).

Nine species of vascular aquatic macrophytes and two nonvascular taxa were identified in samples from Clark Lake in 2004 (Table 2 and Appendix 2). The mean dry weight of macrophyte samples from this area was 14.87 g/m^2 and the species composition was primarily *Eleocharis palustris* (60.86%) and *Potamogeton richardsonii* (36.11%; Table 2 and Figure 4).

4.8.2 Epiphytic Invertebrates

Ten epiphytic invertebrate taxa were collected in aquatic macrophyte samples from Clark Lake in 2004 (Table 3 and Appendix 3). Annelida (primarily Oligochaeta) was the most common invertebrate group with mean abundances of 69 and 13 individuals/m^2 collected in the 500 and 400 µm mesh, respectively (Table 3). Insecta (primarily Orthocladiinae) were captured with mean abundances of 37 and 16 individuals/m^2 collected in the 500 and 400 µm mesh, respectively. Mollusca (primarily Planorbidae) were also present with a mean abundance of 47 individuals/m^2 collected in the 500 µm mesh (Table 3). For both mesh sizes, the overall percent composition of Annelida accounted for 44.6% of invertebrates collected from this area, followed by Insecta with 28.8% and Mollusca with 26.1% (Table 3).

The 500 µm mesh retained 83.6% of the total invertebrates captured in samples from Clark Lake, while 16.4% passed through and were retained by the 400 µm mesh (Figure 12). The 500 µm mesh retained 98.4% of captured molluscs, 84.1% of captured annelids, and 70.1% of captured insects (Figure 12). Chironomidae and Oligochaeta accounted for almost all of the invertebrates that passed through the 500 µm mesh and were retained by the 400 µm mesh (Table 3 and Appendix 3).

5.0 GLOSSARY

Algae (al) − a group of simple plant-like aquatic ***organisms*** possessing ***chlorophyll*** and capable of ***photosynthesis***; they may be attached to surfaces or free-floating. Most freshwater ***species*** are very small in size.

Aquatic environment − areas that are permanently under water, or that are under water for a sufficient period to support ***organisms*** that remain for their entire lives, or a significant portion of their lives, totally immersed in water.

Aquatic invertebrate (s) − an animal lacking a backbone that lives, at least part of its life, in the water (e.g., aquatic insect, clam, aquatic earthworm, crayfish).

Aquatic monitoring – the primary goal of long term ***monitoring*** of lakes and rivers is to understand how aquatic communities and ***habitats*** respond to natural processes and to be able to distinguish differences between human-induced disturbance effects to aquatic ***ecosystems*** and those caused by natural processes.

ASL − Above Sea Level.

Baseline − information about an area, over a period of time, that is used as background for detecting and/or comparing potential future changes.

Basin (s) – a distinct section of a lake, separated from the remainder of the lake by a constriction.

Bathymetric survey – a survey to describe the area and water depth of a lake or river.

Bog (s) – wetland ***ecosystem*** characterized by an accumulation of ***peat***, acid conditions, and a plant community dominated by sphagnum moss.

Boreal − of, or relating to, the forest areas of the North Temperate Zone, dominated by coniferous trees such as spruce, fir, and pine.

Chlorophyll – a group of green pigments present in plant and ***algal*** cells that are necessary in the trapping of light energy during ***photosynthesis***.

Confluence – the meeting place of two streams or rivers.

Detritus − particulate and dissolved ***organic*** matter that is produced by the decomposition of plant and animal matter.

Ecosystem (s) − all living ***organisms*** in an area and the non-living parts of the ***environment*** upon which they depend, as well as all interactions, both among living and non-living components of the ecosystem.

Environment − 1) the total of all the surrounding natural conditions that affect the existence of living ***organisms*** on earth, including air, water, ***soil***, minerals, climate, and the organisms themselves; and 2) the local complex of such conditions that affects a particular organism and ultimately determines its physiology and survival.

Environmental impact assessment − an evaluation of the likely adverse environmental effects of a project that will contribute to decisions about whether to proceed with a project.

Ephemeral − a stream that flows only in direct response to precipitation, and thus ceases flowing during dry seasons.

Epiphytic invertebrate (s) – animal(s) without a spinal column found on aquatic ***macrophytes***; the macrophytes are used for food or shelter.

Existing environment − the present condition of a particular area; generally assessed prior to the construction of a proposed project.

Fen (s) – a peatland with the water table usually at or just above the surface; often stagnant and alkaline.

Forebay – the portion of a reservoir immediately upstream of a hydroelectric facility.

Genus − a division in the classification of plants and animals consisting of a group of related ***species***; a ***taxonomic*** rank below family and above species.

Glacio-lacustrine deposits − ***soil*** that originates from lakes that were formed by melting glaciers.

Habitat − the place where a plant or animal lives; often related to a function such as spawning, feeding, etc.

Hydroelectric generating station − a generating station that converts the potential energy of elevated water or the kinetic energy of flowing water into electricity.

Lacustrine − referring to freshwater lakes; ***sediments*** generally consisting of stratified fine sand, ***silt***, and clay deposits on a lake bed.

Macrophyte (s) − multi-celled aquatic and ***terrestrial*** plants.

Monitoring − measurement or collection of data to determine whether change is occurring in something of interest.

Nonvascular − refers to lower plants which lack well developed conducting tissues (xylem and phloem): e.g. moss and ***algae***.

Organic – the compounds formed by living ***organisms***.

Organism (s) – an individual living thing.

Peaking-type plant – a ***hydroelectric generating station*** that is designed to supply power during high demand periods and is generally operated to serve that purpose.

Peat − material consisting of non-decomposed and only slightly decomposed ***organic*** matter found in extremely moist areas.

Permafrost − subsoil that remains below the freezing point throughout the year, as in an Arctic environment.

Photosynthesis – a process which occurs in plants and ***algae*** where, in the presence of light, carbon dioxide and water are turned into a useable form of energy (sugar) and oxygen.

Project − proposed ***hydroelectric generating station*** on the Nelson River, upstream of Stephens Lake.

Reach − any length of stream or river under study, often with similar features along its length.

Regulatory authorities − a decision-making body such as a government department.

Riparian – along the banks of rivers and streams.

Run – an area of a stream with uniform, swiftly flowing water without surface breaks.

Run-of-river plant − a ***hydroelectric generating station*** that has no upstream storage capacity and must pass all water flows as they come.

Sediment (s) – material, usually ***soil*** or ***organic detritus***, which is deposited in the bottom of a waterbody.

Silt – a very small rock fragment or mineral particle, smaller than a very fine grain of sand and larger than coarse clay; usually having a diameter of 0.002 to 0.06 mm; the smallest ***soil*** material that can be seen with the naked eye.

Soil (s) – 1) all loose, unconsolidated, weathered, or otherwise altered rock material above bedrock; and 2) a natural accumulation of ***organic*** matter and inorganic rock material that is capable of supporting the growth of vegetation.

Species – a group of ***organisms*** that can interbreed to produce fertile offspring.

Sporadic – the occurrence of isolated patches of ***permafrost*** or trembling aspen, 10-35% of a geographic region.

Standard deviation (SD) – the square root of the variance of a collection of numbers.

Substrate (s) – the material forming the streambed; also solid material upon which an ***organism*** lives or to which it is attached.

Taxon (a) – any valid ***taxonomic*** category (e.g., order, family, ***genus***, ***species***) defined according to hierarchical level.

Taxonomic – pertaining to the classification of plants and animals into groups.

Terrestrial – belonging to, or inhabiting the land or ground.

Topography − the general configuration of the land surface including relief and position of natural and man-made features.

Vascular – refers to higher plants which have well developed conducting tissues (xylem and phloem): e.g. flowering plants.

Velocity – a measurement of speed of flow.

Water quality − measures of substances in the water such as nitrogen, phosphorus, oxygen, and carbon.

Watershed − the area within which all water drains to collect in a common channel or lake.

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TABLES AND FIGURES

Table 1. Aquatic macrophyte survey information for sampling locations within portions of the Nelson River between Clark Lake and Gull Rapids, summer 2004.

Date	Area Number	Area Name	Zone	Site	Location (UTM/Datum NAD 83)			Average Water Depth (m)	Samples[1, 2, 3, 4, 5, 6]	
					Zone	Easting	Northing		Macrophyte	Epiphytic Invertebrate
14-Aug-04	1	Pahwaypanik Bay	1	1	15V	340101	6244932	1.09	√	√
14-Aug-04	1	Pahwaypanik Bay	1	2	15V	340097	6244890	1.10	√	√
14-Aug-04	1	Pahwaypanik Bay	2	1	15V	340459	6244501	0.97	√	√
14-Aug-04	1	Pahwaypanik Bay	2	2	15V	340900	6244458	0.90	√	√
14-Aug-04	1	Pahwaypanik Bay	3	1	15V	339320	6245437	1.42	√	√
14-Aug-04	1	Pahwaypanik Bay	3	2	15V	339286	6245526	0.93	√	√
14-Aug-04	1	Pahwaypanik Bay	4	1	15V	338838	6245243	1.61	√	√
14-Aug-04	1	Pahwaypanik Bay	4	2	15V	339207	6245402	1.59	n.m.	
15-Aug-04	2	John Garson Bay	1	1	15V	355521	6243474	0.82	√	√
15-Aug-04	2	John Garson Bay	1	2	15V	355486	6243504	0.61	√	√
15-Aug-04	2	John Garson Bay	2	1	15V	355615	6244236	1.95	n.m.	
15-Aug-04	2	John Garson Bay	2	2	15V	355253	6243937	2.19	n.m.	
15-Aug-04	2	John Garson Bay	3	1	15V	355641	6244169	1.97	n.m.	
15-Aug-04	2	John Garson Bay	3	2	15V	355253	6244043	2.28	n.m.	
15-Aug-04	2	John Garson Bay	4	1	15V	354934	6244419	3.58	t.d.	
15-Aug-04	2	John Garson Bay	4	2	15V	354958	6244335	2.71	t.d.	
13-Aug-04	3	Kahpowinik Bay	1	1	15V	343831	6245056	0.33	√	√
13-Aug-04	3	Kahpowinik Bay	1	2	15V	344170	6245256	1.12	√	√
13-Aug-04	3	Kahpowinik Bay	2	1	15V	344337	6245353	1.11	√	√
13-Aug-04	3	Kahpowinik Bay	2	2	15V	345054	6245442	0.84	√	√
13-Aug-04	3	Kahpowinik Bay	3	1	15V	345169	6245037	1.54	n.m.	
13-Aug-04	3	Kahpowinik Bay	3	2	15V	345537	6245246	1.84	√	√
13-Aug-04	3	Kahpowinik Bay	4	1	15V	345284	6245019	2.22	n.m.	
13-Aug-04	3	Kahpowinik Bay	4	2	15V	345301	6245142	1.82	n.m.	
12-Aug-04	4	Tub Bay	1	1	15V	360174	6245376	0.85	√[6]	√[6]
12-Aug-04	4	Tub Bay	1	2	15V	360093	624587	1.33	√[6]	√[6]
12-Aug-04	4	Tub Bay	2	1	15V	360262	6245622	1.56	n.m.	
12-Aug-04	4	Tub Bay	2	2	15V	360218	6245591	1.36	√	√
12-Aug-04	4	Tub Bay	3	1	15V	360411	6245648	2.80	t.d.	
12-Aug-04	4	Tub Bay	3	2	15V	360181	6245623	2.42	t.d. / n.m.	
12-Aug-04	4	Tub Bay	4	1	15V	360354	6245675	>5.00	t.d.	
12-Aug-04	4	Tub Bay	4	2	15V	360285	6245668	>5.00	t.d.	

Table 1. Continued.

Date	Area Number	Area Name	Zone	Site	Location (UTM/Datum NAD 83)			Average Water Depth (m)	Samples[1, 2, 3, 4, 5, 6]	
					Zone	Easting	Northing		Macrophyte	Epiphytic Invertebrate
12-Aug-04	5	Caribou Island	East	1	15V	356958	6247892	1.21	√	√
12-Aug-04	5	Caribou Island	East	2	15V	357061	6247622	1.24	√	√
12-Aug-04	5	Caribou Island	East	3	15V	357409	6247638	1.53	√	√
12-Aug-04	5	Caribou Island	West	1	15V	356523	6247497	1.21	√	√
12-Aug-04	5	Caribou Island	West	2	15V	356501	6247629	1.16	√	√
12-Aug-04	5	Caribou Island	West	3	15V	356357	6247710	1.31	√ [5]	
12-Aug-04	6	John Kitch Bay	East	1	15V	355113	6246655	1.69	√	√
12-Aug-04	6	John Kitch Bay	East	2	15V	355360	6246343	2.61	t.d.	
12-Aug-04	6	John Kitch Bay	East	3	15V	355264	6245992	1.97	√ [6]	√ [6]
12-Aug-04	6	John Kitch Bay	West	1	15V	354855	6246891	1.61	√	√
12-Aug-04	6	John Kitch Bay	West	2	15V	354981	6246655	1.32	n.m.	
12-Aug-04	6	John Kitch Bay	West	3	15V	355094	6246605	1.60	√ [6]	√ [6]
14-Aug-04	7	Bay East of Rabbit Creek	1	1	15V	350853	6242868	1.54	√	√
14-Aug-04	7	Bay East of Rabbit Creek	1	2	15V	351012	6242766	0.91	√	√
14-Aug-04	7	Bay East of Rabbit Creek	2	1	15V	350970	6242953	1.27	√ [6]	n.e.
14-Aug-04	7	Bay East of Rabbit Creek	2	2	15V	351098	6242864	1.36	√	√
14-Aug-04	7	Bay East of Rabbit Creek	3	1	15V	351180	6242941	1.59	√	√
14-Aug-04	7	Bay East of Rabbit Creek	3	2	15V	350933	6243165	1.80	n.m.	
14-Aug-04	7	Bay East of Rabbit Creek	4	1	15V	351190	6243116	2.30	n.m.	
14-Aug-04	7	Bay East of Rabbit Creek	4	2	15V	351255	6243123	3.40	t.d.	
13-Aug-04	8	Clark Lake	1	1	15V	318004	6239498	0.92	√	√
13-Aug-04	8	Clark Lake	1	2	15V	318084	6239433	0.65	√ [5]	√
13-Aug-04	8	Clark Lake	2	1	15V	318259	6239660	1.30	√	√
13-Aug-04	8	Clark Lake	2	2	15V	318341	6240094	1.21	√ [6]	√ [6]
13-Aug-04	8	Clark Lake	3	1	15V	318435	6240026	1.97	n.m.	
13-Aug-04	8	Clark Lake	3	2	15V	318602	6239810	1.33	√ [6]	√ [6]
13-Aug-04	8	Clark Lake	4	1	15V	318904	6240279	2.67	t.d.	
13-Aug-04	8	Clark Lake	4	2	15V	318590	6240085	2.55	t.d.	

[1] √ indicates sample taken.
[2] t.d. = too deep for sampler.
[3] n.m. = no macrophytes.
[4] n.e. = no epiphytes.
[5] no duplicate; sample lost.
[6] no duplicate sample due to lack of macrophytes.

Table 2. Summary of mean dry weight (g/m^2), +/- one standard deviation (SD), and percent dry weight (%) of vascular and nonvascular aquatic macrophyte samples collected from eight areas in the Keeyask Study Area during summer 2004. Individual abundances may not add up to totals due to rounding.

Area	**1: Pahwaypanik Bay**			**2: John Garson Bay**			**3: Kahpowinik Bay**		
	Mean	**SD**	**%**	**Mean**	**SD**	**%**	**Mean**	**SD**	**%**
Vascular Macrophytes									
Callitriche palustris	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
Cicuta sp.	0.00	0.00	0.00	0.36	0.69	3.32	0.22	0.59	1.35
Eleocharis palustris	11.84	22.72	35.24	9.85	16.61	91.17	8.54	15.80	51.95
Lemna trisulca	0.13	0.22	0.39	0.00	0.00	0.00	0.37	0.79	2.25
Myriophyllum sibiricum	9.16	21.50	27.29	0.00	0.00	0.00	0.55	1.54	3.34
Poaceae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton sp.	0.09	0.25	0.27	0.03	0.07	0.26	0.00	0.00	0.00
Potamogeton friesii	0.00	0.00	0.00	0.00	0.00	0.00	5.63	14.46	34.25
Potamogeton gramineus	0.03	0.08	0.09	0.00	0.00	0.00	0.12	0.34	0.73
Potamogeton richardsonii	7.69	13.05	22.91	0.00	0.00	0.00	0.52	0.85	3.17
Scirpus sp.	1.16	3.27	3.44	0.32	0.52	2.93	0.42	1.20	2.58
Sparganium sp.	0.76	2.13	2.27	0.24	0.59	2.24	0.00	0.00	0.00
Stuckenia sp.	0.00	0.00	0.00	0.01	0.02	0.07	0.00	0.00	0.00
Stuckenia pectinatus	1.10	3.10	3.27	0.00	0.00	0.00	0.04	0.12	0.26
Stuckenia vaginatus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nonvascular Macrophytes									
Aquatic moss	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chara spp.	1.43	4.03	4.25	0.00	0.00	0.00	0.01	0.03	0.06
Cyanophycota[1]	0.00	0.01	0.01	0.00	0.00	0.00	0.01	0.01	0.04
Filamentous algae	0.20	0.45	0.59	0.00	0.00	0.00	0.00	0.00	0.00
Unidentified Macrophytes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Macrophytes	**33.58**	**30.74**	**100.00**	**10.81**	**18.03**	**100.00**	**16.44**	**20.15**	**100.00**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Cyanophyta updated to Cyanophycota (blue-green algae).

Table 2. Continued.

Area	4: Tub Bay			5: Caribou Island			6: John Kitch Bay		
	Mean	**SD**	**%**	**Mean**	**SD**	**%**	**Mean**	**SD**	**%**
Vascular Macrophytes									
Callitriche palustris	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cicuta sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Eleocharis palustris	0.68	1.53	4.05	0.00	0.00	0.00	0.00	0.01	0.08
Lemna trisulca	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Myriophyllum sibiricum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Poaceae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton friesii	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton gramineus	0.04	0.08	0.22	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton richardsonii	11.97	18.01	70.99	4.65	7.49	17.52	1.24	2.00	22.04
Scirpus sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sparganium sp.	0.16	0.35	0.93	0.00	0.00	0.00	0.00	0.00	0.00
Stuckenia sp.	0.00	0.00	0.00	0.76	1.17	2.84	0.00	0.01	0.04
Stuckenia pectinatus	1.33	2.97	7.87	1.52	1.87	5.71	0.00	0.00	0.00
Stuckenia vaginatus	2.56	5.73	15.19	12.48	21.22	46.99	3.03	3.65	53.65
Nonvascular Macrophytes									
Aquatic moss	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chara spp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cyanophycota[1]	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.16
Filamentous algae	0.12	0.28	0.74	7.16	6.73	26.94	0.05	0.11	0.94
Unidentified Macrophytes	0.00	0.00	0.00	0.00	0.00	0.00	1.30	2.91	23.09
Total Macrophytes	**16.86**	**25.79**	**100.00**	**26.56**	**25.22**	**100.00**	**5.64**	**4.84**	**100.00**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Cyanophyta updated to Cyanophycota (blue-green algae).

Table 2. Continued.

Area	7: Bay East of Rabbit Creek			8: Clark Lake		
	Mean	**SD**	**%**	**Mean**	**SD**	**%**
Vascular Macrophytes						
Callitriche palustris	0.00	0.00	0.00	0.00	0.01	0.02
Cicuta sp.	0.00	0.00	0.00	0.03	0.08	0.21
Eleocharis palustris	0.02	0.06	0.42	9.05	17.87	60.86
Lemna trisulca	0.00	0.00	0.00	0.00	0.00	0.01
Myriophyllum sibiricum	0.00	0.00	0.00	0.03	0.06	0.18
Poaceae	0.00	0.00	0.00	0.06	0.15	0.42
Potamogeton sp.	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton friesii	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton gramineus	2.43	5.21	42.28	0.00	0.00	0.00
Potamogeton richardsonii	1.44	3.80	25.00	5.37	7.73	36.11
Scirpus sp.	0.00	0.00	0.00	0.00	0.00	0.00
Sparganium sp.	0.14	0.36	2.36	0.28	0.68	1.86
Stuckenia sp.	0.22	0.57	3.83	0.00	0.00	0.00
Stuckenia pectinatus	1.33	3.12	23.12	0.03	0.09	0.23
Stuckenia vaginatus	0.17	0.45	2.97	0.00	0.00	0.00
Nonvascular Macrophytes						
Aquatic moss	0.00	0.00	0.00	0.00	0.01	0.03
Chara spp.	0.00	0.00	0.00	0.00	0.00	0.00
Cyanophycota[1]	0.00	0.00	0.03	0.01	0.02	0.04
Filamentous algae	0.00	0.00	0.00	0.00	0.00	0.00
Unidentified Macrophytes	0.00	0.00	0.00	0.00	0.01	0.02
Total Macrophytes	**5.74**	**8.98**	**100.00**	**14.87**	**16.81**	**100.00**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Cyanophyta updated to Cyanophycota (blue-green algae).

Table 3. Summary of mean abundance (individuals/m²), +/- one standard deviation (SD), and percent composition (%) of epiphytic invertebrates collected in association with macrophyte sampling from eight areas in the Keeyask Study Area during summer 2004. Individual abundances may not add up to totals due to rounding.

Area	1: Pahwaypanik Bay					2: John Garson Bay				
	Mean	SD	Mean	SD	%	Mean	SD	Mean	SD	%
Mesh Size (µm)	**400**		**500**		**Overall**	**400**		**500**		**Overall**
Annelida										
Oligochaeta	5	5	6	9	9.4	0	0	0	0	0.0
Hirudinea	0	0	3	6	2.4	0	1	0	0	7.7
Total Annelida	**5**	**5**	**9**	**10**	**11.8**	**0**	**1**	**0**	**0**	**7.7**
Crustacea										
Ostracoda	0	1	0	1	0.5	0	0	0	0	0.0
Amphipoda - unidentified	0	0	0	0	0.0	0	0	0	0	0.0
Gammaridae	0	0	0	0	0.1	0	0	0	0	0.0
Haustoriidae	0	0	0	1	0.3	0	0	0	0	0.0
Talitridae	0	0	6	13	4.8	0	0	0	0	0.0
Diplostraca[1]	0	0	0	0	0.1	0	0	0	0	0.0
Total Crustacea	**0**	**1**	**7**	**14**	**5.8**	**0**	**0**	**0**	**0**	**0.0**
Arachnida										
Acarina	0	0	0	0	0.1	0	0	0	0	0.0
Mollusca										
Bivalvia										
Pisidiidae	0	0	1	2	0.6	0	0	0	0	0.0
Gastropoda - unidentified	0	0	0	0	0.1	0	0	0	0	0.0
Hydrobiidae	0	0	0	0	0.0	0	0	0	0	0.0
Lymnaeidae	0	0	7	13	5.5	0	0	0	0	0.0
Physidae	0	0	8	14	7.1	0	0	0	0	0.0
Planorbidae	0	1	18	24	15.3	0	0	1	2	19.2
Valvatidae	0	0	0	0	0.0	0	0	0	0	0.0
Total Mollusca	**0**	**1**	**34**	**44**	**28.7**	**0**	**0**	**1**	**2**	**19.2**
Hydrozoa	0	0	0	1	0.5	0	0	0	0	0.0
Insecta										
Odonata										
Anisoptera										
Aeshnidae	0	0	0	0	0.0	0	0	0	0	0.0
Coleoptera										
Chrysomelidae	0	0	0	0	0.0	0	0	0	1	7.7
Curculionidae	0	0	0	0	0.1	0	0	0	0	3.8
Dytiscidae	0	0	1	1	0.5	0	0	0	1	7.7
Gyrinidae	0	0	1	2	0.5	0	0	0	0	0.0
Haliplidae	0	0	0	0	0.3	0	0	0	0	0.0
Hemiptera	0	0	0	0	0.0	0	0	0	0	0.0
Corixidae	0	0	2	2	1.4	0	0	2	4	34.6
Gerridae	0	0	1	1	0.5	0	0	0	0	0.0
Ephemeroptera - unidentified	0	0	0	0	0.0	0	0	0	0	0.0
Baetidae	0	0	0	0	0.0	0	0	0	0	0.0
Caenidae	0	0	0	0	0.0	0	0	0	0	0.0
Siphlonuridae	0	0	0	0	0.0	0	0	0	0	0.0
Trichoptera - unidentified	0	0	0	0	0.0	0	0	0	0	0.0
Brachycentridae	0	0	0	0	0.0	0	0	0	0	0.0
Hydropsychidae	0	0	0	0	0.0	0	0	0	0	0.0
Lepidostomatidae	0	0	0	0	0.1	0	0	0	0	0.0
Diptera - unidentified	0	0	0	0	0.0	0	0	0	0	0.0
Ceratopogonidae	0	0	0	0	0.1	0	0	0	0	0.0
Chironomidae - unidentified	1	2	0	1	0.9	0	0	0	0	0.0
Chironominae	4	5	3	3	5.6	0	0	0	0	0.0
Orthocladiinae	29	40	21	39	42.5	0	0	1	1	15.4
Tanypodinae	0	1	0	1	0.6	0	0	0	0	0.0
Tipulidae	0	0	0	0	0.0	0	0	0	0	3.8
Total Insecta	**34**	**43**	**29**	**40**	**53.1**	**0**	**0**	**4**	**7**	**73.1**
Total Invertebrates	**40**	**48**	**79**	**95**	**100.0**	**1**	**1**	**5**	**9**	**100.0**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table 3. Continued.

Area	3: Kahpowinik Bay					4: Tub Bay				
	Mean	SD	Mean	SD	%	Mean	SD	Mean	SD	%
Mesh Size (µm)	400		500		Overall	400		500		Overall
Annelida										
Oligochaeta	7	13	9	21	12.0	12	17	15	20	15.4
Hirudinea	0	0	1	1	0.6	0	0	0	1	0.3
Total Annelida	**7**	**13**	**10**	**20**	**12.6**	**12**	**17**	**15**	**21**	**15.7**
Crustacea										
Ostracoda	1	2	2	4	1.8	0	0	0	0	0.0
Amphipoda - unidentified	0	0	0	0	0.0	0	0	0	0	0.0
Gammaridae	0	0	0	0	0.0	0	0	0	0	0.0
Haustoriidae	0	0	0	0	0.0	0	0	0	0	0.0
Talitridae	0	0	5	10	3.6	0	0	0	1	0.3
Diplostraca[1]	0	0	0	0	0.0	0	0	0	0	0.0
Total Crustacea	**1**	**2**	**6**	**13**	**5.4**	**0**	**0**	**0**	**1**	**0.3**
Arachnida										
Acarina	0	0	1	3	1.0	0	0	0	0	0.0
Mollusca										
Bivalvia										
Pisidiidae	0	0	2	5	1.2	0	0	0	0	0.0
Gastropoda - unidentified	0	0	0	1	0.3	0	0	0	0	0.0
Hydrobiidae	0	0	1	2	0.4	0	0	0	0	0.0
Lymnaeidae	0	0	0	0	0.1	0	0	3	4	1.8
Physidae	0	0	1	2	1.1	0	0	1	2	0.4
Planorbidae	0	0	4	5	3.1	0	1	4	5	2.4
Valvatidae	0	0	0	1	0.2	0	0	1	1	0.4
Total Mollusca	**0**	**0**	**9**	**11**	**6.6**	**0**	**1**	**8**	**11**	**5.0**
Hydrozoa	0	0	0	0	0.2	0	0	0	0	0.0
Insecta										
Odonata										
Anisoptera										
Aeshnidae	0	0	0	0	0.1	0	0	0	0	0.0
Coleoptera										
Chrysomelidae	0	0	0	0	0.0	0	0	0	0	0.0
Curculionidae	0	0	0	0	0.1	0	0	0	0	0.0
Dytiscidae	0	0	0	0	0.1	0	0	0	0	0.0
Gyrinidae	0	0	0	0	0.0	0	0	1	2	0.7
Haliplidae	0	0	0	0	0.1	0	0	0	0	0.0
Hemiptera	0	0	0	0	0.0	0	0	0	0	0.0
Corixidae	0	0	1	2	1.0	0	1	3	5	2.1
Gerridae	0	0	0	0	0.0	0	0	0	0	0.0
Ephemeroptera - unidentified	0	0	0	0	0.0	0	0	0	0	0.0
Baetidae	0	0	0	0	0.0	0	0	1	1	0.4
Caenidae	0	0	0	0	0.1	0	0	0	0	0.0
Siphlonuridae	0	0	0	0	0.0	0	0	0	0	0.0
Trichoptera - unidentified	0	0	0	0	0.0	0	0	0	0	0.0
Brachycentridae	0	0	0	0	0.0	0	0	0	0	0.0
Hydropsychidae	0	0	0	0	0.0	0	0	0	1	0.1
Lepidostomatidae	0	0	0	0	0.0	0	0	0	0	0.0
Diptera - unidentified	0	0	0	0	0.0	0	0	0	0	0.0
Ceratopogonidae	0	0	0	0	0.0	0	0	0	0	0.0
Chironomidae - unidentified	1	1	1	3	1.2	0	0	1	2	0.7
Chironominae	31	78	48	119	59.5	4	5	21	34	14.4
Orthocladiinae	9	19	6	9	11.6	48	71	55	78	60.3
Tanypodinae	0	0	0	1	0.2	0	0	0	1	0.3
Tipulidae	0	0	0	0	0.0	0	0	0	0	0.0
Total Insecta	**41**	**97**	**57**	**133**	**74.1**	**52**	**74**	**84**	**112**	**79.1**
Total Invertebrates	**49**	**111**	**83**	**159**	**100.0**	**64**	**91**	**107**	**143**	**100.0**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table 3. Continued.

Area	5: Caribou Island					6: John Kitch Bay				
	Mean	SD	Mean	SD	%	Mean	SD	Mean	SD	%
Mesh Size (µm)	400		500		Overall	400		500		Overall
Annelida										
Oligochaeta	21	12	55	38	19.9	11	11	12	9	13.5
Hirudinea	0	0	0	0	0.1	0	0	4	4	2.1
Total Annelida	**21**	**12**	**55**	**38**	**20.0**	**11**	**11**	**15**	**11**	**15.6**
Crustacea										
Ostracoda	0	1	0	0	0.2	0	0	0	1	0.1
Amphipoda - unidentified	0	0	0	0	0.0	0	0	0	0	0.0
Gammaridae	0	0	0	0	0.0	0	0	0	0	0.0
Haustoriidae	0	0	0	0	0.0	0	0	0	0	0.0
Talitridae	0	0	0	0	0.1	0	1	0	1	0.6
Diplostraca[1]	0	0	0	0	0.0	0	0	0	0	0.0
Total Crustacea	**0**	**1**	**0**	**1**	**0.2**	**0**	**1**	**1**	**1**	**0.7**
Arachnida										
Acarina	0	0	0	0	0.0	0	0	0	1	0.3
Mollusca										
Bivalvia										
Pisidiidae	0	0	1	1	0.2	0	0	0	1	0.1
Gastropoda - unidentified	0	1	3	4	0.8	0	0	1	3	0.8
Hydrobiidae	0	0	0	1	0.1	1	2	2	4	1.9
Lymnaeidae	2	3	53	63	14.3	0	1	2	3	1.5
Physidae	0	0	0	0	0.0	0	0	1	2	0.4
Planorbidae	2	2	74	66	20.0	0	1	10	14	6.4
Valvatidae	0	0	37	69	9.7	0	0	0	0	0.0
Total Mollusca	**4**	**3**	**167**	**195**	**45.0**	**2**	**2**	**18**	**19**	**11.2**
Hydrozoa	0	1	2	3	0.5	0	1	11	24	6.5
Insecta										
Odonata										
Anisoptera										
Aeshnidae	0	0	0	0	0.0	0	0	0	0	0.0
Coleoptera										
Chrysomelidae	0	0	0	0	0.0	0	0	0	0	0.0
Curculionidae	0	0	0	0	0.0	0	0	0	0	0.0
Dytiscidae	0	0	0	0	0.0	0	0	0	0	0.0
Gyrinidae	0	0	1	1	0.3	0	0	0	0	0.0
Haliplidae	0	0	0	0	0.0	0	0	0	0	0.0
Hemiptera	0	0	0	0	0.0	0	0	0	0	0.0
Corixidae	0	1	2	2	0.6	0	0	5	9	2.9
Gerridae	0	0	0	0	0.0	0	0	0	0	0.0
Ephemeroptera - unidentified	0	0	1	2	0.3	0	0	0	0	0.0
Baetidae	0	0	2	2	0.6	0	0	0	0	0.0
Caenidae	0	0	0	0	0.0	0	0	0	0	0.0
Siphlonuridae	0	0	0	0	0.0	0	0	0	0	0.0
Trichoptera - unidentified	0	0	0	0	0.0	0	0	0	0	0.0
Brachycentridae	0	0	0	0	0.0	0	0	0	1	0.1
Hydropsychidae	0	0	0	0	0.0	0	0	0	0	0.0
Lepidostomatidae	0	0	0	0	0.0	0	0	0	0	0.0
Diptera - unidentified	0	0	0	0	0.0	0	0	0	0	0.0
Ceratopogonidae	0	0	0	0	0.0	0	0	0	0	0.0
Chironomidae - unidentified	1	1	4	5	1.2	0	1	1	3	1.0
Chironominae	9	6	28	26	9.6	4	6	3	2	4.3
Orthocladiinae	25	15	57	61	21.5	40	43	59	102	57.3
Tanypodinae	0	0	1	1	0.4	0	0	0	1	0.1
Tipulidae	0	0	0	0	0.0	0	0	0	0	0.0
Total Insecta	**35**	**20**	**96**	**76**	**34.3**	**44**	**43**	**69**	**113**	**65.7**
Total Invertebrates	**60**	**18**	**320**	**286**	**100.0**	**58**	**45**	**115**	**139**	**100.0**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table 3. Continued.

Area	7: Bay West of Box Bay					8: Clark Lake				
	Mean	SD	Mean	SD	%	Mean	SD	Mean	SD	%
Mesh Size (µm)	400		500		Overall	400		500		Overall
Annelida										
Oligochaeta	4	6	11	16	18.8	13	11	69	99	44.6
Hirudinea	0	0	0	0	0.0	0	0	0	0	0.0
Total Annelida	**4**	**6**	**11**	**16**	**18.8**	**13**	**11**	**69**	**99**	**44.6**
Crustacea										
Ostracoda	0	0	0	0	0.0	0	0	0	0	0.0
Amphipoda - unidentified	0	0	0	0	0.0	0	1	0	0	0.2
Gammaridae	0	0	0	0	0.0	0	0	0	0	0.0
Haustoriidae	0	0	0	0	0.0	0	0	0	0	0.0
Talitridae	0	0	0	0	0.2	0	0	0	1	0.3
Diplostraca[1]	0	0	0	0	0.0	0	0	0	0	0.0
Total Crustacea	**0**	**0**	**0**	**0**	**0.2**	**1**	**1**	**0**	**1**	**0.5**
Arachnida										
Acarina	0	0	0	0	0.2	0	0	0	0	0.0
Mollusca										
Bivalvia										
Pisidiidae	0	0	0	0	0.0	0	0	0	0	0.0
Gastropoda - unidentified	0	0	0	0	0.0	0	0	0	1	0.3
Hydrobiidae	0	0	1	2	1.1	0	0	0	0	0.1
Lymnaeidae	0	0	1	2	1.1	0	0	0	0	0.0
Physidae	0	0	1	1	0.9	0	0	5	12	2.7
Planorbidae	1	1	16	38	22.4	0	1	42	53	23.0
Valvatidae	0	0	0	0	0.2	0	0	0	0	0.0
Total Mollusca	**1**	**1**	**19**	**44**	**25.8**	**1**	**1**	**47**	**52**	**26.1**
Hydrozoa	1	1	6	16	8.7	0	0	0	0	0.0
Insecta										
Odonata										
Anisoptera										
Aeshnidae	0	0	0	0	0.0	0	0	0	0	0.0
Coleoptera										
Chrysomelidae	0	0	0	0	0.0	0	0	0	0	0.0
Curculionidae	0	0	0	0	0.0	0	0	0	0	0.0
Dytiscidae	0	0	0	0	0.0	0	0	0	0	0.0
Gyrinidae	0	0	1	2	0.9	0	0	0	0	0.0
Haliplidae	0	0	0	0	0.0	0	0	0	0	0.0
Hemiptera	0	0	0	0	0.0	0	0	0	0	0.0
Corixidae	0	0	1	3	1.3	0	0	0	0	0.1
Gerridae	0	0	0	0	0.0	0	0	0	0	0.0
Ephemeroptera - unidentified	0	0	0	0	0.0	0	0	0	0	0.0
Baetidae	0	0	0	0	0.2	0	0	0	0	0.0
Caenidae	0	0	0	0	0.0	0	0	0	0	0.0
Siphlonuridae	0	0	0	0	0.0	0	0	0	0	0.1
Trichoptera - unidentified	0	0	0	0	0.0	0	0	0	0	0.0
Brachycentridae	0	0	0	0	0.0	0	0	0	0	0.0
Hydropsychidae	0	0	0	0	0.0	0	0	0	0	0.0
Lepidostomatidae	0	0	0	0	0.0	0	0	0	0	0.0
Diptera - unidentified	0	0	0	0	0.0	0	0	0	0	0.1
Ceratopogonidae	0	0	0	0	0.0	0	0	0	0	0.0
Chironomidae - unidentified	0	0	0	0	0.2	0	0	1	2	0.8
Chironominae	1	1	1	1	2.0	2	3	9	12	6.0
Orthocladiinae	16	30	15	24	41.3	13	15	26	32	21.6
Tanypodinae	0	0	0	0	0.2	0	0	0	0	0.1
Tipulidae	0	0	0	0	0.0	0	0	0	0	0.0
Total Insecta	**17**	**31**	**18**	**29**	**46.2**	**16**	**17**	**37**	**42**	**28.8**
Total Invertebrates	**22**	**37**	**54**	**102**	**100.0**	**30**	**28**	**155**	**190**	**100.0**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

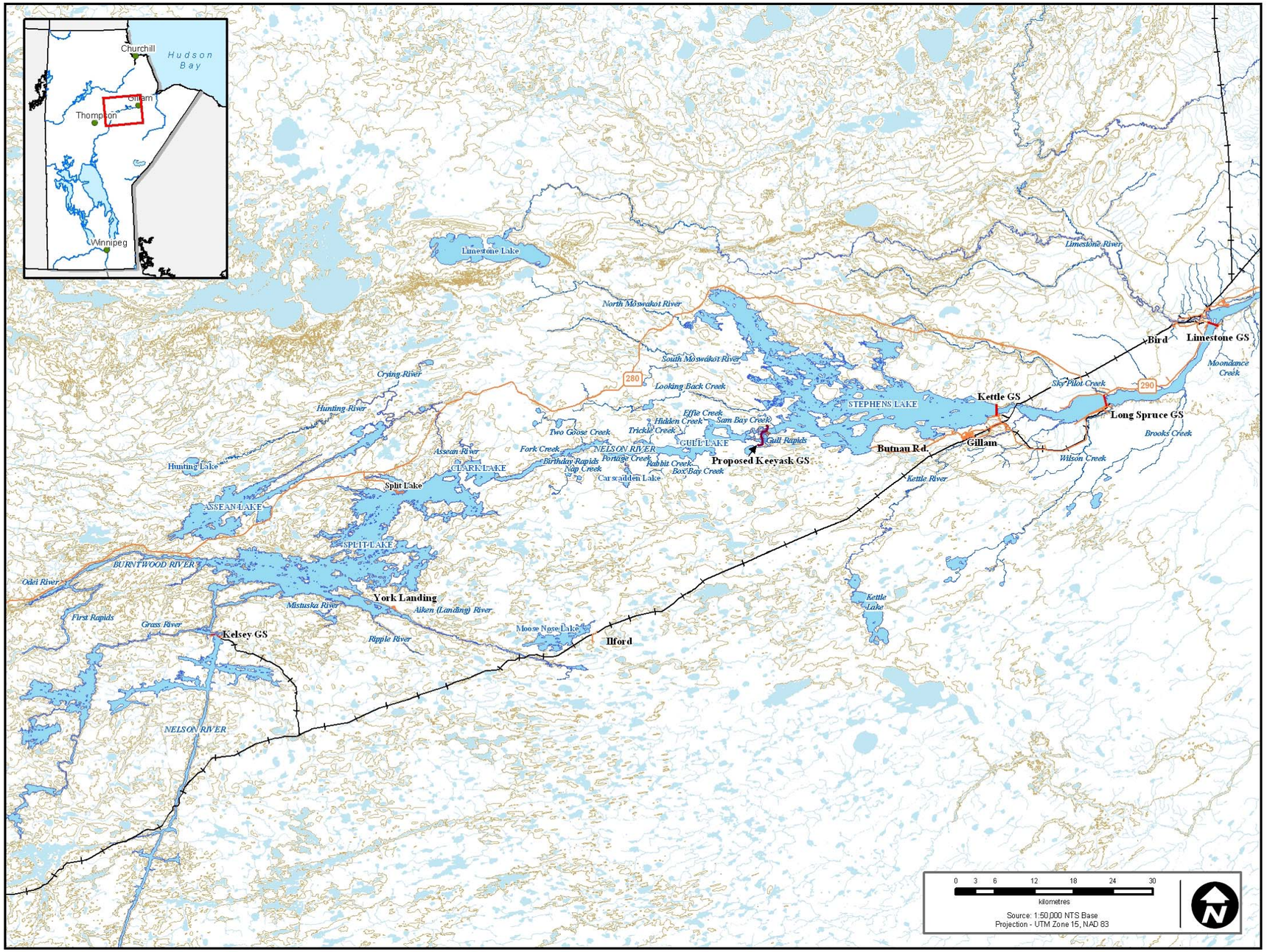

Figure 1. Map of the Keeyask Study Area showing proposed and existing hydroelectric development.

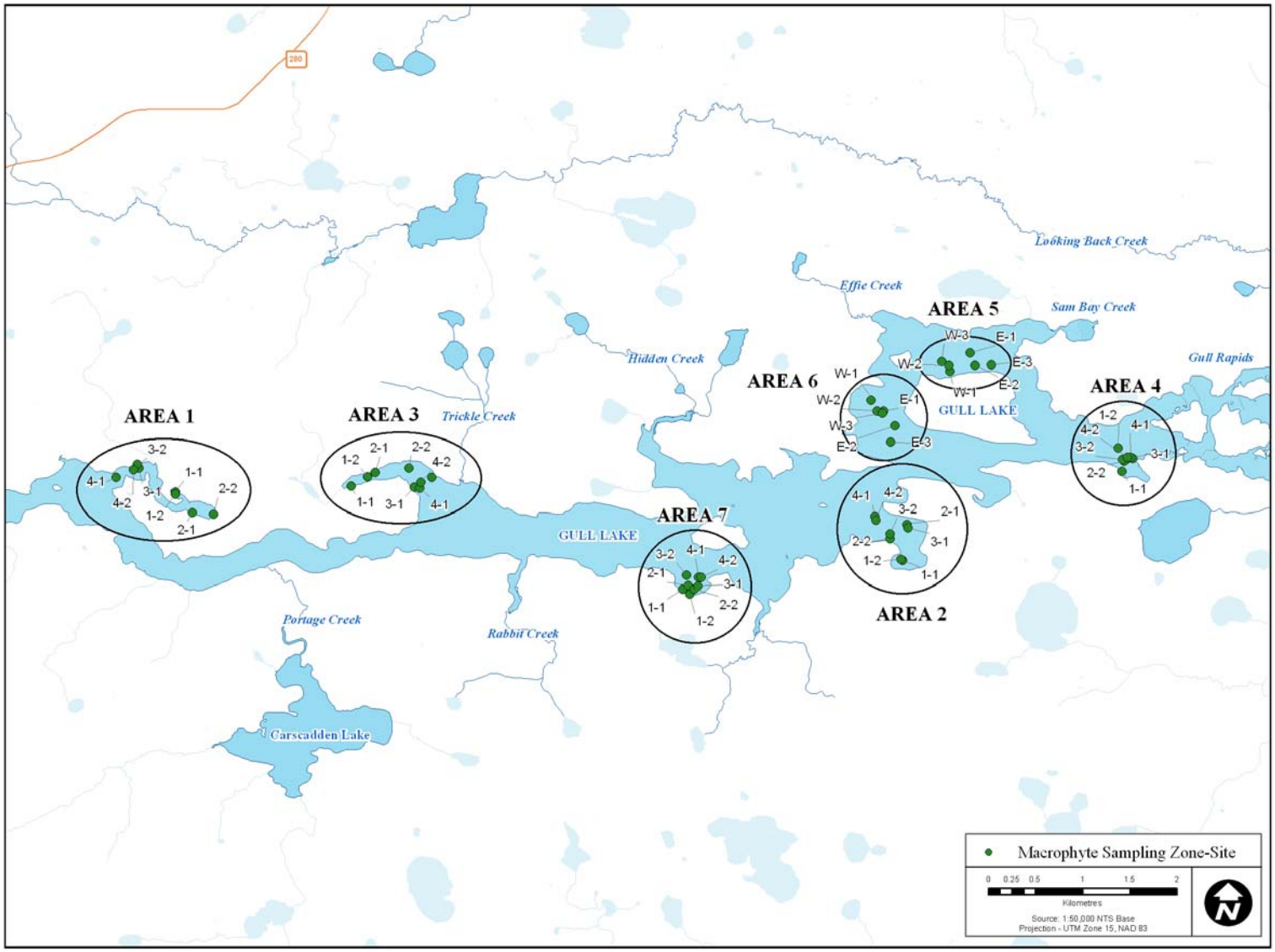

Figure 2. Aquatic macrophyte and associated epiphytic invertebrate sampling sites in the Nelson River between Birthday and Gull rapids (including Gull Lake), summer 2004.

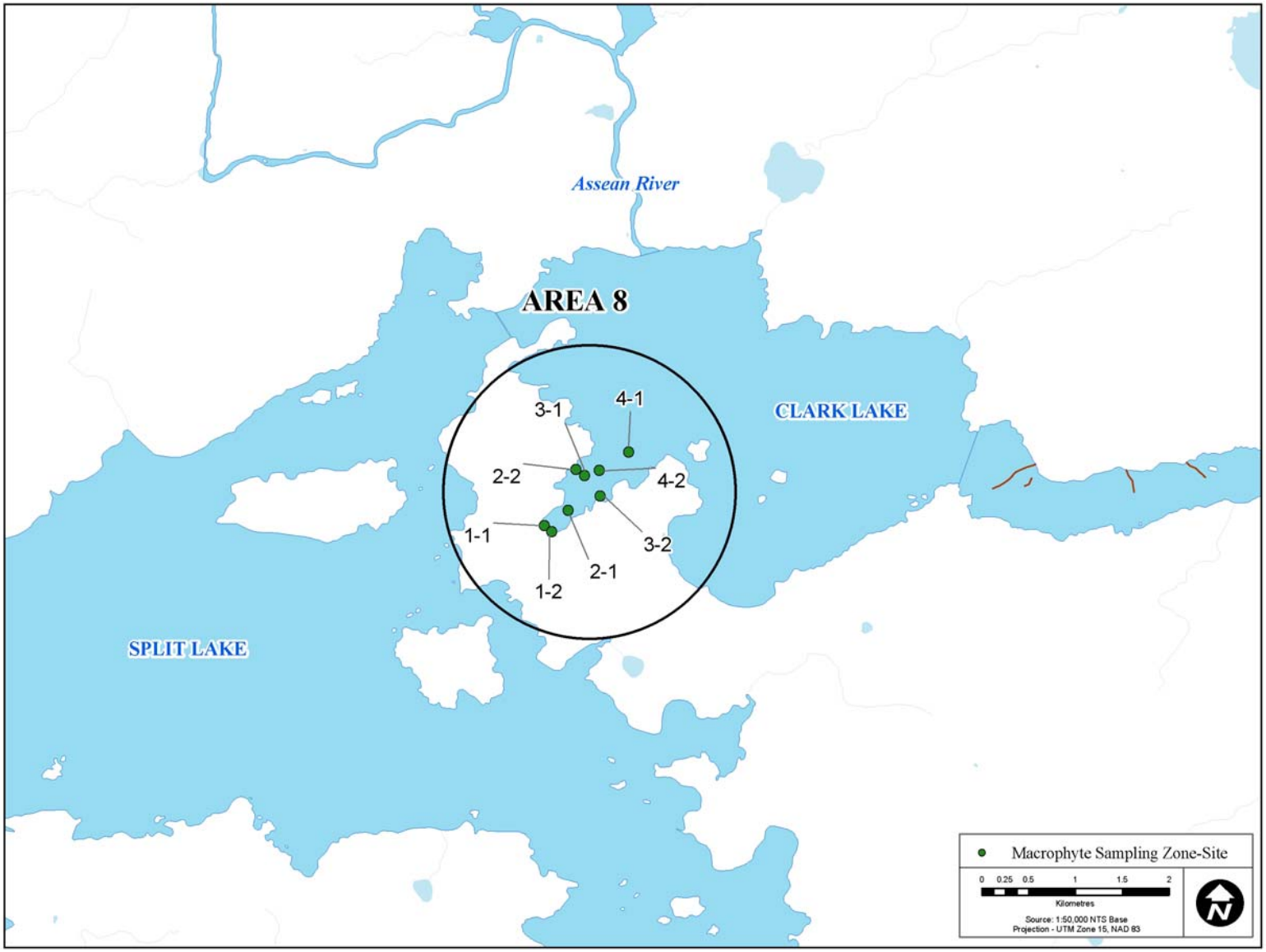

Figure 3. Aquatic macrophyte and associated epiphytic invertebrate sampling sites in Clark Lake, summer 2004.

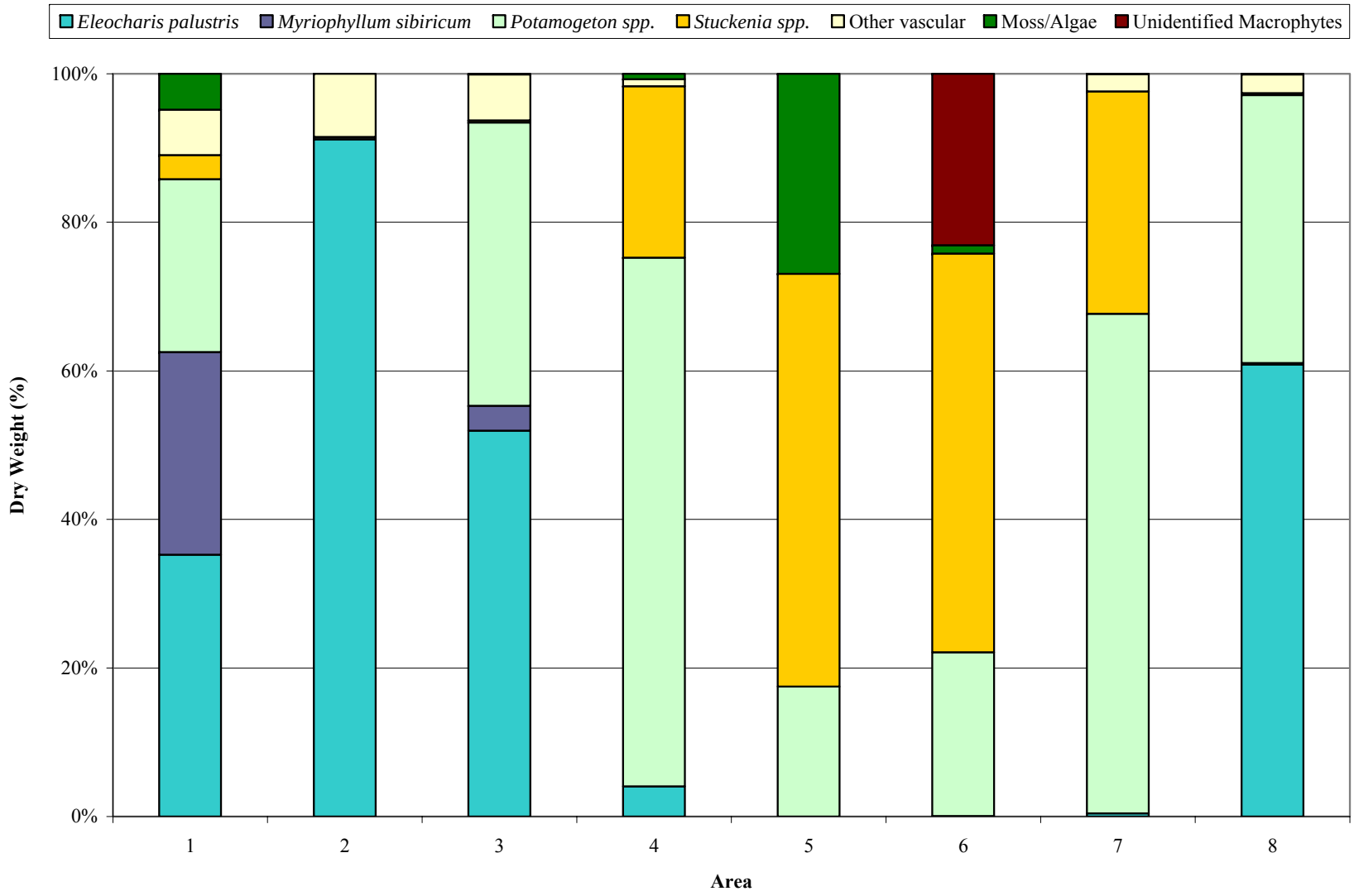

Figure 4. Percent dry weight (%) of vascular and non-vascular macrophyte samples collected from eight areas in Gull Lake, Clark Lake, and the Nelson River between Birthday and Gull rapids, summer 2004. Areas refer to figures 2 and 3.

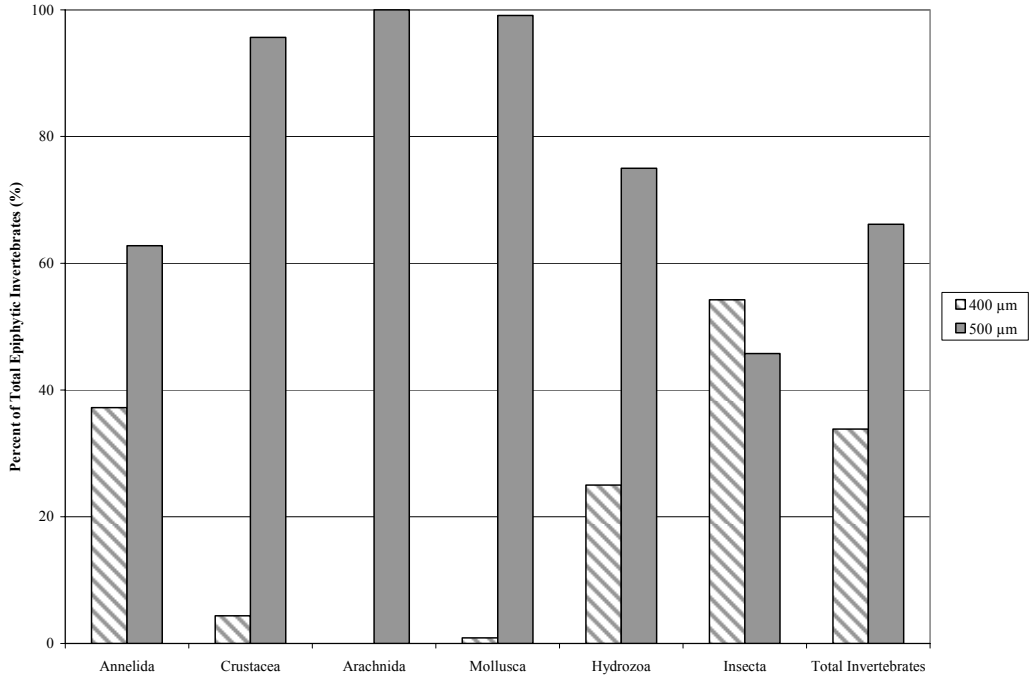

Figure 5. Percent of total epiphytic invertebrates (%) retained in each mesh size (400 and 500 µm) in Area 1: Pahwaypanik Bay, summer 2004.

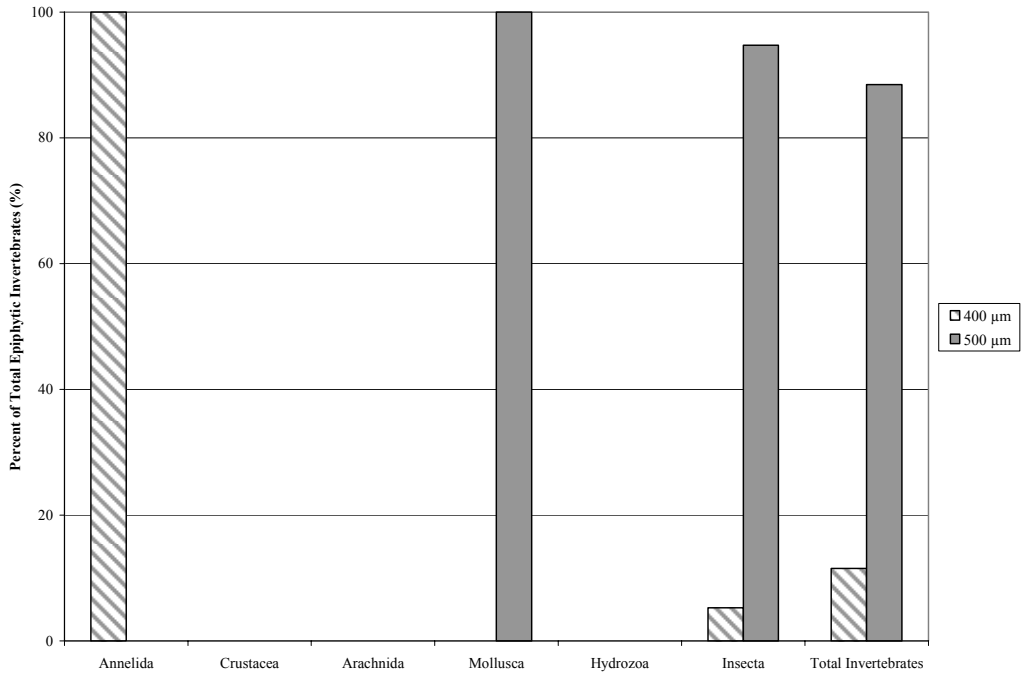

Figure 6. Percent of total epiphytic invertebrates (%) retained in each mesh size (400 and 500 µm) in Area 2: John Garson Bay, summer 2004.

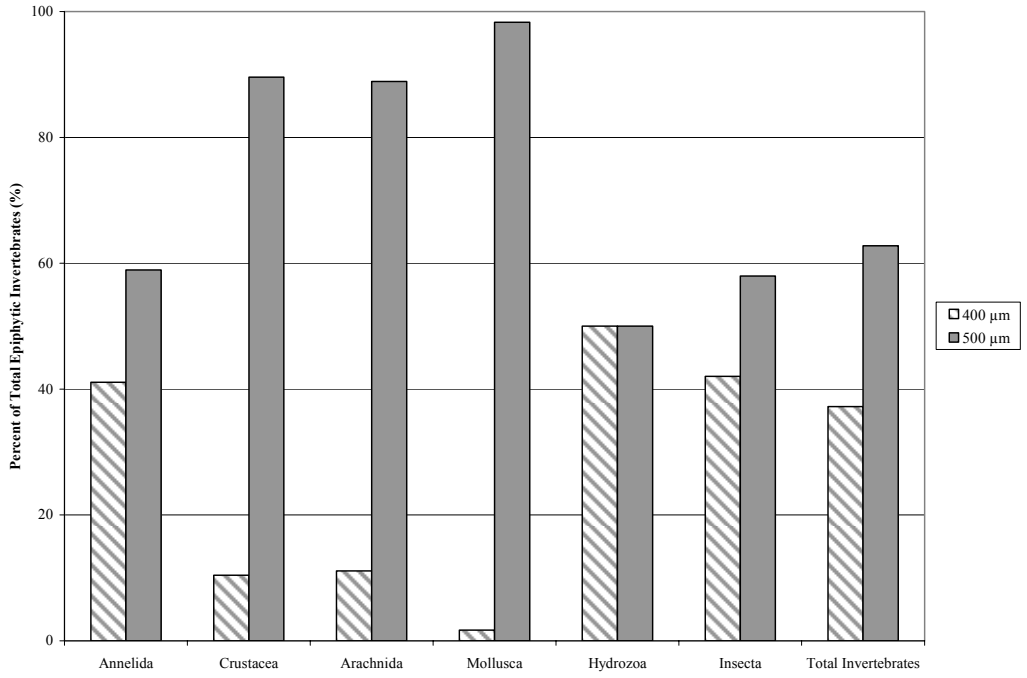

Figure 7. Percent of total epiphytic invertebrates (%) retained in each mesh size (400 and 500 µm) in Area 3: Kahpowinik Bay, summer 2004.

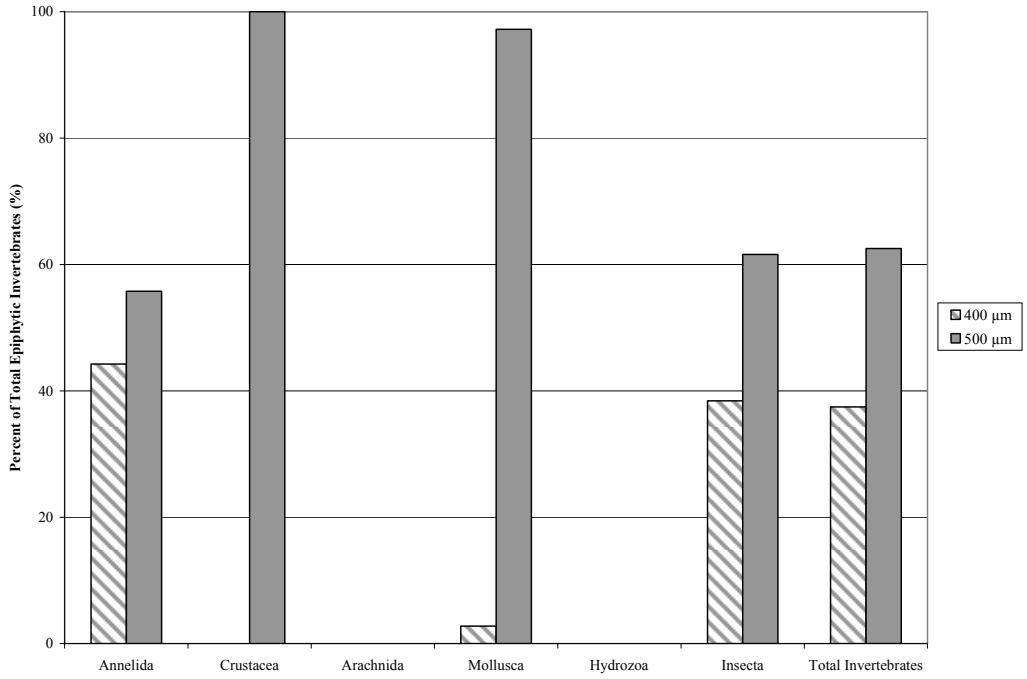

Figure 8. Percent of total epiphytic invertebrates (%) retained in each mesh size (400 and 500 µm) in Area 4: Tub Bay, summer 2004.

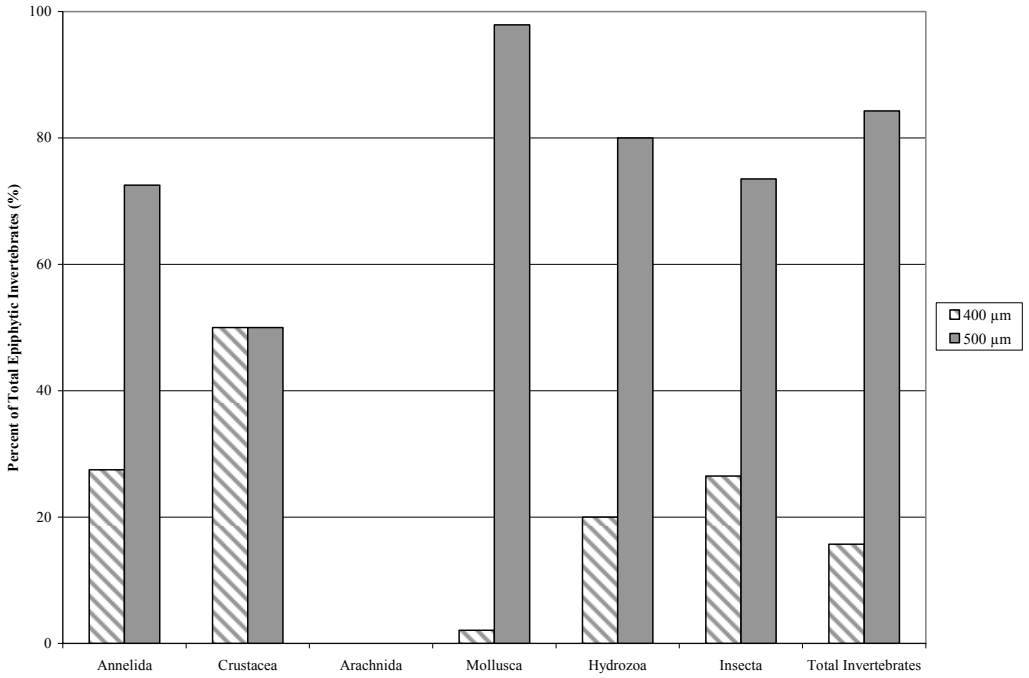

Figure 9. Percent of total epiphytic invertebrates (%) retained in each mesh size (400 and 500 µm) in Area 5: Caribou Island, summer 2004.

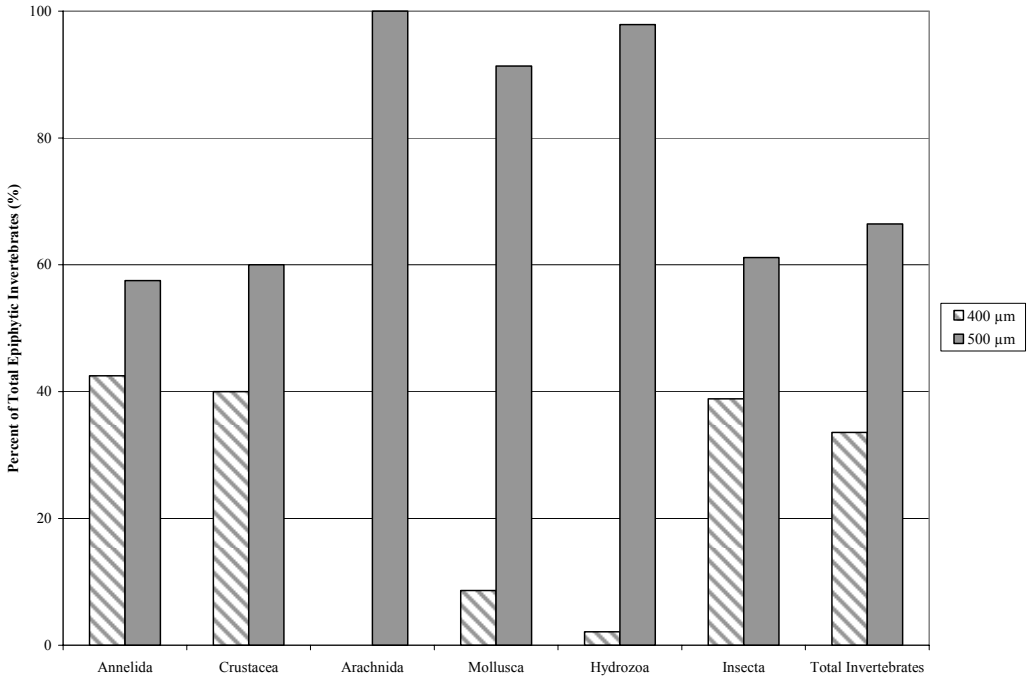

Figure 10. Percent of total epiphytic invertebrates (%) retained in each mesh size (400 and 500 µm) in Area 6: John Kitch Bay, summer 2004.

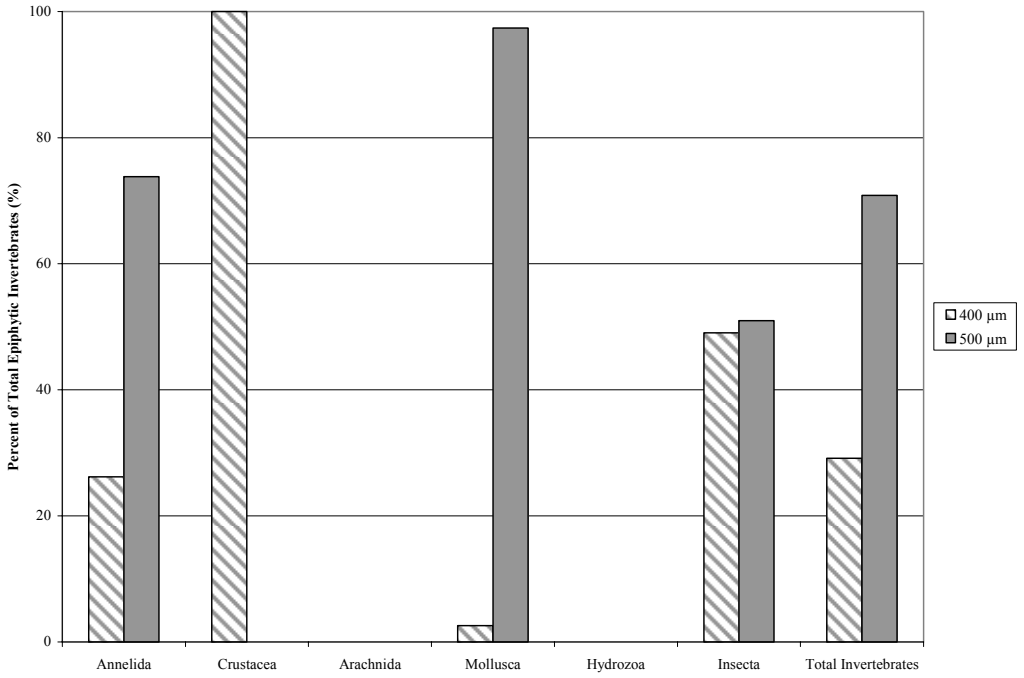

Figure 11. Percent of total epiphytic invertebrates (%) retained in each mesh size (400 and 500 µm) in Area 7: Bay East of Rabbit Creek, summer 2004.

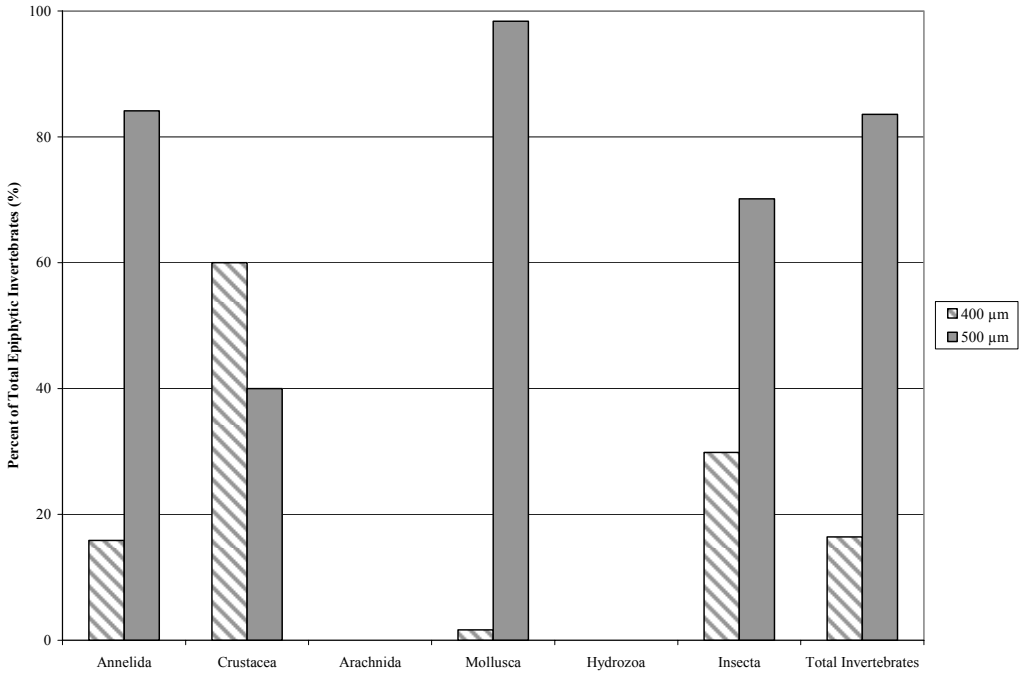

Figure 12. Percent of total epiphytic invertebrates (%) retained in each mesh size (400 and 500 µm) in Area 8: Clark Lake, summer 2004.

APPENDIX 1.

QUALITY ASSURANCE/QUALITY CONTROL PROCEDURES

Sample Processing

Sorting aquatic invertebrate samples involves removing aquatic macro-invertebrates from the organic and inorganic material within each sample.

Sorting Samples

- All sorting is done using a 3x desktop magnifier with lamp;
- All sorted samples are checked by a second laboratory technician;
- Any additional invertebrates collected during the checking process are combined with the original sample, but counted separately; and
- Sorting efficiency must be ≥ 95%. Anything less and the sample must be re-sorted.

Verification of Taxonomic Identification

To verify the taxonomic identifications and improve consistency among taxonomists, North/South Consultants Inc. communicates with taxonomic specialists on a regular basis.

Sample Identification

- Once samples have been identified to the appropriate taxonomic level by an in-house taxonomist, a sample subset is selected for review by an external taxonomist for accuracy in taxonomic identification and enumeration of individuals;
- For each project, 10% of the identified samples from each in-house taxonomist are randomly selected and sent to a taxonomic specialist for QA/QC;
- All uncertain and unknown organisms are also sent to the specialist;
- Misidentifications and/or enumeration discrepancies are noted on the laboratory datasheet;
- The target overall accuracy objective is 90% for invertebrate identification and enumeration. The taxonomic specialist's identification/enumeration values will be used where deviations (that fall within the acceptable limit) exist; and
- All samples that fall outside the target accuracy objectives will be re-identified and/or re-enumerated.

Data Processing

Data processing involves entering the data from the laboratory data sheet into an excel spreadsheet. Data sheets include: the date of sample, name of waterbody, site location, type of sample, sample sorter, sample verifier, taxonomic identification, and enumeration list. Once raw data has been entered into the template spreadsheet, a second technician checks and verifies entered data and formulae. A final verification or spot-check is conducted by the report author.

APPENDIX 2.

DETAILED DRY WEIGHT AND COMPOSITION OF AQUATIC MACROPHYTES COLLECTED IN THE KEEYASK STUDY AREA, SUMMER 2004.

Page

Table A2-1. Mean dry weight (g/m²) +/- one standard deviation (SD) for vascular and nonvascular macrophyte samples collected in Area 1: Pahwaypanik Bay, summer 2004. Individual abundances may not add up to totals due to rounding.

Area	**1: Pahwaypanik Bay**											
Zone	**1**								**2**			
Site	**1**				**2**				**1**			
Subsample	**A**	**B**	**Mean**	**SD**	**A**	**B**	**Mean**	**SD**	**A**	**B**	**Mean**	**SD**
Vascular Macrophytes												
Callitriche palustris	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cicuta sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Eleocharis palustris	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	56.71	60.37	58.54	2.59
Lemna trisulca	0.01	0.02	0.02	0.01	1.06	0.01	0.54	0.74	0.82	0.00	0.41	0.58
Myriophyllum sibiricum	22.00	100.73	61.37	55.67	12.25	11.64	11.94	0.43	0.00	0.00	0.00	0.00
Poaceae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton sp.	1.43	0.00	0.71	1.01	0.02	0.00	0.01	0.01	0.00	0.00	0.00	0.00
Potamogeton friesii	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton gramineus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton richardsonii	20.14	10.32	15.23	6.94	42.69	31.95	37.32	7.59	0.26	0.00	0.13	0.18
Scirpus sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sparganium sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stuckenia sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stuckenia pectinatus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stuckenia vaginatus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nonvascular Macrophytes												
Aquatic moss	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chara spp.	22.82	0.00	11.41	16.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cyanophycota[1]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Filamentous algae	0.00	0.00	0.00	0.00	0.17	0.00	0.08	0.12	0.00	0.00	0.00	0.00
Unidentified Macrophytes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Macrophytes	**66.40**	**111.07**	**88.74**	**31.59**	**56.18**	**43.60**	**49.89**	**8.89**	**57.79**	**60.37**	**59.08**	**1.83**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Cyanophyta updated to Cyanophycota (blue-green algae).

Table A2-1. Continued.

Area	**1: Pahwaypanik Bay**											
Zone	**2**				**3**							
Site	**2**				**1**				**2**			
Subsample	**A**	**B**	**Mean**	**SD**	**A**	**B**	**Mean**	**SD**	**A**	**B**	**Mean**	**SD**
Vascular Macrophytes												
Callitriche palustris	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cicuta sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Eleocharis palustris	45.31	26.99	36.15	12.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lemna trisulca	0.17	0.00	0.08	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Myriophyllum sibiricum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Poaceae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton friesii	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton gramineus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47	0.24	0.33
Potamogeton richardsonii	0.00	0.00	0.00	0.00	8.48	1.51	5.00	4.92	0.00	0.00	0.00	0.00
Scirpus sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.49	9.24	13.07
Sparganium sp.	0.14	0.00	0.07	0.10	0.00	0.00	0.00	0.00	12.08	0.00	6.04	8.54
Stuckenia sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stuckenia pectinatus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stuckenia vaginatus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nonvascular Macrophytes												
Aquatic moss	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chara spp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cyanophycota[1]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Filamentous algae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36	0.18	0.25
Unidentified Macrophytes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Macrophytes	**45.61**	**26.99**	**36.30**	**13.17**	**8.48**	**1.51**	**5.00**	**4.92**	**12.08**	**19.32**	**15.70**	**5.12**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Cyanophyta updated to Cyanophycota (blue-green algae).

Table A2-1. Continued.

Area	**1: Pahwaypanik Bay**							
Zone	**4**							
Site	**1**				**2**			
Subsample	**A**	**B**	**Mean**	**SD**	**A**	**B**	**Mean**	**SD**
Vascular Macrophytes								
Callitriche palustris	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cicuta sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Eleocharis palustris	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lemna trisulca	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Myriophyllum sibiricum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Poaceae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton friesii	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton gramineus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton richardsonii	6.71	1.02	3.86	4.03	0.00	0.00	0.00	0.00
Scirpus sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sparganium sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stuckenia sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stuckenia pectinatus	15.67	1.88	8.77	9.75	0.00	0.00	0.00	0.00
Stuckenia vaginatus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nonvascular Macrophytes								
Aquatic moss	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chara spp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cyanophycota[1]	0.04	0.00	0.02	0.03	0.00	0.00	0.00	0.00
Filamentous algae	2.49	0.13	1.31	1.67	0.00	0.00	0.00	0.00
Unidentified Macrophytes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Macrophytes	**24.90**	**3.02**	**13.96**	**15.47**	**0.00**	**0.00**	**0.00**	**0.00**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Cyanophyta updated to Cyanophycota (blue-green algae).

Table A2-2. Mean dry weight (g/m²) +/- one standard deviation (SD) for vascular and nonvascular macrophyte samples collected in Area 2: John Garson Bay, summer 2004. Individual abundances may not add up to totals due to rounding.

Area	**2: John Garson Bay**											
Zone	**1**								**2**			
Site	**1**				**2**				**1**			
Subsample	**A**	**B**	**Mean**	**SD**	**A**	**B**	**Mean**	**SD**	**A**	**B**	**Mean**	**SD**
Vascular Macrophytes												
Callitriche palustris	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cicuta sp.	0.00	0.86	0.43	0.61	3.45	0.00	1.72	2.44	0.00	0.00	0.00	0.00
Eleocharis palustris	28.49	51.34	39.91	16.15	27.71	10.68	19.20	12.05	0.00	0.00	0.00	0.00
Lemna trisulca	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Myriophyllum sibiricum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Poaceae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton sp.	0.00	0.00	0.00	0.00	0.00	0.34	0.17	0.24	0.00	0.00	0.00	0.00
Potamogeton friesii	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton gramineus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton richardsonii	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Scirpus sp.	2.40	0.00	1.20	1.70	1.29	0.11	0.70	0.84	0.00	0.00	0.00	0.00
Sparganium sp.	0.62	2.29	1.45	1.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stuckenia sp.	0.00	0.00	0.00	0.00	0.00	0.09	0.04	0.06	0.00	0.00	0.00	0.00
Stuckenia pectinatus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stuckenia vaginatus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nonvascular Macrophytes												
Aquatic moss	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chara spp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cyanophycota[1]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Filamentous algae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unidentified Macrophytes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Macrophytes	**31.51**	**54.49**	**43.00**	**16.24**	**32.45**	**11.21**	**21.83**	**15.02**	**0.00**	**0.00**	**0.00**	**0.00**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Cyanophyta updated to Cyanophycota (blue-green algae).

Table A2-2. Continued.

Area	**2: John Garson Bay**							
Zone	**2**				**3**			
Site	**2**				**1**			
Subsample	**A**	**B**	**Mean**	**SD**	**A**	**B**	**Mean**	**SD**
Vascular Macrophytes								
Callitriche palustris	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cicuta sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Eleocharis palustris	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lemna trisulca	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Myriophyllum sibiricum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Poaceae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton friesii	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton gramineus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton richardsonii	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Scirpus sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sparganium sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stuckenia sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stuckenia pectinatus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stuckenia vaginatus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nonvascular Macrophytes								
Aquatic moss	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chara spp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cyanophycota[1]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Filamentous algae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unidentified Macrophytes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Macrophytes	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Cyanophyta updated to Cyanophycota (blue-green algae).

Table A2-2. Continued.

Area	**2: John Garson Bay**					
Zone	**3**				**4[2]**	
Site	**2**				**1**	**2**
Subsample	**A**	**B**	**Mean**	**SD**		
Vascular Macrophytes						
Callitriche palustris	0.00	0.00	0.00	0.00	t.d.	t.d.
Cicuta sp.	0.00	0.00	0.00	0.00	t.d.	t.d.
Eleocharis palustris	0.00	0.00	0.00	0.00	t.d.	t.d.
Lemna trisulca	0.00	0.00	0.00	0.00	t.d.	t.d.
Myriophyllum sibiricum	0.00	0.00	0.00	0.00	t.d.	t.d.
Poaceae	0.00	0.00	0.00	0.00	t.d.	t.d.
Potamogeton sp.	0.00	0.00	0.00	0.00	t.d.	t.d.
Potamogeton friesii	0.00	0.00	0.00	0.00	t.d.	t.d.
Potamogeton gramineus	0.00	0.00	0.00	0.00	t.d.	t.d.
Potamogeton richardsonii	0.00	0.00	0.00	0.00	t.d.	t.d.
Scirpus sp.	0.00	0.00	0.00	0.00	t.d.	t.d.
Sparganium sp.	0.00	0.00	0.00	0.00	t.d.	t.d.
Stuckenia sp.	0.00	0.00	0.00	0.00	t.d.	t.d.
Stuckenia pectinatus	0.00	0.00	0.00	0.00	t.d.	t.d.
Stuckenia vaginatus	0.00	0.00	0.00	0.00	t.d.	t.d.
Nonvascular Macrophytes						
Aquatic moss	0.00	0.00	0.00	0.00	t.d.	t.d.
Chara spp.	0.00	0.00	0.00	0.00	t.d.	t.d.
Cyanophycota[1]	0.00	0.00	0.00	0.00	t.d.	t.d.
Filamentous algae	0.00	0.00	0.00	0.00	t.d.	t.d.
Unidentified Macrophytes	0.00	0.00	0.00	0.00	t.d.	t.d.
Total Macrophytes	**0.00**	**0.00**	**0.00**	**0.00**	**t.d.**	**t.d.**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Cyanophyta updated to Cyanophycota (blue-green algae).
[2] t.d. = too deep for sampler.

Table A2-3. Mean dry weight (g/m²) +/- one standard deviation (SD) for vascular and nonvascular macrophyte samples collected in Area 3: Kahpowinik Bay, summer 2004. Individual abundances may not add up to totals due to rounding.

Area	**3: Kahpowinik Bay**											
Zone	**1**								**2**			
Site	**1**				**2**				**1**			
Subsample	**A**	**B**	**Mean**	**SD**	**A**	**B**	**Mean**	**SD**	**A**	**B**	**Mean**	**SD**
Vascular Macrophytes												
Callitriche palustris	0.03	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cicuta sp.	2.81	0.54	1.67	1.61	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01
Eleocharis palustris	27.73	38.34	33.03	7.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lemna trisulca	0.61	0.66	0.64	0.04	1.03	3.46	2.24	1.72	0.00	0.14	0.07	0.10
Myriophyllum sibiricum	0.06	0.00	0.03	0.04	0.00	0.00	0.00	0.00	0.00	8.72	4.36	6.17
Poaceae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton friesii	0.88	0.00	0.44	0.62	28.80	53.80	41.30	17.68	1.15	5.46	3.31	3.05
Potamogeton gramineus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton richardsonii	3.71	0.00	1.85	2.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Scirpus sp.	0.00	6.77	3.39	4.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sparganium sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stuckenia sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stuckenia pectinatus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stuckenia vaginatus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nonvascular Macrophytes												
Aquatic moss	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chara spp.	0.00	0.00	0.00	0.00	0.00	0.16	0.08	0.11	0.00	0.00	0.00	0.00
Cyanophycota[1]	0.00	0.00	0.00	0.00	0.00	0.06	0.03	0.04	0.00	0.00	0.00	0.00
Filamentous algae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unidentified Macrophytes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Macrophytes	**35.83**	**46.31**	**41.07**	**7.41**	**29.82**	**57.48**	**43.65**	**19.56**	**1.15**	**14.33**	**7.74**	**9.32**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Cyanophyta updated to Cyanophycota (blue-green algae).

Table A2-3. Continued.

Area	**3: Kahpowinik Bay**											
Zone	**2**				**3**							
Site	**2**				**1**				**2**			
Subsample	**A**	**B**	**Mean**	**SD**	**A**	**B**	**Mean**	**SD**	**A**	**B**	**Mean**	**SD**
Vascular Macrophytes												
Callitriche palustris	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cicuta sp.	0.00	0.20	0.10	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Eleocharis palustris	35.25	35.16	35.21	0.06	0.00	0.00	0.00	0.00	0.00	0.17	0.08	0.12
Lemna trisulca	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Myriophyllum sibiricum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Poaceae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton friesii	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton gramineus	1.92	0.00	0.96	1.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton richardsonii	0.00	0.83	0.41	0.59	0.00	0.00	0.00	0.00	1.03	2.78	1.90	1.23
Scirpus sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sparganium sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stuckenia sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stuckenia pectinatus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.69	0.00	0.34	0.49
Stuckenia vaginatus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nonvascular Macrophytes												
Aquatic moss	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chara spp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cyanophycota[1]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.03	0.04
Filamentous algae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unidentified Macrophytes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Macrophytes	**37.17**	**36.21**	**36.69**	**0.68**	**0.00**	**0.00**	**0.00**	**0.00**	**1.78**	**2.95**	**2.36**	**0.83**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Cyanophyta updated to Cyanophycota (blue-green algae).

Table A2-3. Continued.

Area	**3: Kahpowinik Bay**							
Zone	**4**							
Site	**1**				**2**			
Subsample	**A**	**B**	**Mean**	**SD**	**A**	**B**	**Mean**	**SD**
Vascular Macrophytes								
Callitriche palustris	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cicuta sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Eleocharis palustris	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lemna trisulca	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Myriophyllum sibiricum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Poaceae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton friesii	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton gramineus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton richardsonii	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Scirpus sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sparganium sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stuckenia sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stuckenia pectinatus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stuckenia vaginatus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nonvascular Macrophytes								
Aquatic moss	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chara spp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cyanophycota[1]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Filamentous algae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unidentified Macrophytes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Macrophytes	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Cyanophyta updated to Cyanophycota (blue-green algae).

Table A2-4. Mean dry weight (g/m²) +/- one standard deviation (SD) for vascular and nonvascular macrophyte samples collected in Area 4: Tub Bay, summer 2004. Individual abundances may not add up to totals due to rounding.

Area	**4: Tub Bay**											
Zone	**1**								**2**			
Site	**1**				**2**				**1**			
Subsample	**A**	**B**	**Mean**	**SD**	**A**	**B**	**Mean**	**SD**	**A**	**B**	**Mean**	**SD**
Vascular Macrophytes												
Callitriche palustris	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cicuta sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Eleocharis palustris	0.00	6.82	3.41	4.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lemna trisulca	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Myriophyllum sibiricum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Poaceae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton friesii	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton gramineus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton richardsonii	0.00	0.00	0.00	0.00	38.66	0.00	19.33	27.34	0.00	0.00	0.00	0.00
Scirpus sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sparganium sp.	0.00	1.57	0.79	1.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stuckenia sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stuckenia pectinatus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stuckenia vaginatus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nonvascular Macrophytes												
Aquatic moss	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chara spp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cyanophycota[1]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Filamentous algae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unidentified Macrophytes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Macrophytes	**0.00**	**8.40**	**4.20**	**5.94**	**38.66**	**0.00**	**19.33**	**27.34**	**0.00**	**0.00**	**0.00**	**0.00**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Cyanophyta updated to Cyanophycota (blue-green algae).

Table A2-4. Continued.

Area	**4: Tub Bay**								
Zone	**2**				**3**			**4[2]**	
Site	**2**				**1[2]**	**2**		**1**	**2**
Subsample	**A**	**B**	**Mean**	**SD**		**A[2]**	**B**		
Vascular Macrophytes									
Callitriche palustris	0.00	0.00	0.00	0.00	t.d.	t.d.	0.00	t.d.	t.d.
Cicuta sp.	0.00	0.00	0.00	0.00	t.d.	t.d.	0.00	t.d.	t.d.
Eleocharis palustris	0.00	0.00	0.00	0.00	t.d.	t.d.	0.00	t.d.	t.d.
Lemna trisulca	0.00	0.00	0.00	0.00	t.d.	t.d.	0.00	t.d.	t.d.
Myriophyllum sibiricum	0.00	0.00	0.00	0.00	t.d.	t.d.	0.00	t.d.	t.d.
Poaceae	0.00	0.00	0.00	0.00	t.d.	t.d.	0.00	t.d.	t.d.
Potamogeton sp.	0.00	0.00	0.00	0.00	t.d.	t.d.	0.00	t.d.	t.d.
Potamogeton friesii	0.00	0.00	0.00	0.00	t.d.	t.d.	0.00	t.d.	t.d.
Potamogeton gramineus	0.00	0.37	0.19	0.26	t.d.	t.d.	0.00	t.d.	t.d.
Potamogeton richardsonii	68.89	12.12	40.50	40.14	t.d.	t.d.	0.00	t.d.	t.d.
Scirpus sp.	0.00	0.00	0.00	0.00	t.d.	t.d.	0.00	t.d.	t.d.
Sparganium sp.	0.00	0.00	0.00	0.00	t.d.	t.d.	0.00	t.d.	t.d.
Stuckenia sp.	0.00	0.00	0.00	0.00	t.d.	t.d.	0.00	t.d.	t.d.
Stuckenia pectinatus	0.00	13.27	6.64	9.38	t.d.	t.d.	0.00	t.d.	t.d.
Stuckenia vaginatus	25.61	0.00	12.81	18.11	t.d.	t.d.	0.00	t.d.	t.d.
Nonvascular Macrophytes									
Aquatic moss	0.00	0.00	0.00	0.00	t.d.	t.d.	0.00	t.d.	t.d.
Chara spp.	0.00	0.00	0.00	0.00	t.d.	t.d.	0.00	t.d.	t.d.
Cyanophycota[1]	0.00	0.00	0.00	0.00	t.d.	t.d.	0.00	t.d.	t.d.
Filamentous algae	1.25	0.00	0.62	0.88	t.d.	t.d.	0.00	t.d.	t.d.
Unidentified Macrophytes	0.00	0.00	0.00	0.00	t.d.	t.d.	0.00	t.d.	t.d.
Total Macrophytes	**95.75**	**25.76**	**60.75**	**49.49**	**t.d.**	**t.d.**	**0.00**	**t.d.**	**t.d.**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Cyanophyta updated to Cyanophycota (blue-green algae).
[2] t.d. = too deep for sampler.

Table A2-5. Mean dry weight (g/m²) +/- one standard deviation (SD) for vascular and nonvascular macrophyte samples collected in Area 5: Caribou Island, summer 2004. Individual abundances may not add up to totals due to rounding.

Area	**5: Caribou Island**											
Zone	**East**											
Site	**1**				**2**				**3**			
Subsample	**A**	**B**	**Mean**	**SD**	**A**	**B**	**Mean**	**SD**	**A**	**B**	**Mean**	**SD**
Vascular Macrophytes												
Callitriche palustris	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cicuta sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Eleocharis palustris	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lemna trisulca	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Myriophyllum sibiricum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Poaceae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton friesii	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton gramineus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton richardsonii	1.77	4.96	3.36	2.26	0.63	1.71	1.17	0.77	26.94	12.41	19.67	10.27
Scirpus sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sparganium sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stuckenia sp.	0.31	0.00	0.15	0.22	0.00	5.50	2.75	3.89	0.00	0.00	0.00	0.00
Stuckenia pectinatus	0.00	0.00	0.00	0.00	8.54	0.00	4.27	6.04	0.00	0.00	0.00	0.00
Stuckenia vaginatus	0.00	12.67	6.33	8.96	0.00	0.00	0.00	0.00	74.69	33.78	54.24	28.93
Nonvascular Macrophytes												
Aquatic moss	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chara spp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cyanophycota[1]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Filamentous algae	2.37	9.99	6.18	5.38	5.42	10.62	8.02	3.68	2.23	2.90	2.57	0.47
Unidentified Macrophytes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Macrophytes	**4.45**	**27.61**	**16.03**	**16.38**	**14.59**	**17.83**	**16.21**	**2.29**	**103.86**	**49.10**	**76.48**	**38.72**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Cyanophyta updated to Cyanophycota (blue-green algae).

Table A2-5. Continued.

Area	**5: Caribou Island**									
Zone	**West**									
Site	**1**				**2**				**3**	
Subsample	**A**	**B**	**Mean**	**SD**	**A**	**B**	**Mean**	**SD**	**A[2]**	**B**
Vascular Macrophytes										
Callitriche palustris	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	s.l.	0.00
Cicuta sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	s.l.	0.00
Eleocharis palustris	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	s.l.	0.00
Lemna trisulca	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	s.l.	0.00
Myriophyllum sibiricum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	s.l.	0.00
Poaceae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	s.l.	0.00
Potamogeton sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	s.l.	0.00
Potamogeton friesii	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	s.l.	0.00
Potamogeton gramineus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	s.l.	0.00
Potamogeton richardsonii	0.26	0.58	0.42	0.23	1.43	5.15	3.29	2.63	s.l.	0.00
Scirpus sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	s.l.	0.00
Sparganium sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	s.l.	0.00
Stuckenia sp.	0.00	0.00	0.00	0.00	0.00	3.26	1.63	2.31	s.l.	0.00
Stuckenia pectinatus	0.00	0.00	0.00	0.00	3.20	0.00	1.60	2.26	s.l.	3.22
Stuckenia vaginatus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	s.l.	14.32
Nonvascular Macrophytes										
Aquatic moss	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	s.l.	0.00
Chara spp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	s.l.	0.00
Cyanophycota[1]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	s.l.	0.00
Filamentous algae	0.80	11.90	6.35	7.85	10.88	28.34	19.61	12.34	s.l.	0.22
Unidentified Macrophytes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	s.l.	0.00
Total Macrophytes	**1.06**	**12.48**	**6.77**	**8.07**	**15.52**	**36.75**	**26.13**	**15.01**	**s.l.**	**17.76**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Cyanophyta updated to Cyanophycota (blue-green algae).
[2] s.l. = sample lost.

Table A2-6. Mean dry weight (g/m²) +/- one standard deviation (SD) for vascular and nonvascular macrophyte samples collected in Area 6: John Kitch Bay, summer 2004. Individual abundances may not add up to totals due to rounding.

Area	**6: John Kitch Bay**								
Zone	**East**								
Site	**1**				**2[2]**	**3**			
Subsample	**A**	**B**	**Mean**	**SD**		**A**	**B**	**Mean**	**SD**
Vascular Macrophytes									
Callitriche palustris	0.00	0.00	0.00	0.00	t.d.	0.00	0.00	0.00	0.00
Cicuta sp.	0.00	0.00	0.00	0.00	t.d.	0.00	0.00	0.00	0.00
Eleocharis palustris	0.00	0.00	0.00	0.00	t.d.	0.00	0.00	0.00	0.00
Lemna trisulca	0.00	0.00	0.00	0.00	t.d.	0.00	0.00	0.00	0.00
Myriophyllum sibiricum	0.00	0.00	0.00	0.00	t.d.	0.00	0.00	0.00	0.00
Poaceae	0.00	0.00	0.00	0.00	t.d.	0.00	0.00	0.00	0.00
Potamogeton sp.	0.00	0.00	0.00	0.00	t.d.	0.00	0.00	0.00	0.00
Potamogeton friesii	0.00	0.00	0.00	0.00	t.d.	0.00	0.00	0.00	0.00
Potamogeton gramineus	0.00	0.00	0.00	0.00	t.d.	0.00	0.00	0.00	0.00
Potamogeton richardsonii	3.24	0.00	1.62	2.29	t.d.	0.00	0.00	0.00	0.00
Scirpus sp.	0.00	0.00	0.00	0.00	t.d.	0.00	0.00	0.00	0.00
Sparganium sp.	0.00	0.00	0.00	0.00	t.d.	0.00	0.00	0.00	0.00
Stuckenia sp.	0.00	0.00	0.00	0.00	t.d.	0.00	0.00	0.00	0.00
Stuckenia pectinatus	0.00	0.00	0.00	0.00	t.d.	0.00	0.00	0.00	0.00
Stuckenia vaginatus	6.71	7.46	7.09	0.53	t.d.	0.00	13.79	6.90	9.75
Nonvascular Macrophytes									
Aquatic moss	0.00	0.00	0.00	0.00	t.d.	0.00	0.00	0.00	0.00
Chara spp.	0.00	0.00	0.00	0.00	t.d.	0.00	0.00	0.00	0.00
Cyanophycota[1]	0.00	0.02	0.01	0.02	t.d.	0.00	0.04	0.02	0.03
Filamentous algae	0.00	0.05	0.02	0.03	t.d.	0.00	0.49	0.24	0.35
Unidentified Macrophytes	0.00	0.00	0.00	0.00	t.d.	0.00	0.00	0.00	0.00
Total Macrophytes	**9.95**	**7.53**	**8.74**	**1.71**	**t.d.**	**0.00**	**14.32**	**7.16**	**10.13**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Cyanophyta updated to Cyanophycota (blue-green algae).
[2] t.d. = too deep for sampler.

Table A2-6. Continued.

Area	**6: John Kitch Bay**											
Zone	**West**											
Site	**1**				**2**				**3**			
Subsample	**A**	**B**	**Mean**	**SD**	**A**	**B**	**Mean**	**SD**	**A**	**B**	**Mean**	**SD**
Vascular Macrophytes												
Callitriche palustris	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cicuta sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Eleocharis palustris	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.02	0.03
Lemna trisulca	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Myriophyllum sibiricum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Poaceae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton friesii	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton gramineus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton richardsonii	2.49	6.71	4.60	2.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Scirpus sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sparganium sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stuckenia sp.	0.00	0.02	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stuckenia pectinatus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stuckenia vaginatus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.31	0.00	1.16	1.64
Nonvascular Macrophytes												
Aquatic moss	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chara spp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cyanophycota[1]	0.00	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Filamentous algae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unidentified Macrophytes	0.00	13.03	6.52	9.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Macrophytes	**2.49**	**19.78**	**11.14**	**12.23**	**0.00**	**0.00**	**0.00**	**0.00**	**2.36**	**0.00**	**1.18**	**1.67**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Cyanophyta updated to Cyanophycota (blue-green algae).

Table A2-7. Mean dry weight (g/m²) +/- one standard deviation (SD) for vascular and nonvascular macrophyte samples collected in Area 7: Bay East of Rabbit Creek, summer 2004. Individual abundances may not add up to totals due to rounding.

Area	**7: Bay East of Rabbit Creek**											
Zone	**1**								**2**			
Site	**1**				**2**				**1**			
Subsample	**A**	**B**	**Mean**	**SD**	**A**	**B**	**Mean**	**SD**	**A**	**B**	**Mean**	**SD**
Vascular Macrophytes												
Callitriche palustris	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cicuta sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Eleocharis palustris	0.00	0.00	0.00	0.00	0.34	0.00	0.17	0.24	0.00	0.00	0.00	0.00
Lemna trisulca	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Myriophyllum sibiricum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Poaceae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton friesii	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton gramineus	17.25	10.70	13.97	4.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton richardsonii	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Scirpus sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sparganium sp.	0.00	0.00	0.00	0.00	0.00	1.90	0.95	1.34	0.00	0.00	0.00	0.00
Stuckenia sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.03	0.04
Stuckenia pectinatus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stuckenia vaginatus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nonvascular Macrophytes												
Aquatic moss	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chara spp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cyanophycota[1]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Filamentous algae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unidentified Macrophytes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Macrophytes	**17.25**	**10.70**	**13.97**	**4.63**	**0.34**	**1.90**	**1.12**	**1.10**	**0.00**	**0.05**	**0.03**	**0.04**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Cyanophyta updated to Cyanophycota (blue-green algae).

Table 2A-7. Continued.

Area	**7: Bay East of Rabbit Creek**											
Zone	**2**				**3**							
Site	**2**				**1**				**2**			
Subsample	**A**	**B**	**Mean**	**SD**	**A**	**B**	**Mean**	**SD**	**A**	**B**	**Mean**	**SD**
Vascular Macrophytes												
Callitriche palustris	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cicuta sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Eleocharis palustris	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lemna trisulca	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Myriophyllum sibiricum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Poaceae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton friesii	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton gramineus	0.00	0.00	0.00	0.00	6.04	0.00	3.02	4.27	0.00	0.00	0.00	0.00
Potamogeton richardsonii	0.00	0.00	0.00	0.00	20.10	0.00	10.05	14.21	0.00	0.00	0.00	0.00
Scirpus sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sparganium sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stuckenia sp.	0.00	3.03	1.51	2.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stuckenia pectinatus	1.85	0.00	0.93	1.31	16.73	0.00	8.37	11.83	0.00	0.00	0.00	0.00
Stuckenia vaginatus	0.00	0.00	0.00	0.00	0.00	2.39	1.19	1.69	0.00	0.00	0.00	0.00
Nonvascular Macrophytes												
Aquatic moss	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chara spp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cyanophycota[1]	0.00	0.00	0.00	0.00	0.02	0.00	0.01	0.02	0.00	0.00	0.00	0.00
Filamentous algae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unidentified Macrophytes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Macrophytes	**1.85**	**3.03**	**2.44**	**0.83**	**42.89**	**2.39**	**22.64**	**28.64**	**0.00**	**0.00**	**0.00**	**0.00**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Cyanophyta updated to Cyanophycota (blue-green algae).

Table 2A-7. Continued.

Area	**7: Bay East of Rabbit Creek**				
Zone	**4**				
Site	**1**				**2[2]**
Subsample	**A**	**B**	**Mean**	**SD**	
Vascular Macrophytes					
Callitriche palustris	0.00	0.00	0.00	0.00	t.d.
Cicuta sp.	0.00	0.00	0.00	0.00	t.d.
Eleocharis palustris	0.00	0.00	0.00	0.00	t.d.
Lemna trisulca	0.00	0.00	0.00	0.00	t.d.
Myriophyllum sibiricum	0.00	0.00	0.00	0.00	t.d.
Poaceae	0.00	0.00	0.00	0.00	t.d.
Potamogeton sp.	0.00	0.00	0.00	0.00	t.d.
Potamogeton friesii	0.00	0.00	0.00	0.00	t.d.
Potamogeton gramineus	0.00	0.00	0.00	0.00	t.d.
Potamogeton richardsonii	0.00	0.00	0.00	0.00	t.d.
Scirpus sp.	0.00	0.00	0.00	0.00	t.d.
Sparganium sp.	0.00	0.00	0.00	0.00	t.d.
Stuckenia sp.	0.00	0.00	0.00	0.00	t.d.
Stuckenia pectinatus	0.00	0.00	0.00	0.00	t.d.
Stuckenia vaginatus	0.00	0.00	0.00	0.00	t.d.
Nonvascular Macrophytes					
Aquatic moss	0.00	0.00	0.00	0.00	t.d.
Chara spp.	0.00	0.00	0.00	0.00	t.d.
Cyanophycota[1]	0.00	0.00	0.00	0.00	t.d.
Filamentous algae	0.00	0.00	0.00	0.00	t.d.
Unidentified Macrophytes	0.00	0.00	0.00	0.00	t.d.
Total Macrophytes	**0.00**	**0.00**	**0.00**	**0.00**	**t.d.**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Cyanophyta updated to Cyanophycota (blue-green algae).
[2] t.d. = too deep for sampler.

Table A2-8. Mean dry weight (g/m²) +/- one standard deviation (SD) for vascular and nonvascular macrophyte samples collected in Area 8: Clark Lake, summer 2004. Individual abundances may not add up to totals due to rounding.

Area	**8: Clark Lake**									
Zone	**1**						**2**			
Site	**1**				**2**		**1**			
Subsample	**A**	**B**	**Mean**	**SD**	**A**	**B[2]**	**A**	**B**	**Mean**	**SD**
Vascular Macrophytes										
Callitriche palustris	0.00	0.00	0.00	0.00	0.02	s.l.	0.00	0.00	0.00	0.00
Cicuta sp.	0.00	0.00	0.00	0.00	0.19	s.l.	0.00	0.00	0.00	0.00
Eleocharis palustris	32.43	56.91	44.67	17.31	9.62	s.l.	0.00	0.00	0.00	0.00
Lemna trisulca	0.00	0.00	0.00	0.00	0.00	s.l.	0.00	0.00	0.00	0.00
Myriophyllum sibiricum	0.31	0.00	0.16	0.22	0.00	s.l.	0.00	0.00	0.00	0.00
Poaceae	0.00	0.00	0.00	0.00	0.38	s.l.	0.00	0.00	0.00	0.00
Potamogeton sp.	0.00	0.00	0.00	0.00	0.00	s.l.	0.00	0.00	0.00	0.00
Potamogeton friesii	0.00	0.00	0.00	0.00	0.00	s.l.	0.00	0.00	0.00	0.00
Potamogeton gramineus	0.00	0.00	0.00	0.00	0.00	s.l.	0.00	0.00	0.00	0.00
Potamogeton richardsonii	0.00	0.00	0.00	0.00	0.00	s.l.	5.27	32.12	18.70	18.99
Scirpus sp.	0.00	0.00	0.00	0.00	0.00	s.l.	0.00	0.00	0.00	0.00
Sparganium sp.	3.32	0.00	1.66	2.35	0.00	s.l.	0.00	0.00	0.00	0.00
Stuckenia sp.	0.00	0.00	0.00	0.00	0.00	s.l.	0.00	0.00	0.00	0.00
Stuckenia pectinatus	0.00	0.00	0.00	0.00	0.00	s.l.	0.00	0.00	0.00	0.00
Stuckenia vaginatus	0.00	0.00	0.00	0.00	0.00	s.l.	0.00	0.00	0.00	0.00
Nonvascular Macrophytes										
Aquatic moss	0.00	0.00	0.00	0.00	0.02	s.l.	0.00	0.00	0.00	0.00
Chara spp.	0.00	0.00	0.00	0.00	0.00	s.l.	0.00	0.00	0.00	0.00
Cyanophycota[1]	0.00	0.00	0.00	0.00	0.00	s.l.	0.00	0.00	0.00	0.00
Filamentous algae	0.00	0.00	0.00	0.00	0.00	s.l.	0.00	0.00	0.00	0.00
Unidentified Macrophytes	0.00	0.00	0.00	0.00	0.02	s.l.	0.00	0.00	0.00	0.00
Total Macrophytes	**36.07**	**56.91**	**46.49**	**14.74**	**10.26**	**s.l.**	**5.27**	**32.12**	**18.70**	**18.99**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Cyanophyta updated to Cyanophycota (blue-green algae).
[2] s.l. = sample lost.

Table A2-8. Continued.

Area	**8: Clark Lake**							
Zone	**2**				**3**			
Site	**2**				**1**			
Subsample	**A**	**B**	**Mean**	**SD**	**A**	**B**	**Mean**	**SD**
Vascular Macrophytes								
Callitriche palustris	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cicuta sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Eleocharis palustris	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lemna trisulca	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Myriophyllum sibiricum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Poaceae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton friesii	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton gramineus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potamogeton richardsonii	0.00	5.65	2.83	4.00	0.00	0.00	0.00	0.00
Scirpus sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sparganium sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stuckenia sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stuckenia pectinatus	0.00	0.42	0.21	0.30	0.00	0.00	0.00	0.00
Stuckenia vaginatus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nonvascular Macrophytes								
Aquatic moss	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chara spp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cyanophycota[1]	0.00	0.07	0.04	0.05	0.00	0.00	0.00	0.00
Filamentous algae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unidentified Macrophytes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Macrophytes	**0.00**	**6.15**	**3.07**	**4.35**	**0.00**	**0.00**	**0.00**	**0.00**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Cyanophyta updated to Cyanophycota (blue-green algae).

Table A2-8. Continued.

Area	**8: Clark Lake**					
Zone	**3**				**4[2]**	
Site	**2**				**1**	**2**
Subsample	**A**	**B**	**Mean**	**SD**		
Vascular Macrophytes						
Callitriche palustris	0.00	0.00	0.00	0.00	t.d.	t.d.
Cicuta sp.	0.00	0.00	0.00	0.00	t.d.	t.d.
Eleocharis palustris	0.00	0.00	0.00	0.00	t.d.	t.d.
Lemna trisulca	0.00	0.00	0.00	0.00	t.d.	t.d.
Myriophyllum sibiricum	0.00	0.00	0.00	0.00	t.d.	t.d.
Poaceae	0.00	0.00	0.00	0.00	t.d.	t.d.
Potamogeton sp.	0.00	0.00	0.00	0.00	t.d.	t.d.
Potamogeton friesii	0.00	0.00	0.00	0.00	t.d.	t.d.
Potamogeton gramineus	0.00	0.00	0.00	0.00	t.d.	t.d.
Potamogeton richardsonii	0.00	21.38	10.69	15.12	t.d.	t.d.
Scirpus sp.	0.00	0.00	0.00	0.00	t.d.	t.d.
Sparganium sp.	0.00	0.00	0.00	0.00	t.d.	t.d.
Stuckenia sp.	0.00	0.00	0.00	0.00	t.d.	t.d.
Stuckenia pectinatus	0.00	0.00	0.00	0.00	t.d.	t.d.
Stuckenia vaginatus	0.00	0.00	0.00	0.00	t.d.	t.d.
Nonvascular Macrophytes						
Aquatic moss	0.00	0.00	0.00	0.00	t.d.	t.d.
Chara spp.	0.00	0.00	0.00	0.00	t.d.	t.d.
Cyanophycota[1]	0.00	0.00	0.00	0.00	t.d.	t.d.
Filamentous algae	0.00	0.00	0.00	0.00	t.d.	t.d.
Unidentified Macrophytes	0.00	0.00	0.00	0.00	t.d.	t.d.
Total Macrophytes	**0.00**	**21.38**	**10.69**	**15.12**	**t.d.**	**t.d.**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Cyanophyta updated to Cyanophycota (blue-green algae).
[2] t.d. = too deep for sampler.

APPENDIX 3.

DETAILED ABUNDANCE AND COMPOSITION OF EPIPHYTIC INVERTEBRATES COLLECTED IN THE KEEYASK STUDY AREA, SUMMER 2004.

Page

Table A3-1. Abundance (individuals/m²), +/- one standard deviation (SD), of epiphytic invertebrates collected in association with macrophyte sampling in Area 1: Pahwaypanik Bay, summer 2004. Individual abundances may not add up to totals due to rounding.

Area	**1: Pahwaypanik Bay**							
Zone	**1**							
Site	**1**							
Subsample	**A**	**B**	**Mean**	**SD**	**A**	**B**	**Mean**	**SD**
Mesh Size (µm)	**400**				**500**			
Annelida								
Oligochaeta	0	10	5	7	5	7	6	2
Hirudinea	0	0	0	0	7	0	4	5
Total Annelida	**0**	**10**	**5**	**7**	**12**	**7**	**10**	**3**
Crustacea								
Ostracoda	0	0	0	0	2	0	1	2
Amphipoda - unidentified	0	0	0	0	0	0	0	0
Gammaridae	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0
Talitridae	0	0	0	0	2	7	5	3
Diplostraca[1]	0	0	0	0	0	0	0	0
Total Crustacea	**0**	**0**	**0**	**0**	**5**	**7**	**6**	**2**
Arachnida								
Acarina	0	0	0	0	0	0	0	0
Mollusca								
Bivalvia								
Pisidiidae	0	0	0	0	2	0	1	2
Gastropoda - unidentified	0	0	0	0	0	0	0	0
Hydrobiidae	0	0	0	0	0	0	0	0
Lymnaeidae	0	0	0	0	29	5	17	17
Physidae	0	0	0	0	12	24	18	8
Planorbidae	0	0	0	0	19	43	31	17
Valvatidae	0	0	0	0	0	0	0	0
Total Mollusca	**0**	**0**	**0**	**0**	**62**	**71**	**67**	**7**
Hydrozoa	0	0	0	0	0	0	0	0
Insecta								
Odonata								
Anisoptera								
Aeshnidae - larva	0	0	0	0	0	0	0	0
Coleoptera								
Chrysomelidae - larva	0	0	0	0	0	0	0	0
Curculionidae - larva	0	0	0	0	0	0	0	0
Curculionidae - adult	0	0	0	0	0	0	0	0
Dytiscidae - larva	0	0	0	0	0	2	1	2
Gyrinidae - larva	0	0	0	0	0	0	0	0
Haliplidae - larva	0	0	0	0	2	0	1	2
Hemiptera	0	0	0	0	0	0	0	0
Corixidae - larva	0	0	0	0	0	0	0	0
Corixidae - adult	0	0	0	0	0	0	0	0
Gerridae - adult	0	0	0	0	0	0	0	0
Ephemeroptera - unidentified larva	0	0	0	0	0	0	0	0
Baetidae - larva	0	0	0	0	0	0	0	0
Caenidae - larva	0	0	0	0	0	0	0	0
Siphlonuridae - larva	0	0	0	0	0	0	0	0
Trichoptera - unidentified	0	0	0	0	0	0	0	0
Brachycentridae - larva	0	0	0	0	0	0	0	0
Hydropsychidae - larva	0	0	0	0	0	0	0	0
Lepidostomatidae - larva	0	0	0	0	0	0	0	0
Diptera - unidentified pupa	0	0	0	0	0	0	0	0
Ceratopogonidae - larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified pupa	0	0	0	0	0	0	0	0
Chironominae - larva	0	19	10	13	12	0	6	8
Orthocladiinae - larva	0	88	44	62	0	29	14	20
Tanypodinae - larva	0	0	0	0	0	2	1	2
Tipulidae - larva	0	0	0	0	0	0	0	0
Total Insecta	**0**	**107**	**54**	**76**	**14**	**33**	**24**	**13**
Total Invertebrates	**0**	**117**	**58**	**82**	**93**	**119**	**106**	**19**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table A3-1. Continued.

Area	1: Pahwaypanik Bay							
Zone	1							
Site	2							
Subsample	A	B	Mean	SD	A	B	Mean	SD
Mesh Size (µm)	400				500			
Annelida								
Oligochaeta	5	0	2	3	10	0	5	7
Hirudinea	0	0	0	0	36	0	18	25
Total Annelida	**5**	**0**	**2**	**3**	**45**	**0**	**23**	**32**
Crustacea								
Ostracoda	0	0	0	0	0	0	0	0
Amphipoda - unidentified	0	0	0	0	0	0	0	0
Gammaridae	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	5	0	2	3
Talitridae	0	0	0	0	67	10	38	40
Diplostraca[1]	0	0	0	0	0	0	0	0
Total Crustacea	**0**	**0**	**0**	**0**	**71**	**10**	**40**	**44**
Arachnida								
Acarina	0	0	0	0	2	0	1	2
Mollusca								
Bivalvia								
Pisidiidae	0	0	0	0	7	2	5	3
Gastropoda - unidentified	0	0	0	0	2	0	1	2
Hydrobiidae	0	0	0	0	0	0	0	0
Lymnaeidae	0	0	0	0	31	38	35	5
Physidae	0	0	0	0	50	31	40	13
Planorbidae	0	0	0	0	38	24	31	10
Valvatidae	0	0	0	0	0	0	0	0
Total Mollusca	**0**	**0**	**0**	**0**	**129**	**95**	**112**	**24**
Hydrozoa	0	0	0	0	0	0	0	0
Insecta								
Odonata								
Anisoptera								
Aeshnidae - larva	0	0	0	0	0	0	0	0
Coleoptera								
Chrysomelidae - larva	0	0	0	0	0	0	0	0
Curculionidae - larva	0	0	0	0	2	0	1	2
Curculionidae - adult	0	0	0	0	0	0	0	0
Dytiscidae - larva	0	0	0	0	2	0	1	2
Gyrinidae - larva	0	0	0	0	0	0	0	0
Haliplidae - larva	2	0	1	2	0	0	0	0
Hemiptera	0	0	0	0	0	0	0	0
Corixidae - larva	0	0	0	0	2	0	1	2
Corixidae - adult	0	0	0	0	0	0	0	0
Gerridae - adult	0	0	0	0	0	0	0	0
Ephemeroptera - unidentified larva	0	0	0	0	0	0	0	0
Baetidae - larva	0	0	0	0	0	0	0	0
Caenidae - larva	0	0	0	0	0	0	0	0
Siphlonuridae - larva	0	0	0	0	0	0	0	0
Trichoptera - unidentified	0	0	0	0	0	0	0	0
Brachycentridae - larva	0	0	0	0	0	0	0	0
Hydropsychidae - larva	0	0	0	0	0	0	0	0
Lepidostomatidae - larva	0	0	0	0	0	0	0	0
Diptera - unidentified pupa	0	0	0	0	0	0	0	0
Ceratopogonidae - larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified pupa	0	0	0	0	2	0	1	2
Chironominae - larva	14	12	13	2	14	0	7	10
Orthocladiinae - larva	45	48	46	2	45	14	30	22
Tanypodinae - larva	5	0	2	3	0	0	0	0
Tipulidae - larva	0	0	0	0	0	0	0	0
Total Insecta	**67**	**60**	**63**	**5**	**69**	**14**	**42**	**39**
Total Invertebrates	**71**	**60**	**65**	**8**	**317**	**119**	**218**	**140**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table A3-1. Continued.

Area	1: Pahwaypanik Bay							
Zone	2							
Site	1							
Subsample	A	B	Mean	SD	A	B	Mean	SD
Mesh Size (µm)	400				500			
Annelida								
Oligochaeta	2	5	4	2	0	0	0	0
Hirudinea	0	0	0	0	2	0	1	2
Total Annelida	**2**	**5**	**4**	**2**	**2**	**0**	**1**	**2**
Crustacea								
Ostracoda	0	0	0	0	2	0	1	2
Amphipoda - unidentified	0	0	0	0	0	0	0	0
Gammaridae	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0
Talitridae	0	0	0	0	0	0	0	0
Diplostraca[1]	0	0	0	0	0	0	0	0
Total Crustacea	**0**	**0**	**0**	**0**	**2**	**0**	**1**	**2**
Arachnida								
Acarina	0	0	0	0	0	0	0	0
Mollusca								
Bivalvia								
Pisidiidae	0	0	0	0	0	0	0	0
Gastropoda - unidentified	0	0	0	0	0	0	0	0
Hydrobiidae	0	0	0	0	0	0	0	0
Lymnaeidae	0	0	0	0	0	0	0	0
Physidae	0	0	0	0	0	0	0	0
Planorbidae	0	0	0	0	0	2	1	2
Valvatidae	0	0	0	0	0	0	0	0
Total Mollusca	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**2**
Hydrozoa	0	0	0	0	0	0	0	0
Insecta								
Odonata								
Anisoptera								
Aeshnidae - larva	0	0	0	0	0	0	0	0
Coleoptera								
Chrysomelidae - larva	0	0	0	0	0	0	0	0
Curculionidae - larva	0	0	0	0	0	0	0	0
Curculionidae - adult	0	0	0	0	0	0	0	0
Dytiscidae - larva	0	0	0	0	2	0	1	2
Gyrinidae - larva	0	0	0	0	0	0	0	0
Haliplidae - larva	0	0	0	0	0	0	0	0
Hemiptera	0	0	0	0	0	0	0	0
Corixidae - larva	0	0	0	0	7	0	4	5
Corixidae - adult	0	0	0	0	0	0	0	0
Gerridae - adult	0	0	0	0	2	0	1	2
Ephemeroptera - unidentified larva	0	0	0	0	0	0	0	0
Baetidae - larva	0	0	0	0	0	0	0	0
Caenidae - larva	0	0	0	0	0	0	0	0
Siphlonuridae - larva	0	0	0	0	0	0	0	0
Trichoptera - unidentified	0	0	0	0	0	0	0	0
Brachycentridae - larva	0	0	0	0	0	0	0	0
Hydropsychidae - larva	0	0	0	0	0	0	0	0
Lepidostomatidae - larva	0	0	0	0	0	0	0	0
Diptera - unidentified pupa	0	0	0	0	0	0	0	0
Ceratopogonidae - larva	0	0	0	0	0	2	1	2
Chironomidae - unidentified larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified pupa	0	0	0	0	0	0	0	0
Chironominae - larva	0	0	0	0	5	0	2	3
Orthocladiinae - larva	5	0	2	3	7	2	5	3
Tanypodinae - larva	0	0	0	0	0	0	0	0
Tipulidae - larva	0	0	0	0	0	0	0	0
Total Insecta	**5**	**0**	**2**	**3**	**24**	**5**	**14**	**13**
Total Invertebrates	**7**	**5**	**6**	**2**	**29**	**7**	**18**	**15**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table A3-1. Continued.

Area	1: Pahwaypanik Bay							
Zone	2							
Site	2							
Subsample	A	B	Mean	SD	A	B	Mean	SD
Mesh Size (µm)	400				500			
Annelida								
Oligochaeta	0	0	0	0	0	0	0	0
Hirudinea	0	0	0	0	0	0	0	0
Total Annelida	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Crustacea								
Ostracoda	0	0	0	0	0	0	0	0
Amphipoda - unidentified	0	0	0	0	0	0	0	0
Gammaridae	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0
Talitridae	0	0	0	0	0	0	0	0
Diplostraca[1]	0	0	0	0	2	0	1	2
Total Crustacea	**0**	**0**	**0**	**0**	**2**	**0**	**1**	**2**
Arachnida								
Acarina	0	0	0	0	0	0	0	0
Mollusca								
Bivalvia								
Pisidiidae	0	0	0	0	0	0	0	0
Gastropoda - unidentified	0	0	0	0	0	0	0	0
Hydrobiidae	0	0	0	0	0	0	0	0
Lymnaeidae	0	0	0	0	0	0	0	0
Physidae	0	0	0	0	0	0	0	0
Planorbidae	0	0	0	0	0	0	0	0
Valvatidae	0	0	0	0	0	0	0	0
Total Mollusca	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Hydrozoa	0	0	0	0	0	5	2	3
Insecta								
Odonata								
Anisoptera								
Aeshnidae - larva	0	0	0	0	0	0	0	0
Coleoptera								
Chrysomelidae - larva	0	0	0	0	0	0	0	0
Curculionidae - larva	0	0	0	0	0	0	0	0
Curculionidae - adult	0	0	0	0	0	0	0	0
Dytiscidae - larva	0	0	0	0	0	0	0	0
Gyrinidae - larva	0	0	0	0	0	0	0	0
Haliplidae - larva	0	0	0	0	0	0	0	0
Hemiptera	0	0	0	0	0	0	0	0
Corixidae - larva	0	0	0	0	5	0	2	3
Corixidae - adult	0	0	0	0	0	0	0	0
Gerridae - adult	0	0	0	0	7	0	4	5
Ephemeroptera - unidentified larva	0	0	0	0	0	0	0	0
Baetidae - larva	0	0	0	0	0	0	0	0
Caenidae - larva	0	0	0	0	0	0	0	0
Siphlonuridae - larva	0	0	0	0	0	0	0	0
Trichoptera - unidentified	0	0	0	0	0	0	0	0
Brachycentridae - larva	0	0	0	0	0	0	0	0
Hydropsychidae - larva	0	0	0	0	0	0	0	0
Lepidostomatidae - larva	2	0	1	2	0	0	0	0
Diptera - unidentified pupa	0	0	0	0	0	0	0	0
Ceratopogonidae - larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified pupa	0	0	0	0	0	0	0	0
Chironominae - larva	0	0	0	0	0	0	0	0
Orthocladiinae - larva	0	2	1	2	2	10	6	5
Tanypodinae - larva	0	0	0	0	2	0	1	2
Tipulidae - larva	0	0	0	0	0	0	0	0
Total Insecta	**2**	**2**	**2**	**0**	**17**	**10**	**13**	**5**
Total Invertebrates	**2**	**2**	**2**	**0**	**19**	**14**	**17**	**3**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table A3-1. Continued.

Area	1: Pahwaypanik Bay							
Zone	3							
Site	1							
Subsample	A	B	Mean	SD	A	B	Mean	SD
Mesh Size (µm)	400				500			
Annelida								
Oligochaeta	14	0	7	10	12	2	7	7
Hirudinea	0	0	0	0	0	0	0	0
Total Annelida	**14**	**0**	**7**	**10**	**12**	**2**	**7**	**7**
Crustacea								
Ostracoda	0	0	0	0	0	0	0	0
Amphipoda - unidentified	0	0	0	0	0	0	0	0
Gammaridae	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0
Talitridae	0	0	0	0	0	0	0	0
Diplostraca[1]	0	0	0	0	0	0	0	0
Total Crustacea	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Arachnida								
Acarina	0	0	0	0	0	0	0	0
Mollusca								
Bivalvia								
Pisidiidae	0	0	0	0	0	0	0	0
Gastropoda - unidentified	0	0	0	0	0	0	0	0
Hydrobiidae	0	0	0	0	0	0	0	0
Lymnaeidae	0	0	0	0	0	0	0	0
Physidae	0	0	0	0	2	0	1	2
Planorbidae	0	0	0	0	19	2	11	12
Valvatidae	0	0	0	0	0	0	0	0
Total Mollusca	**0**	**0**	**0**	**0**	**21**	**2**	**12**	**13**
Hydrozoa	0	0	0	0	0	0	0	0
Insecta								
Odonata								
Anisoptera								
Aeshnidae - larva	0	0	0	0	0	0	0	0
Coleoptera								
Chrysomelidae - larva	0	0	0	0	0	0	0	0
Curculionidae - larva	0	0	0	0	0	0	0	0
Curculionidae - adult	0	0	0	0	0	0	0	0
Dytiscidae - larva	0	0	0	0	0	0	0	0
Gyrinidae - larva	0	0	0	0	0	0	0	0
Haliplidae - larva	0	0	0	0	0	0	0	0
Hemiptera	0	0	0	0	0	0	0	0
Corixidae - larva	0	0	0	0	0	0	0	0
Corixidae - adult	0	0	0	0	0	0	0	0
Gerridae - adult	0	0	0	0	0	0	0	0
Ephemeroptera - unidentified larva	0	0	0	0	0	0	0	0
Baetidae - larva	0	0	0	0	0	0	0	0
Caenidae - larva	0	0	0	0	0	0	0	0
Siphlonuridae - larva	0	0	0	0	0	0	0	0
Trichoptera - unidentified	0	0	0	0	0	0	0	0
Brachycentridae - larva	0	0	0	0	0	0	0	0
Hydropsychidae - larva	0	0	0	0	0	0	0	0
Lepidostomatidae - larva	0	0	0	0	0	0	0	0
Diptera - unidentified pupa	0	0	0	0	0	0	0	0
Ceratopogonidae - larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified pupa	0	0	0	0	0	0	0	0
Chironominae - larva	5	2	4	2	10	2	6	5
Orthocladiinae - larva	17	2	10	10	5	0	2	3
Tanypodinae - larva	0	0	0	0	0	0	0	0
Tipulidae - larva	0	0	0	0	0	0	0	0
Total Insecta	**21**	**5**	**13**	**12**	**14**	**2**	**8**	**8**
Total Invertebrates	**36**	**5**	**20**	**22**	**48**	**7**	**27**	**29**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table A3-1. Continued.

Area	1: Pahwaypanik Bay							
Zone	3							
Site	2							
Subsample	A	B	Mean	SD	A	B	Mean	SD
Mesh Size (µm)	400				500			
Annelida								
Oligochaeta	14	2	8	8	0	7	4	5
Hirudinea	0	0	0	0	0	0	0	0
Total Annelida	**14**	**2**	**8**	**8**	**0**	**7**	**4**	**5**
Crustacea								
Ostracoda	0	0	0	0	0	0	0	0
Amphipoda - unidentified	0	0	0	0	0	0	0	0
Gammaridae	0	0	0	0	2	0	1	2
Haustoriidae	0	0	0	0	0	0	0	0
Talitridae	0	0	0	0	2	0	1	2
Diplostraca[1]	0	0	0	0	0	0	0	0
Total Crustacea	**0**	**0**	**0**	**0**	**5**	**0**	**2**	**3**
Arachnida								
Acarina	0	0	0	0	0	0	0	0
Mollusca								
Bivalvia								
Pisidiidae	0	0	0	0	0	0	0	0
Gastropoda - unidentified	0	0	0	0	0	0	0	0
Hydrobiidae	0	0	0	0	0	0	0	0
Lymnaeidae	0	0	0	0	0	0	0	0
Physidae	0	0	0	0	0	2	1	2
Planorbidae	5	0	2	3	2	0	1	2
Valvatidae	0	0	0	0	0	0	0	0
Total Mollusca	**5**	**0**	**2**	**3**	**2**	**2**	**2**	**0**
Hydrozoa	0	0	0	0	0	0	0	0
Insecta								
Odonata								
Anisoptera								
Aeshnidae - larva	0	0	0	0	0	0	0	0
Coleoptera								
Chrysomelidae - larva	0	0	0	0	0	0	0	0
Curculionidae - larva	0	0	0	0	0	0	0	0
Curculionidae - adult	0	0	0	0	0	0	0	0
Dytiscidae - larva	0	0	0	0	0	0	0	0
Gyrinidae - larva	0	0	0	0	0	0	0	0
Haliplidae - larva	0	0	0	0	0	0	0	0
Hemiptera	0	0	0	0	0	0	0	0
Corixidae - larva	0	0	0	0	7	2	5	3
Corixidae - adult	0	0	0	0	0	0	0	0
Gerridae - adult	0	0	0	0	0	0	0	0
Ephemeroptera - unidentified larva	0	0	0	0	0	0	0	0
Baetidae - larva	0	0	0	0	0	0	0	0
Caenidae - larva	0	0	0	0	0	0	0	0
Siphlonuridae - larva	0	0	0	0	0	0	0	0
Trichoptera - unidentified	0	0	0	0	0	0	0	0
Brachycentridae - larva	0	0	0	0	0	0	0	0
Hydropsychidae - larva	0	0	0	0	0	0	0	0
Lepidostomatidae - larva	0	0	0	0	0	0	0	0
Diptera - unidentified pupa	0	0	0	0	0	0	0	0
Ceratopogonidae - larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified pupa	0	0	0	0	0	0	0	0
Chironominae - larva	5	0	2	3	0	2	1	2
Orthocladiinae - larva	21	2	12	13	0	0	0	0
Tanypodinae - larva	2	0	1	2	0	0	0	0
Tipulidae - larva	0	0	0	0	0	0	0	0
Total Insecta	**29**	**2**	**15**	**19**	**7**	**5**	**6**	**2**
Total Invertebrates	**48**	**5**	**26**	**30**	**14**	**14**	**14**	**0**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table A3-1. Continued.

Area	1: Pahwaypanik Bay							
Zone	4							
Site	1							
Subsample	A	B	Mean	SD	A	B	Mean	SD
Mesh Size (µm)	400				500			
Annelida								
Oligochaeta	26	5	15	15	40	12	26	20
Hirudinea	0	0	0	0	0	0	0	0
Total Annelida	**26**	**5**	**15**	**15**	**40**	**12**	**26**	**20**
Crustacea								
Ostracoda	2	2	2	0	0	0	0	0
Amphipoda - unidentified	0	0	0	0	0	0	0	0
Gammaridae	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0
Talitridae	0	0	0	0	2	0	1	2
Diplostraca[1]	0	0	0	0	0	0	0	0
Total Crustacea	**2**	**2**	**2**	**0**	**2**	**0**	**1**	**2**
Arachnida								
Acarina	0	0	0	0	0	0	0	0
Mollusca								
Bivalvia								
Pisidiidae	0	0	0	0	0	0	0	0
Gastropoda - unidentified	0	0	0	0	0	0	0	0
Hydrobiidae	0	0	0	0	0	0	0	0
Lymnaeidae	0	0	0	0	2	0	1	2
Physidae	0	0	0	0	14	0	7	10
Planorbidae	0	0	0	0	112	24	68	62
Valvatidae	0	0	0	0	0	0	0	0
Total Mollusca	**0**	**0**	**0**	**0**	**129**	**24**	**76**	**74**
Hydrozoa	0	2	1	2	0	2	1	2
Insecta								
Odonata								
Anisoptera								
Aeshnidae - larva	0	0	0	0	0	0	0	0
Coleoptera								
Chrysomelidae - larva	0	0	0	0	0	0	0	0
Curculionidae - larva	0	0	0	0	0	0	0	0
Curculionidae - adult	0	0	0	0	0	0	0	0
Dytiscidae - larva	0	0	0	0	0	2	1	2
Gyrinidae - larva	0	0	0	0	10	0	5	7
Haliplidae - larva	0	0	0	0	0	0	0	0
Hemiptera	0	0	0	0	0	0	0	0
Corixidae - larva	0	0	0	0	2	0	1	2
Corixidae - adult	0	0	0	0	0	0	0	0
Gerridae - adult	0	0	0	0	0	0	0	0
Ephemeroptera - unidentified larva	0	0	0	0	0	0	0	0
Baetidae - larva	0	0	0	0	0	0	0	0
Caenidae - larva	0	0	0	0	0	0	0	0
Siphlonuridae - larva	0	0	0	0	0	0	0	0
Trichoptera - unidentified	0	0	0	0	0	0	0	0
Brachycentridae - larva	0	0	0	0	0	0	0	0
Hydropsychidae - larva	0	0	0	0	0	0	0	0
Lepidostomatidae - larva	0	0	0	0	0	0	0	0
Diptera - unidentified pupa	0	0	0	0	0	0	0	0
Ceratopogonidae - larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified larva	10	0	5	7	5	0	2	3
Chironomidae - unidentified pupa	0	0	0	0	0	0	0	0
Chironominae - larva	5	0	2	3	0	0	0	0
Orthocladiinae - larva	231	2	117	162	221	7	114	152
Tanypodinae - larva	0	0	0	0	0	0	0	0
Tipulidae - larva	0	0	0	0	0	0	0	0
Total Insecta	**245**	**2**	**124**	**172**	**238**	**10**	**124**	**162**
Total Invertebrates	**274**	**12**	**143**	**185**	**410**	**48**	**229**	**256**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table A3-1. Continued.

Area	1: Pahwaypanik Bay							
Zone	4							
Site	2							
Subsample	A	B	Mean	SD	A	B	Mean	SD
Mesh Size (µm)	400				500			
Annelida								
Oligochaeta	0	0	0	0	0	0	0	0
Hirudinea	0	0	0	0	0	0	0	0
Total Annelida	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Crustacea	0	0	0	0	0	0	0	0
Ostracoda	0	0	0	0	0	0	0	0
Amphipoda - unidentified	0	0	0	0	0	0	0	0
Gammaridae	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0
Talitridae	0	0	0	0	0	0	0	0
Diplostraca[1]	0	0	0	0	0	0	0	0
Total Crustacea	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Arachnida								
Acarina	0	0	0	0	0	0	0	0
Mollusca								
Bivalvia								
Pisidiidae	0	0	0	0	0	0	0	0
Gastropoda - unidentified	0	0	0	0	0	0	0	0
Hydrobiidae	0	0	0	0	0	0	0	0
Lymnaeidae	0	0	0	0	0	0	0	0
Physidae	0	0	0	0	0	0	0	0
Planorbidae	0	0	0	0	0	0	0	0
Valvatidae	0	0	0	0	0	0	0	0
Total Mollusca	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Hydrozoa	0	0	0	0	0	0	0	0
Insecta								
Odonata								
Anisoptera								
Aeshnidae - larva	0	0	0	0	0	0	0	0
Coleoptera								
Chrysomelidae - larva	0	0	0	0	0	0	0	0
Curculionidae - larva	0	0	0	0	0	0	0	0
Curculionidae - adult	0	0	0	0	0	0	0	0
Dytiscidae - larva	0	0	0	0	0	0	0	0
Gyrinidae - larva	0	0	0	0	0	0	0	0
Haliplidae - larva	0	0	0	0	0	0	0	0
Hemiptera	0	0	0	0	0	0	0	0
Corixidae - larva	0	0	0	0	0	0	0	0
Corixidae - adult	0	0	0	0	0	0	0	0
Gerridae - adult	0	0	0	0	0	0	0	0
Ephemeroptera - unidentified larva	0	0	0	0	0	0	0	0
Baetidae - larva	0	0	0	0	0	0	0	0
Caenidae - larva	0	0	0	0	0	0	0	0
Siphlonuridae - larva	0	0	0	0	0	0	0	0
Trichoptera - unidentified	0	0	0	0	0	0	0	0
Brachycentridae - larva	0	0	0	0	0	0	0	0
Hydropsychidae - larva	0	0	0	0	0	0	0	0
Lepidostomatidae - larva	0	0	0	0	0	0	0	0
Diptera - unidentified pupa	0	0	0	0	0	0	0	0
Ceratopogonidae - larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified pupa	0	0	0	0	0	0	0	0
Chironominae - larva	0	0	0	0	0	0	0	0
Orthocladiinae - larva	0	0	0	0	0	0	0	0
Tanypodinae - larva	0	0	0	0	0	0	0	0
Tipulidae - larva	0	0	0	0	0	0	0	0
Total Insecta	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total Invertebrates	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table A3-2. Abundance (individuals/m²), +/- one standard deviation (SD), of epiphytic invertebrates collected in association with macrophyte sampling in Area 2: John Garson Bay, summer 2004. Individual abundances may not add up to totals due to rounding.

Area	**2: John Garson Bay**							
Zone	**1**							
Site	**1**							
Subsample	**A**	**B**	**Mean**	**SD**	**A**	**B**	**Mean**	**SD**
Mesh Size (µm)	**400**				**500**			
Annelida								
Oligochaeta	0	0	0	0	0	0	0	0
Hirudinea	2	2	2	0	0	0	0	0
Total Annelida	**2**	**2**	**2**	**0**	**0**	**0**	**0**	**0**
Crustacea								
Ostracoda	0	0	0	0	0	0	0	0
Amphipoda - unidentified	0	0	0	0	0	0	0	0
Gammaridae	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0
Talitridae	0	0	0	0	0	0	0	0
Diplostraca[1]	0	0	0	0	0	0	0	0
Total Crustacea	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Arachnida								
Acarina	0	0	0	0	0	0	0	0
Mollusca								
Bivalvia								
Pisidiidae	0	0	0	0	0	0	0	0
Gastropoda - unidentified	0	0	0	0	0	0	0	0
Hydrobiidae	0	0	0	0	0	0	0	0
Lymnaeidae	0	0	0	0	0	0	0	0
Physidae	0	0	0	0	0	0	0	0
Planorbidae	0	0	0	0	2	0	1	2
Valvatidae	0	0	0	0	0	0	0	0
Total Mollusca	**0**	**0**	**0**	**0**	**2**	**0**	**1**	**2**
Hydrozoa	0	0	0	0	0	0	0	0
Insecta								
Odonata								
Anisoptera								
Aeshnidae - larva	0	0	0	0	0	0	0	0
Coleoptera								
Chrysomelidae - larva	0	0	0	0	0	0	0	0
Curculionidae - larva	0	0	0	0	0	0	0	0
Curculionidae - adult	0	0	0	0	0	0	0	0
Dytiscidae - larva	0	0	0	0	0	0	0	0
Gyrinidae - larva	0	0	0	0	0	0	0	0
Haliplidae - larva	0	0	0	0	0	0	0	0
Hemiptera	0	0	0	0	0	0	0	0
Corixidae - larva	0	0	0	0	0	0	0	0
Corixidae - adult	0	0	0	0	0	0	0	0
Gerridae - adult	0	0	0	0	0	0	0	0
Ephemeroptera - unidentified larva	0	0	0	0	0	0	0	0
Baetidae - larva	0	0	0	0	0	0	0	0
Caenidae - larva	0	0	0	0	0	0	0	0
Siphlonuridae - larva	0	0	0	0	0	0	0	0
Trichoptera - unidentified	0	0	0	0	0	0	0	0
Brachycentridae - larva	0	0	0	0	0	0	0	0
Hydropsychidae - larva	0	0	0	0	0	0	0	0
Lepidostomatidae - larva	0	0	0	0	0	0	0	0
Diptera - unidentified pupa	0	0	0	0	0	0	0	0
Ceratopogonidae - larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified pupa	0	0	0	0	0	0	0	0
Chironominae - larva	0	0	0	0	0	0	0	0
Orthocladiinae - larva	0	2	1	2	0	7	4	5
Tanypodinae - larva	0	0	0	0	0	0	0	0
Tipulidae - larva	0	0	0	0	2	0	1	2
Total Insecta	**0**	**2**	**1**	**2**	**2**	**7**	**5**	**3**
Total Invertebrates	**2**	**5**	**4**	**2**	**5**	**7**	**6**	**2**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table A3-2. Continued.

Area	2: John Garson Bay							
Zone	1							
Site	2							
Subsample	A	B	Mean	SD	A	B	Mean	SD
Mesh Size (µm)	400				500			
Annelida								
Oligochaeta	0	0	0	0	0	0	0	0
Hirudinea	0	0	0	0	0	0	0	0
Total Annelida	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Crustacea								
Ostracoda	0	0	0	0	0	0	0	0
Amphipoda - unidentified	0	0	0	0	0	0	0	0
Gammaridae	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0
Talitridae	0	0	0	0	0	0	0	0
Diplostraca[1]	0	0	0	0	0	0	0	0
Total Crustacea	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Arachnida								
Acarina	0	0	0	0	0	0	0	0
Mollusca								
Bivalvia								
Pisidiidae	0	0	0	0	0	0	0	0
Gastropoda - unidentified	0	0	0	0	0	0	0	0
Hydrobiidae	0	0	0	0	0	0	0	0
Lymnaeidae	0	0	0	0	0	0	0	0
Physidae	0	0	0	0	0	0	0	0
Planorbidae	0	0	0	0	10	0	5	7
Valvatidae	0	0	0	0	0	0	0	0
Total Mollusca	**0**	**0**	**0**	**0**	**10**	**0**	**5**	**7**
Hydrozoa	0	0	0	0	0	0	0	0
Insecta								
Odonata								
Anisoptera								
Aeshnidae - larva	0	0	0	0	0	0	0	0
Coleoptera								
Chrysomelidae - larva	0	0	0	0	2	2	2	0
Curculionidae - larva	0	0	0	0	0	0	0	0
Curculionidae - adult	0	0	0	0	0	2	1	2
Dytiscidae - larva	0	0	0	0	5	0	2	3
Gyrinidae - larva	0	0	0	0	0	0	0	0
Haliplidae - larva	0	0	0	0	0	0	0	0
Hemiptera	0	0	0	0	0	0	0	0
Corixidae - larva	0	0	0	0	19	0	10	13
Corixidae - adult	0	0	0	0	2	0	1	2
Gerridae - adult	0	0	0	0	0	0	0	0
Ephemeroptera - unidentified larva	0	0	0	0	0	0	0	0
Baetidae - larva	0	0	0	0	0	0	0	0
Caenidae - larva	0	0	0	0	0	0	0	0
Siphlonuridae - larva	0	0	0	0	0	0	0	0
Trichoptera - unidentified	0	0	0	0	0	0	0	0
Brachycentridae - larva	0	0	0	0	0	0	0	0
Hydropsychidae - larva	0	0	0	0	0	0	0	0
Lepidostomatidae - larva	0	0	0	0	0	0	0	0
Diptera - unidentified pupa	0	0	0	0	0	0	0	0
Ceratopogonidae - larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified pupa	0	0	0	0	0	0	0	0
Chironominae - larva	0	0	0	0	0	0	0	0
Orthocladiinae - larva	0	0	0	0	0	0	0	0
Tanypodinae - larva	0	0	0	0	0	0	0	0
Tipulidae - larva	0	0	0	0	0	0	0	0
Total Insecta	**0**	**0**	**0**	**0**	**29**	**5**	**17**	**17**
Total Invertebrates	**0**	**0**	**0**	**0**	**38**	**5**	**21**	**24**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table A3-2. Continued.

Area	2: John Garson Bay							
Zone	2							
Site	1							
Subsample	A	B	Mean	SD	A	B	Mean	SD
Mesh Size (µm)	400				500			
Annelida								
Oligochaeta	0	0	0	0	0	0	0	0
Hirudinea	0	0	0	0	0	0	0	0
Total Annelida	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Crustacea								
Ostracoda	0	0	0	0	0	0	0	0
Amphipoda - unidentified	0	0	0	0	0	0	0	0
Gammaridae	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0
Talitridae	0	0	0	0	0	0	0	0
Diplostraca[1]	0	0	0	0	0	0	0	0
Total Crustacea	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Arachnida								
Acarina	0	0	0	0	0	0	0	0
Mollusca								
Bivalvia								
Pisidiidae	0	0	0	0	0	0	0	0
Gastropoda - unidentified	0	0	0	0	0	0	0	0
Hydrobiidae	0	0	0	0	0	0	0	0
Lymnaeidae	0	0	0	0	0	0	0	0
Physidae	0	0	0	0	0	0	0	0
Planorbidae	0	0	0	0	0	0	0	0
Valvatidae	0	0	0	0	0	0	0	0
Total Mollusca	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Hydrozoa	0	0	0	0	0	0	0	0
Insecta								
Odonata								
Anisoptera								
Aeshnidae - larva	0	0	0	0	0	0	0	0
Coleoptera								
Chrysomelidae - larva	0	0	0	0	0	0	0	0
Curculionidae - larva	0	0	0	0	0	0	0	0
Curculionidae - adult	0	0	0	0	0	0	0	0
Dytiscidae - larva	0	0	0	0	0	0	0	0
Gyrinidae - larva	0	0	0	0	0	0	0	0
Haliplidae - larva	0	0	0	0	0	0	0	0
Hemiptera	0	0	0	0	0	0	0	0
Corixidae - larva	0	0	0	0	0	0	0	0
Corixidae - adult	0	0	0	0	0	0	0	0
Gerridae - adult	0	0	0	0	0	0	0	0
Ephemeroptera - unidentified larva	0	0	0	0	0	0	0	0
Baetidae - larva	0	0	0	0	0	0	0	0
Caenidae - larva	0	0	0	0	0	0	0	0
Siphlonuridae - larva	0	0	0	0	0	0	0	0
Trichoptera - unidentified	0	0	0	0	0	0	0	0
Brachycentridae - larva	0	0	0	0	0	0	0	0
Hydropsychidae - larva	0	0	0	0	0	0	0	0
Lepidostomatidae - larva	0	0	0	0	0	0	0	0
Diptera - unidentified pupa	0	0	0	0	0	0	0	0
Ceratopogonidae - larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified pupa	0	0	0	0	0	0	0	0
Chironominae - larva	0	0	0	0	0	0	0	0
Orthocladiinae - larva	0	0	0	0	0	0	0	0
Tanypodinae - larva	0	0	0	0	0	0	0	0
Tipulidae - larva	0	0	0	0	0	0	0	0
Total Insecta	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total Invertebrates	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table A3-2. Continued.

Area	2: John Garson Bay							
Zone	2							
Site	2							
Subsample	A	B	Mean	SD	A	B	Mean	SD
Mesh Size (µm)	400				500			
Annelida								
Oligochaeta	0	0	0	0	0	0	0	0
Hirudinea	0	0	0	0	0	0	0	0
Total Annelida	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Crustacea								
Ostracoda	0	0	0	0	0	0	0	0
Amphipoda - unidentified	0	0	0	0	0	0	0	0
Gammaridae	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0
Talitridae	0	0	0	0	0	0	0	0
Diplostraca[1]	0	0	0	0	0	0	0	0
Total Crustacea	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Arachnida								
Acarina	0	0	0	0	0	0	0	0
Mollusca								
Bivalvia								
Pisidiidae	0	0	0	0	0	0	0	0
Gastropoda - unidentified	0	0	0	0	0	0	0	0
Hydrobiidae	0	0	0	0	0	0	0	0
Lymnaeidae	0	0	0	0	0	0	0	0
Physidae	0	0	0	0	0	0	0	0
Planorbidae	0	0	0	0	0	0	0	0
Valvatidae	0	0	0	0	0	0	0	0
Total Mollusca	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Hydrozoa	0	0	0	0	0	0	0	0
Insecta								
Odonata								
Anisoptera								
Aeshnidae - larva	0	0	0	0	0	0	0	0
Coleoptera								
Chrysomelidae - larva	0	0	0	0	0	0	0	0
Curculionidae - larva	0	0	0	0	0	0	0	0
Curculionidae - adult	0	0	0	0	0	0	0	0
Dytiscidae - larva	0	0	0	0	0	0	0	0
Gyrinidae - larva	0	0	0	0	0	0	0	0
Haliplidae - larva	0	0	0	0	0	0	0	0
Hemiptera	0	0	0	0	0	0	0	0
Corixidae - larva	0	0	0	0	0	0	0	0
Corixidae - adult	0	0	0	0	0	0	0	0
Gerridae - adult	0	0	0	0	0	0	0	0
Ephemeroptera - unidentified larva	0	0	0	0	0	0	0	0
Baetidae - larva	0	0	0	0	0	0	0	0
Caenidae - larva	0	0	0	0	0	0	0	0
Siphlonuridae - larva	0	0	0	0	0	0	0	0
Trichoptera - unidentified	0	0	0	0	0	0	0	0
Brachycentridae - larva	0	0	0	0	0	0	0	0
Hydropsychidae - larva	0	0	0	0	0	0	0	0
Lepidostomatidae - larva	0	0	0	0	0	0	0	0
Diptera - unidentified pupa	0	0	0	0	0	0	0	0
Ceratopogonidae - larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified pupa	0	0	0	0	0	0	0	0
Chironominae - larva	0	0	0	0	0	0	0	0
Orthocladiinae - larva	0	0	0	0	0	0	0	0
Tanypodinae - larva	0	0	0	0	0	0	0	0
Tipulidae - larva	0	0	0	0	0	0	0	0
Total Insecta	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total Invertebrates	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table A3-2. Continued.

Area	2: John Garson Bay							
Zone	3							
Site	1							
Subsample	A	B	Mean	SD	A	B	Mean	SD
Mesh Size (µm)	400				500			
Annelida								
Oligochaeta	0	0	0	0	0	0	0	0
Hirudinea	0	0	0	0	0	0	0	0
Total Annelida	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Crustacea								
Ostracoda	0	0	0	0	0	0	0	0
Amphipoda - unidentified	0	0	0	0	0	0	0	0
Gammaridae	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0
Talitridae	0	0	0	0	0	0	0	0
Diplostraca[1]	0	0	0	0	0	0	0	0
Total Crustacea	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Arachnida								
Acarina	0	0	0	0	0	0	0	0
Mollusca								
Bivalvia								
Pisidiidae	0	0	0	0	0	0	0	0
Gastropoda - unidentified	0	0	0	0	0	0	0	0
Hydrobiidae	0	0	0	0	0	0	0	0
Lymnaeidae	0	0	0	0	0	0	0	0
Physidae	0	0	0	0	0	0	0	0
Planorbidae	0	0	0	0	0	0	0	0
Valvatidae	0	0	0	0	0	0	0	0
Total Mollusca	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Hydrozoa	0	0	0	0	0	0	0	0
Insecta								
Odonata								
Anisoptera								
Aeshnidae - larva	0	0	0	0	0	0	0	0
Coleoptera								
Chrysomelidae - larva	0	0	0	0	0	0	0	0
Curculionidae - larva	0	0	0	0	0	0	0	0
Curculionidae - adult	0	0	0	0	0	0	0	0
Dytiscidae - larva	0	0	0	0	0	0	0	0
Gyrinidae - larva	0	0	0	0	0	0	0	0
Haliplidae - larva	0	0	0	0	0	0	0	0
Hemiptera	0	0	0	0	0	0	0	0
Corixidae - larva	0	0	0	0	0	0	0	0
Corixidae - adult	0	0	0	0	0	0	0	0
Gerridae - adult	0	0	0	0	0	0	0	0
Ephemeroptera - unidentified larva	0	0	0	0	0	0	0	0
Baetidae - larva	0	0	0	0	0	0	0	0
Caenidae - larva	0	0	0	0	0	0	0	0
Siphlonuridae - larva	0	0	0	0	0	0	0	0
Trichoptera - unidentified	0	0	0	0	0	0	0	0
Brachycentridae - larva	0	0	0	0	0	0	0	0
Hydropsychidae - larva	0	0	0	0	0	0	0	0
Lepidostomatidae - larva	0	0	0	0	0	0	0	0
Diptera - unidentified pupa	0	0	0	0	0	0	0	0
Ceratopogonidae - larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified pupa	0	0	0	0	0	0	0	0
Chironominae - larva	0	0	0	0	0	0	0	0
Orthocladiinae - larva	0	0	0	0	0	0	0	0
Tanypodinae - larva	0	0	0	0	0	0	0	0
Tipulidae - larva	0	0	0	0	0	0	0	0
Total Insecta	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total Invertebrates	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table A3-2. Continued.

Area	2: John Garson Bay									
Zone	3								4[2]	
Site	2								1	2
Subsample	A	B	Mean	SD	A	B	Mean	SD		
Mesh Size (µm)	400				500					
Annelida										
Oligochaeta	0	0	0	0	0	0	0	0	t.d.	t.d.
Hirudinea	0	0	0	0	0	0	0	0	t.d.	t.d.
Total Annelida	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**t.d.**	**t.d.**
Crustacea										
Ostracoda	0	0	0	0	0	0	0	0	t.d.	t.d.
Amphipoda - unidentified	0	0	0	0	0	0	0	0	t.d.	t.d.
Gammaridae	0	0	0	0	0	0	0	0	t.d.	t.d.
Haustoriidae	0	0	0	0	0	0	0	0	t.d.	t.d.
Talitridae	0	0	0	0	0	0	0	0	t.d.	t.d.
Diplostraca[1]	0	0	0	0	0	0	0	0	t.d.	t.d.
Total Crustacea	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**t.d.**	**t.d.**
Arachnida										
Acarina	0	0	0	0	0	0	0	0	t.d.	t.d.
Mollusca										
Bivalvia										
Pisidiidae	0	0	0	0	0	0	0	0	t.d.	t.d.
Gastropoda - unidentified	0	0	0	0	0	0	0	0	t.d.	t.d.
Hydrobiidae	0	0	0	0	0	0	0	0	t.d.	t.d.
Lymnaeidae	0	0	0	0	0	0	0	0	t.d.	t.d.
Physidae	0	0	0	0	0	0	0	0	t.d.	t.d.
Planorbidae	0	0	0	0	0	0	0	0	t.d.	t.d.
Valvatidae	0	0	0	0	0	0	0	0	t.d.	t.d.
Total Mollusca	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**t.d.**	**t.d.**
Hydrozoa	0	0	0	0	0	0	0	0	t.d.	t.d.
Insecta										
Odonata										
Anisoptera										
Aeshnidae - larva	0	0	0	0	0	0	0	0	t.d.	t.d.
Coleoptera										
Chrysomelidae - larva	0	0	0	0	0	0	0	0	t.d.	t.d.
Curculionidae - larva	0	0	0	0	0	0	0	0	t.d.	t.d.
Curculionidae - adult	0	0	0	0	0	0	0	0	t.d.	t.d.
Dytiscidae - larva	0	0	0	0	0	0	0	0	t.d.	t.d.
Gyrinidae - larva	0	0	0	0	0	0	0	0	t.d.	t.d.
Haliplidae - larva	0	0	0	0	0	0	0	0	t.d.	t.d.
Hemiptera	0	0	0	0	0	0	0	0	t.d.	t.d.
Corixidae - larva	0	0	0	0	0	0	0	0	t.d.	t.d.
Corixidae - adult	0	0	0	0	0	0	0	0	t.d.	t.d.
Gerridae - adult	0	0	0	0	0	0	0	0	t.d.	t.d.
Ephemeroptera - unidentified larva	0	0	0	0	0	0	0	0	t.d.	t.d.
Baetidae - larva	0	0	0	0	0	0	0	0	t.d.	t.d.
Caenidae - larva	0	0	0	0	0	0	0	0	t.d.	t.d.
Siphlonuridae - larva	0	0	0	0	0	0	0	0	t.d.	t.d.
Trichoptera - unidentified	0	0	0	0	0	0	0	0	t.d.	t.d.
Brachycentridae - larva	0	0	0	0	0	0	0	0	t.d.	t.d.
Hydropsychidae - larva	0	0	0	0	0	0	0	0	t.d.	t.d.
Lepidostomatidae - larva	0	0	0	0	0	0	0	0	t.d.	t.d.
Diptera - unidentified pupa	0	0	0	0	0	0	0	0	t.d.	t.d.
Ceratopogonidae - larva	0	0	0	0	0	0	0	0	t.d.	t.d.
Chironomidae - unidentified larva	0	0	0	0	0	0	0	0	t.d.	t.d.
Chironomidae - unidentified pupa	0	0	0	0	0	0	0	0	t.d.	t.d.
Chironominae - larva	0	0	0	0	0	0	0	0	t.d.	t.d.
Orthocladiinae - larva	0	0	0	0	0	0	0	0	t.d.	t.d.
Tanypodinae - larva	0	0	0	0	0	0	0	0	t.d.	t.d.
Tipulidae - larva	0	0	0	0	0	0	0	0	t.d.	t.d.
Total Insecta	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**t.d.**	**t.d.**
Total Invertebrates	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**t.d.**	**t.d.**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

[2] t.d. = too deep for sampler.

Table A3-3. Abundance (individuals/m²), +/- one standard deviation (SD), of epiphytic invertebrates collected in association with macrophyte sampling in Area 3: Kahpowinik Bay, summer 2004. Individual abundances may not add up to totals due to rounding.

Area	**3: Kahpowinik Bay**							
Zone	**1**							
Site	**1**							
Subsample	**A**	**B**	**Mean**	**SD**	**A**	**B**	**Mean**	**SD**
Mesh Size (µm)	**400**				**500**			
Annelida								
Oligochaeta	0	17	8	12	2	14	8	8
Hirudinea	0	0	0	0	2	0	1	2
Total Annelida	**0**	**17**	**8**	**12**	**5**	**14**	**10**	**7**
Crustacea								
Ostracoda	0	0	0	0	0	0	0	0
Amphipoda - unidentified	0	0	0	0	0	0	0	0
Gammaridae	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0
Talitridae	0	0	0	0	24	0	12	17
Diplostraca[1]	0	0	0	0	0	0	0	0
Total Crustacea	**0**	**0**	**0**	**0**	**24**	**0**	**12**	**17**
Arachnida								
Acarina	0	2	1	2	0	0	0	0
Mollusca								
Bivalvia								
Pisidiidae	0	0	0	0	0	0	0	0
Gastropoda - unidentified	0	0	0	0	5	0	2	3
Hydrobiidae	0	0	0	0	0	0	0	0
Lymnaeidae	0	0	0	0	0	0	0	0
Physidae	0	0	0	0	7	2	5	3
Planorbidae	0	2	1	2	0	2	1	2
Valvatidae	0	0	0	0	0	0	0	0
Total Mollusca	**0**	**2**	**1**	**2**	**12**	**5**	**8**	**5**
Hydrozoa	2	0	1	2	0	0	0	0
Insecta								
Odonata								
Anisoptera								
Aeshnidae - larva	0	0	0	0	0	0	0	0
Coleoptera								
Chrysomelidae - larva	0	0	0	0	0	0	0	0
Curculionidae - larva	0	0	0	0	0	0	0	0
Curculionidae - adult	0	0	0	0	0	0	0	0
Dytiscidae - larva	0	0	0	0	0	0	0	0
Gyrinidae - larva	0	0	0	0	0	0	0	0
Haliplidae - larva	0	0	0	0	0	0	0	0
Hemiptera	0	0	0	0	0	0	0	0
Corixidae - larva	0	0	0	0	10	0	5	7
Corixidae - adult	0	0	0	0	0	0	0	0
Gerridae - adult	0	0	0	0	0	0	0	0
Ephemeroptera - unidentified larva	0	0	0	0	0	0	0	0
Baetidae - larva	0	0	0	0	0	0	0	0
Caenidae - larva	0	0	0	0	0	0	0	0
Siphlonuridae - larva	0	0	0	0	0	0	0	0
Trichoptera - unidentified	0	0	0	0	0	0	0	0
Brachycentridae - larva	0	0	0	0	0	0	0	0
Hydropsychidae - larva	0	0	0	0	0	0	0	0
Lepidostomatidae - larva	0	0	0	0	0	0	0	0
Diptera - unidentified pupa	0	0	0	0	0	0	0	0
Ceratopogonidae - larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified larva	0	2	1	2	0	0	0	0
Chironomidae - unidentified pupa	0	0	0	0	0	0	0	0
Chironominae - larva	0	5	2	3	0	2	1	2
Orthocladiinae - larva	5	12	8	5	12	12	12	0
Tanypodinae - larva	0	0	0	0	0	0	0	0
Tipulidae - larva	0	0	0	0	0	0	0	0
Total Insecta	**5**	**19**	**12**	**10**	**21**	**14**	**18**	**5**
Total Invertebrates	**7**	**40**	**24**	**24**	**62**	**33**	**48**	**20**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table A3-3. Continued.

Area	3: Kahpowinik Bay							
Zone	1							
Site	2							
Subsample	A	B	Mean	SD	A	B	Mean	SD
Mesh Size (µm)	400				500			
Annelida								
Oligochaeta	31	43	37	8	7	5	6	2
Hirudinea	0	2	1	2	0	0	0	0
Total Annelida	**31**	**45**	**38**	**10**	**7**	**5**	**6**	**2**
Crustacea								
Ostracoda	0	10	5	7	0	24	12	17
Amphipoda - unidentified	0	0	0	0	0	0	0	0
Gammaridae	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0
Talitridae	0	0	0	0	7	45	26	27
Diplostraca[1]	0	0	0	0	0	0	0	0
Total Crustacea	**0**	**10**	**5**	**7**	**7**	**69**	**38**	**44**
Arachnida								
Acarina	0	0	0	0	0	19	10	13
Mollusca								
Bivalvia								
Pisidiidae	0	0	0	0	2	24	13	15
Gastropoda - unidentified	0	0	0	0	0	0	0	0
Hydrobiidae	0	0	0	0	0	0	0	0
Lymnaeidae	0	0	0	0	0	0	0	0
Physidae	0	0	0	0	2	5	4	2
Planorbidae	0	0	0	0	0	19	10	13
Valvatidae	0	0	0	0	0	5	2	3
Total Mollusca	**0**	**0**	**0**	**0**	**5**	**52**	**29**	**34**
Hydrozoa	0	0	0	0	0	0	0	0
Insecta								
Odonata								
Anisoptera								
Aeshnidae - larva	0	0	0	0	2	0	1	2
Coleoptera								
Chrysomelidae - larva	0	0	0	0	0	0	0	0
Curculionidae - larva	0	0	0	0	2	0	1	2
Curculionidae - adult	0	0	0	0	0	0	0	0
Dytiscidae - larva	0	0	0	0	0	0	0	0
Gyrinidae - larva	0	0	0	0	0	0	0	0
Haliplidae - larva	0	0	0	0	2	0	1	2
Hemiptera	0	0	0	0	0	0	0	0
Corixidae - larva	0	0	0	0	0	7	4	5
Corixidae - adult	0	0	0	0	0	0	0	0
Gerridae - adult	0	0	0	0	0	0	0	0
Ephemeroptera - unidentified larva	0	0	0	0	0	0	0	0
Baetidae - larva	0	0	0	0	0	0	0	0
Caenidae - larva	0	0	0	0	0	2	1	2
Siphlonuridae - larva	0	0	0	0	0	0	0	0
Trichoptera - unidentified	0	0	0	0	0	0	0	0
Brachycentridae - larva	0	0	0	0	0	0	0	0
Hydropsychidae - larva	0	0	0	0	0	0	0	0
Lepidostomatidae - larva	0	0	0	0	0	0	0	0
Diptera - unidentified pupa	0	0	0	0	0	0	0	0
Ceratopogonidae - larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified larva	0	7	4	5	2	10	6	5
Chironomidae - unidentified pupa	0	0	0	0	0	2	1	2
Chironominae - larva	98	348	223	177	162	519	340	253
Orthocladiinae - larva	38	71	55	24	21	31	26	7
Tanypodinae - larva	0	0	0	0	0	5	2	3
Tipulidae - larva	0	0	0	0	0	0	0	0
Total Insecta	**136**	**426**	**281**	**205**	**193**	**576**	**385**	**271**
Total Invertebrates	**167**	**481**	**324**	**222**	**212**	**721**	**467**	**360**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table A3-3. Continued.

Area	3: Kahpowinik Bay							
Zone	2							
Site	1							
Subsample	A	B	Mean	SD	A	B	Mean	SD
Mesh Size (µm)	400				500			
Annelida								
Oligochaeta	2	0	1	2	0	0	0	0
Hirudinea	0	0	0	0	0	0	0	0
Total Annelida	**2**	**0**	**1**	**2**	**0**	**0**	**0**	**0**
Crustacea								
Ostracoda	2	0	1	2	0	0	0	0
Amphipoda - unidentified	0	0	0	0	0	0	0	0
Gammaridae	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0
Talitridae	0	0	0	0	0	0	0	0
Diplostraca[1]	0	0	0	0	0	0	0	0
Total Crustacea	**2**	**0**	**1**	**2**	**0**	**0**	**0**	**0**
Arachnida								
Acarina	0	0	0	0	0	0	0	0
Mollusca								
Bivalvia								
Pisidiidae	0	0	0	0	0	0	0	0
Gastropoda - unidentified	0	0	0	0	0	0	0	0
Hydrobiidae	0	0	0	0	0	0	0	0
Lymnaeidae	0	0	0	0	0	2	1	2
Physidae	0	0	0	0	0	0	0	0
Planorbidae	0	0	0	0	0	12	6	8
Valvatidae	0	0	0	0	0	0	0	0
Total Mollusca	**0**	**0**	**0**	**0**	**0**	**14**	**7**	**10**
Hydrozoa	0	0	0	0	0	0	0	0
Insecta								
Odonata								
Anisoptera								
Aeshnidae - larva	0	0	0	0	0	0	0	0
Coleoptera								
Chrysomelidae - larva	0	0	0	0	0	0	0	0
Curculionidae - larva	0	0	0	0	0	0	0	0
Curculionidae - adult	0	0	0	0	0	0	0	0
Dytiscidae - larva	0	0	0	0	0	2	1	2
Gyrinidae - larva	0	0	0	0	0	0	0	0
Haliplidae - larva	0	0	0	0	0	0	0	0
Hemiptera	0	0	0	0	0	0	0	0
Corixidae - larva	0	0	0	0	5	0	2	3
Corixidae - adult	0	0	0	0	0	0	0	0
Gerridae - adult	0	0	0	0	0	0	0	0
Ephemeroptera - unidentified larva	0	0	0	0	0	0	0	0
Baetidae - larva	0	0	0	0	0	0	0	0
Caenidae - larva	0	0	0	0	0	0	0	0
Siphlonuridae - larva	0	0	0	0	0	0	0	0
Trichoptera - unidentified	0	0	0	0	0	0	0	0
Brachycentridae - larva	0	0	0	0	0	0	0	0
Hydropsychidae - larva	0	0	0	0	0	0	0	0
Lepidostomatidae - larva	0	0	0	0	0	0	0	0
Diptera - unidentified pupa	0	0	0	0	0	0	0	0
Ceratopogonidae - larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified larva	0	2	1	2	0	0	0	0
Chironomidae - unidentified pupa	0	0	0	0	0	0	0	0
Chironominae - larva	2	33	18	22	7	33	20	19
Orthocladiinae - larva	2	2	2	0	5	0	2	3
Tanypodinae - larva	0	0	0	0	0	0	0	0
Tipulidae - larva	0	0	0	0	0	0	0	0
Total Insecta	**5**	**38**	**21**	**24**	**17**	**36**	**26**	**13**
Total Invertebrates	**10**	**38**	**24**	**20**	**17**	**50**	**33**	**24**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table A3-3. Continued.

Area	3: Kahpowinik Bay							
Zone	2							
Site	2							
Subsample	A	B	Mean	SD	A	B	Mean	SD
Mesh Size (µm)	400				500			
Annelida								
Oligochaeta	0	2	1	2	0	0	0	0
Hirudinea	0	0	0	0	0	7	4	5
Total Annelida	**0**	**2**	**1**	**2**	**0**	**7**	**4**	**5**
Crustacea								
Ostracoda	0	0	0	0	0	0	0	0
Amphipoda - unidentified	0	0	0	0	0	0	0	0
Gammaridae	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0
Talitridae	0	0	0	0	0	0	0	0
Diplostraca[1]	0	0	0	0	0	0	0	0
Total Crustacea	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Arachnida								
Acarina	0	0	0	0	0	0	0	0
Mollusca								
Bivalvia								
Pisidiidae	0	0	0	0	0	0	0	0
Gastropoda - unidentified	0	0	0	0	0	2	1	2
Hydrobiidae	0	0	0	0	0	0	0	0
Lymnaeidae	0	0	0	0	0	0	0	0
Physidae	0	0	0	0	0	0	0	0
Planorbidae	0	0	0	0	0	5	2	3
Valvatidae	0	0	0	0	0	0	0	0
Total Mollusca	**0**	**0**	**0**	**0**	**0**	**7**	**4**	**5**
Hydrozoa	0	0	0	0	0	0	0	0
Insecta								
Odonata								
Anisoptera								
Aeshnidae - larva	0	0	0	0	0	0	0	0
Coleoptera								
Chrysomelidae - larva	0	0	0	0	0	0	0	0
Curculionidae - larva	0	0	0	0	0	0	0	0
Curculionidae - adult	0	0	0	0	0	0	0	0
Dytiscidae - larva	0	0	0	0	0	0	0	0
Gyrinidae - larva	0	0	0	0	0	0	0	0
Haliplidae - larva	0	0	0	0	0	0	0	0
Hemiptera	0	0	0	0	0	0	0	0
Corixidae - larva	0	0	0	0	0	0	0	0
Corixidae - adult	0	0	0	0	0	0	0	0
Gerridae - adult	0	0	0	0	0	0	0	0
Ephemeroptera - unidentified larva	0	0	0	0	0	0	0	0
Baetidae - larva	0	0	0	0	0	0	0	0
Caenidae - larva	0	0	0	0	0	0	0	0
Siphlonuridae - larva	0	0	0	0	0	0	0	0
Trichoptera - unidentified	0	0	0	0	0	0	0	0
Brachycentridae - larva	0	0	0	0	0	0	0	0
Hydropsychidae - larva	0	0	0	0	0	0	0	0
Lepidostomatidae - larva	0	0	0	0	0	0	0	0
Diptera - unidentified pupa	0	0	0	0	0	0	0	0
Ceratopogonidae - larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified pupa	0	0	0	0	0	0	0	0
Chironominae - larva	5	7	6	2	7	0	4	5
Orthocladiinae - larva	0	10	5	7	7	2	5	3
Tanypodinae - larva	0	0	0	0	0	0	0	0
Tipulidae - larva	0	0	0	0	0	0	0	0
Total Insecta	**5**	**17**	**11**	**8**	**14**	**2**	**8**	**8**
Total Invertebrates	**5**	**19**	**12**	**10**	**14**	**17**	**15**	**2**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table A3-3. Continued.

Area	3: Kahpowinik Bay							
Zone	3							
Site	1							
Subsample	A	B	Mean	SD	A	B	Mean	SD
Mesh Size (µm)	400				500			
Annelida								
Oligochaeta	0	0	0	0	0	0	0	0
Hirudinea	0	0	0	0	0	0	0	0
Total Annelida	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Crustacea								
Ostracoda	0	0	0	0	0	0	0	0
Amphipoda - unidentified	0	0	0	0	0	0	0	0
Gammaridae	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0
Talitridae	0	0	0	0	0	0	0	0
Diplostraca[1]	0	0	0	0	0	0	0	0
Total Crustacea	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Arachnida								
Acarina	0	0	0	0	0	0	0	0
Mollusca								
Bivalvia								
Pisidiidae	0	0	0	0	0	0	0	0
Gastropoda - unidentified	0	0	0	0	0	0	0	0
Hydrobiidae	0	0	0	0	0	0	0	0
Lymnaeidae	0	0	0	0	0	0	0	0
Physidae	0	0	0	0	0	0	0	0
Planorbidae	0	0	0	0	0	0	0	0
Valvatidae	0	0	0	0	0	0	0	0
Total Mollusca	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Hydrozoa	0	0	0	0	0	0	0	0
Insecta								
Odonata								
Anisoptera								
Aeshnidae - larva	0	0	0	0	0	0	0	0
Coleoptera								
Chrysomelidae - larva	0	0	0	0	0	0	0	0
Curculionidae - larva	0	0	0	0	0	0	0	0
Curculionidae - adult	0	0	0	0	0	0	0	0
Dytiscidae - larva	0	0	0	0	0	0	0	0
Gyrinidae - larva	0	0	0	0	0	0	0	0
Haliplidae - larva	0	0	0	0	0	0	0	0
Hemiptera	0	0	0	0	0	0	0	0
Corixidae - larva	0	0	0	0	0	0	0	0
Corixidae - adult	0	0	0	0	0	0	0	0
Gerridae - adult	0	0	0	0	0	0	0	0
Ephemeroptera - unidentified larva	0	0	0	0	0	0	0	0
Baetidae - larva	0	0	0	0	0	0	0	0
Caenidae - larva	0	0	0	0	0	0	0	0
Siphlonuridae - larva	0	0	0	0	0	0	0	0
Trichoptera - unidentified	0	0	0	0	0	0	0	0
Brachycentridae - larva	0	0	0	0	0	0	0	0
Hydropsychidae - larva	0	0	0	0	0	0	0	0
Lepidostomatidae - larva	0	0	0	0	0	0	0	0
Diptera - unidentified pupa	0	0	0	0	0	0	0	0
Ceratopogonidae - larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified pupa	0	0	0	0	0	0	0	0
Chironominae - larva	0	0	0	0	0	0	0	0
Orthocladiinae - larva	0	0	0	0	0	0	0	0
Tanypodinae - larva	0	0	0	0	0	0	0	0
Tipulidae - larva	0	0	0	0	0	0	0	0
Total Insecta	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total Invertebrates	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table A3-3. Continued.

Area	3: Kahpowinik Bay							
Zone	3							
Site	2							
Subsample	A	B	Mean	SD	A	B	Mean	SD
Mesh Size (µm)	400				500			
Annelida								
Oligochaeta	10	2	6	5	52	67	60	10
Hirudinea	0	0	0	0	0	0	0	0
Total Annelida	**10**	**2**	**6**	**5**	**52**	**67**	**60**	**10**
Crustacea								
Ostracoda	0	0	0	0	0	2	1	2
Amphipoda - unidentified	0	0	0	0	0	0	0	0
Gammaridae	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0
Talitridae	0	0	0	0	0	0	0	0
Diplostraca[1]	0	0	0	0	0	0	0	0
Total Crustacea	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**2**
Arachnida								
Acarina	0	0	0	0	0	0	0	0
Mollusca								
Bivalvia								
Pisidiidae	0	0	0	0	0	0	0	0
Gastropoda - unidentified	0	0	0	0	0	0	0	0
Hydrobiidae	0	0	0	0	2	7	5	3
Lymnaeidae	0	0	0	0	0	0	0	0
Physidae	0	0	0	0	5	2	4	2
Planorbidae	0	0	0	0	21	5	13	12
Valvatidae	0	0	0	0	0	0	0	0
Total Mollusca	**0**	**0**	**0**	**0**	**29**	**14**	**21**	**10**
Hydrozoa	0	0	0	0	0	2	1	2
Insecta								
Odonata								
Anisoptera								
Aeshnidae - larva	0	0	0	0	0	0	0	0
Coleoptera								
Chrysomelidae - larva	0	0	0	0	0	0	0	0
Curculionidae - larva	0	0	0	0	0	0	0	0
Curculionidae - adult	0	0	0	0	0	0	0	0
Dytiscidae - larva	0	0	0	0	0	0	0	0
Gyrinidae - larva	0	0	0	0	0	0	0	0
Haliplidae - larva	0	0	0	0	0	0	0	0
Hemiptera	0	0	0	0	0	0	0	0
Corixidae - larva	0	0	0	0	0	0	0	0
Corixidae - adult	0	0	0	0	0	0	0	0
Gerridae - adult	0	0	0	0	0	0	0	0
Ephemeroptera - unidentified larva	0	0	0	0	0	0	0	0
Baetidae - larva	0	0	0	0	0	0	0	0
Caenidae - larva	0	0	0	0	0	0	0	0
Siphlonuridae - larva	0	0	0	0	0	0	0	0
Trichoptera - unidentified	0	0	0	0	0	0	0	0
Brachycentridae - larva	0	0	0	0	0	0	0	0
Hydropsychidae - larva	0	0	0	0	0	0	0	0
Lepidostomatidae - larva	0	0	0	0	0	0	0	0
Diptera - unidentified pupa	0	0	0	0	0	0	0	0
Ceratopogonidae - larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified pupa	0	0	0	0	0	0	0	0
Chironominae - larva	0	0	0	0	5	26	15	15
Orthocladiinae - larva	2	7	5	3	2	2	2	0
Tanypodinae - larva	0	0	0	0	0	0	0	0
Tipulidae - larva	0	0	0	0	0	0	0	0
Total Insecta	**2**	**7**	**5**	**3**	**7**	**29**	**18**	**15**
Total Invertebrates	**12**	**10**	**11**	**2**	**88**	**114**	**101**	**19**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table A3-3. Continued.

Area	3: Kahpowinik Bay							
Zone	4							
Site	1							
Subsample	A	B	Mean	SD	A	B	Mean	SD
Mesh Size (µm)	400				500			
Annelida								
Oligochaeta	0	0	0	0	0	0	0	0
Hirudinea	0	0	0	0	0	0	0	0
Total Annelida	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Crustacea								
Ostracoda	0	0	0	0	0	0	0	0
Amphipoda - unidentified	0	0	0	0	0	0	0	0
Gammaridae	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0
Talitridae	0	0	0	0	0	0	0	0
Diplostraca[1]	0	0	0	0	0	0	0	0
Total Crustacea	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Arachnida								
Acarina	0	0	0	0	0	0	0	0
Mollusca								
Bivalvia								
Pisidiidae	0	0	0	0	0	0	0	0
Gastropoda - unidentified	0	0	0	0	0	0	0	0
Hydrobiidae	0	0	0	0	0	0	0	0
Lymnaeidae	0	0	0	0	0	0	0	0
Physidae	0	0	0	0	0	0	0	0
Planorbidae	0	0	0	0	0	0	0	0
Valvatidae	0	0	0	0	0	0	0	0
Total Mollusca	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Hydrozoa	0	0	0	0	0	0	0	0
Insecta								
Odonata								
Anisoptera								
Aeshnidae - larva	0	0	0	0	0	0	0	0
Coleoptera								
Chrysomelidae - larva	0	0	0	0	0	0	0	0
Curculionidae - larva	0	0	0	0	0	0	0	0
Curculionidae - adult	0	0	0	0	0	0	0	0
Dytiscidae - larva	0	0	0	0	0	0	0	0
Gyrinidae - larva	0	0	0	0	0	0	0	0
Haliplidae - larva	0	0	0	0	0	0	0	0
Hemiptera	0	0	0	0	0	0	0	0
Corixidae - larva	0	0	0	0	0	0	0	0
Corixidae - adult	0	0	0	0	0	0	0	0
Gerridae - adult	0	0	0	0	0	0	0	0
Ephemeroptera - unidentified larva	0	0	0	0	0	0	0	0
Baetidae - larva	0	0	0	0	0	0	0	0
Caenidae - larva	0	0	0	0	0	0	0	0
Siphlonuridae - larva	0	0	0	0	0	0	0	0
Trichoptera - unidentified	0	0	0	0	0	0	0	0
Brachycentridae - larva	0	0	0	0	0	0	0	0
Hydropsychidae - larva	0	0	0	0	0	0	0	0
Lepidostomatidae - larva	0	0	0	0	0	0	0	0
Diptera - unidentified pupa	0	0	0	0	0	0	0	0
Ceratopogonidae - larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified pupa	0	0	0	0	0	0	0	0
Chironominae - larva	0	0	0	0	0	0	0	0
Orthocladiinae - larva	0	0	0	0	0	0	0	0
Tanypodinae - larva	0	0	0	0	0	0	0	0
Tipulidae - larva	0	0	0	0	0	0	0	0
Total Insecta	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total Invertebrates	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table A3-3. Continued.

Area	3: Kahpowinik Bay							
Zone	4							
Site	2							
Subsample	A	B	Mean	SD	A	B	Mean	SD
Mesh Size (µm)	400				500			
Annelida								
Oligochaeta	0	0	0	0	0	0	0	0
Hirudinea	0	0	0	0	0	0	0	0
Total Annelida	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Crustacea								
Ostracoda	0	0	0	0	0	0	0	0
Amphipoda - unidentified	0	0	0	0	0	0	0	0
Gammaridae	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0
Talitridae	0	0	0	0	0	0	0	0
Diplostraca[1]	0	0	0	0	0	0	0	0
Total Crustacea	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Arachnida								
Acarina	0	0	0	0	0	0	0	0
Mollusca								
Bivalvia								
Pisidiidae	0	0	0	0	0	0	0	0
Gastropoda - unidentified	0	0	0	0	0	0	0	0
Hydrobiidae	0	0	0	0	0	0	0	0
Lymnaeidae	0	0	0	0	0	0	0	0
Physidae	0	0	0	0	0	0	0	0
Planorbidae	0	0	0	0	0	0	0	0
Valvatidae	0	0	0	0	0	0	0	0
Total Mollusca	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Hydrozoa	0	0	0	0	0	0	0	0
Insecta								
Odonata								
Anisoptera								
Aeshnidae - larva	0	0	0	0	0	0	0	0
Coleoptera								
Chrysomelidae - larva	0	0	0	0	0	0	0	0
Curculionidae - larva	0	0	0	0	0	0	0	0
Curculionidae - adult	0	0	0	0	0	0	0	0
Dytiscidae - larva	0	0	0	0	0	0	0	0
Gyrinidae - larva	0	0	0	0	0	0	0	0
Haliplidae - larva	0	0	0	0	0	0	0	0
Hemiptera	0	0	0	0	0	0	0	0
Corixidae - larva	0	0	0	0	0	0	0	0
Corixidae - adult	0	0	0	0	0	0	0	0
Gerridae - adult	0	0	0	0	0	0	0	0
Ephemeroptera - unidentified larva	0	0	0	0	0	0	0	0
Baetidae - larva	0	0	0	0	0	0	0	0
Caenidae - larva	0	0	0	0	0	0	0	0
Siphlonuridae - larva	0	0	0	0	0	0	0	0
Trichoptera - unidentified	0	0	0	0	0	0	0	0
Brachycentridae - larva	0	0	0	0	0	0	0	0
Hydropsychidae - larva	0	0	0	0	0	0	0	0
Lepidostomatidae - larva	0	0	0	0	0	0	0	0
Diptera - unidentified pupa	0	0	0	0	0	0	0	0
Ceratopogonidae - larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified pupa	0	0	0	0	0	0	0	0
Chironominae - larva	0	0	0	0	0	0	0	0
Orthocladiinae - larva	0	0	0	0	0	0	0	0
Tanypodinae - larva	0	0	0	0	0	0	0	0
Tipulidae - larva	0	0	0	0	0	0	0	0
Total Insecta	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total Invertebrates	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table A3-4. Abundance (individuals/m²), +/- one standard deviation (SD), of epiphytic invertebrates collected in association with macrophyte sampling in Area 4: Tub Bay, summer 2004. Individual abundances may not add up to totals due to rounding.

Area	**4: Tub Bay**							
Zone	**1**							
Site	**1**							
Subsample	**A**	**B**	**Mean**	**SD**	**A**	**B**	**Mean**	**SD**
Mesh Size (µm)	**400**				**500**			
Annelida								
Oligochaeta	0	7	4	5	0	0	0	0
Hirudinea	0	0	0	0	0	0	0	0
Total Annelida	**0**	**7**	**4**	**5**	**0**	**0**	**0**	**0**
Crustacea								
Ostracoda	0	0	0	0	0	0	0	0
Amphipoda - unidentified	0	0	0	0	0	0	0	0
Gammaridae	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0
Talitridae	0	0	0	0	0	0	0	0
Diplostraca[1]	0	0	0	0	0	0	0	0
Total Crustacea	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Arachnida								
Acarina	0	0	0	0	0	0	0	0
Mollusca								
Bivalvia								
Pisidiidae	0	0	0	0	0	0	0	0
Gastropoda - unidentified	0	0	0	0	0	0	0	0
Hydrobiidae	0	0	0	0	0	0	0	0
Lymnaeidae	0	0	0	0	0	5	2	3
Physidae	0	0	0	0	0	0	0	0
Planorbidae	0	2	1	2	0	5	2	3
Valvatidae	0	0	0	0	0	0	0	0
Total Mollusca	**0**	**2**	**1**	**2**	**0**	**10**	**5**	**7**
Hydrozoa	0	0	0	0	0	0	0	0
Insecta								
Odonata								
Anisoptera								
Aeshnidae - larva	0	0	0	0	0	0	0	0
Coleoptera								
Chrysomelidae - larva	0	0	0	0	0	0	0	0
Curculionidae - larva	0	0	0	0	0	0	0	0
Curculionidae - adult	0	0	0	0	0	0	0	0
Dytiscidae - larva	0	0	0	0	0	0	0	0
Gyrinidae - larva	0	0	0	0	0	0	0	0
Haliplidae - larva	0	0	0	0	0	0	0	0
Hemiptera	0	0	0	0	0	0	0	0
Corixidae - larva	0	0	0	0	0	0	0	0
Corixidae - adult	0	0	0	0	0	0	0	0
Gerridae - adult	0	0	0	0	0	0	0	0
Ephemeroptera - unidentified larva	0	0	0	0	0	0	0	0
Baetidae - larva	0	0	0	0	0	0	0	0
Caenidae - larva	0	0	0	0	0	0	0	0
Siphlonuridae - larva	0	0	0	0	0	0	0	0
Trichoptera - unidentified	0	0	0	0	0	0	0	0
Brachycentridae - larva	0	0	0	0	0	0	0	0
Hydropsychidae - larva	0	0	0	0	0	0	0	0
Lepidostomatidae - larva	0	0	0	0	0	0	0	0
Diptera - unidentified pupa	0	0	0	0	0	0	0	0
Ceratopogonidae - larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified pupa	0	0	0	0	0	0	0	0
Chironominae - larva	0	5	2	3	0	7	4	5
Orthocladiinae - larva	0	10	5	7	0	2	1	2
Tanypodinae - larva	0	0	0	0	0	0	0	0
Tipulidae - larva	0	0	0	0	0	0	0	0
Total Insecta	**0**	**14**	**7**	**10**	**0**	**10**	**5**	**7**
Total Invertebrates	**0**	**24**	**12**	**17**	**0**	**19**	**10**	**13**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table A3-4. Continued.

Area	4: Tub Bay							
Zone	1							
Site	2							
Subsample	A	B	Mean	SD	A	B	Mean	SD
Mesh Size (µm)	400				500			
Annelida								
Oligochaeta	33	0	17	24	62	0	31	44
Hirudinea	0	0	0	0	0	0	0	0
Total Annelida	**33**	**0**	**17**	**24**	**62**	**0**	**31**	**44**
Crustacea								
Ostracoda	0	0	0	0	0	0	0	0
Amphipoda - unidentified	0	0	0	0	0	0	0	0
Gammaridae	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0
Talitridae	0	0	0	0	0	0	0	0
Diplostraca[1]	0	0	0	0	0	0	0	0
Total Crustacea	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Arachnida								
Acarina	0	0	0	0	0	0	0	0
Mollusca								
Bivalvia								
Pisidiidae	0	0	0	0	0	0	0	0
Gastropoda - unidentified	0	0	0	0	0	0	0	0
Hydrobiidae	0	0	0	0	0	0	0	0
Lymnaeidae	0	0	0	0	7	0	4	5
Physidae	0	0	0	0	0	0	0	0
Planorbidae	0	0	0	0	10	0	5	7
Valvatidae	0	0	0	0	2	0	1	2
Total Mollusca	**0**	**0**	**0**	**0**	**19**	**0**	**10**	**13**
Hydrozoa	0	0	0	0	0	0	0	0
Insecta								
Odonata								
Anisoptera								
Aeshnidae - larva	0	0	0	0	0	0	0	0
Coleoptera								
Chrysomelidae - larva	0	0	0	0	0	0	0	0
Curculionidae - larva	0	0	0	0	0	0	0	0
Curculionidae - adult	0	0	0	0	0	0	0	0
Dytiscidae - larva	0	0	0	0	0	0	0	0
Gyrinidae - larva	0	0	0	0	5	0	2	3
Haliplidae - larva	0	0	0	0	0	0	0	0
Hemiptera	0	0	0	0	0	0	0	0
Corixidae - larva	0	0	0	0	12	0	6	8
Corixidae - adult	0	0	0	0	0	0	0	0
Gerridae - adult	0	0	0	0	0	0	0	0
Ephemeroptera - unidentified larva	0	0	0	0	0	0	0	0
Baetidae - larva	0	0	0	0	5	0	2	3
Caenidae - larva	0	0	0	0	0	0	0	0
Siphlonuridae - larva	0	0	0	0	0	0	0	0
Trichoptera - unidentified	0	0	0	0	0	0	0	0
Brachycentridae - larva	0	0	0	0	0	0	0	0
Hydropsychidae - larva	0	0	0	0	0	0	0	0
Lepidostomatidae - larva	0	0	0	0	0	0	0	0
Diptera - unidentified pupa	0	0	0	0	0	0	0	0
Ceratopogonidae - larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified pupa	0	0	0	0	5	0	2	3
Chironominae - larva	26	0	13	19	157	0	79	111
Orthocladiinae - larva	145	0	73	103	221	0	111	157
Tanypodinae - larva	0	0	0	0	2	0	1	2
Tipulidae - larva	0	0	0	0	0	0	0	0
Total Insecta	**171**	**0**	**86**	**121**	**407**	**0**	**204**	**288**
Total Invertebrates	**205**	**0**	**102**	**145**	**488**	**0**	**244**	**345**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table A3-4. Continued.

Area	4: Tub Bay							
Zone	2							
Site	1							
Subsample	A	B	Mean	SD	A	B	Mean	SD
Mesh Size (µm)	400				500			
Annelida								
Oligochaeta	0	0	0	0	0	0	0	0
Hirudinea	0	0	0	0	0	0	0	0
Total Annelida	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Crustacea								
Ostracoda	0	0	0	0	0	0	0	0
Amphipoda - unidentified	0	0	0	0	0	0	0	0
Gammaridae	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0
Talitridae	0	0	0	0	0	0	0	0
Diplostraca[1]	0	0	0	0	0	0	0	0
Total Crustacea	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Arachnida								
Acarina	0	0	0	0	0	0	0	0
Mollusca								
Bivalvia								
Pisidiidae	0	0	0	0	0	0	0	0
Gastropoda - unidentified	0	0	0	0	0	0	0	0
Hydrobiidae	0	0	0	0	0	0	0	0
Lymnaeidae	0	0	0	0	0	0	0	0
Physidae	0	0	0	0	0	0	0	0
Planorbidae	0	0	0	0	0	0	0	0
Valvatidae	0	0	0	0	0	0	0	0
Total Mollusca	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Hydrozoa	0	0	0	0	0	0	0	0
Insecta								
Odonata								
Anisoptera								
Aeshnidae - larva	0	0	0	0	0	0	0	0
Coleoptera								
Chrysomelidae - larva	0	0	0	0	0	0	0	0
Curculionidae - larva	0	0	0	0	0	0	0	0
Curculionidae - adult	0	0	0	0	0	0	0	0
Dytiscidae - larva	0	0	0	0	0	0	0	0
Gyrinidae - larva	0	0	0	0	0	0	0	0
Haliplidae - larva	0	0	0	0	0	0	0	0
Hemiptera	0	0	0	0	0	0	0	0
Corixidae - larva	0	0	0	0	0	0	0	0
Corixidae - adult	0	0	0	0	0	0	0	0
Gerridae - adult	0	0	0	0	0	0	0	0
Ephemeroptera - unidentified larva	0	0	0	0	0	0	0	0
Baetidae - larva	0	0	0	0	0	0	0	0
Caenidae - larva	0	0	0	0	0	0	0	0
Siphlonuridae - larva	0	0	0	0	0	0	0	0
Trichoptera - unidentified	0	0	0	0	0	0	0	0
Brachycentridae - larva	0	0	0	0	0	0	0	0
Hydropsychidae - larva	0	0	0	0	0	0	0	0
Lepidostomatidae - larva	0	0	0	0	0	0	0	0
Diptera - unidentified pupa	0	0	0	0	0	0	0	0
Ceratopogonidae - larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified pupa	0	0	0	0	0	0	0	0
Chironominae - larva	0	0	0	0	0	0	0	0
Orthocladiinae - larva	0	0	0	0	0	0	0	0
Tanypodinae - larva	0	0	0	0	0	0	0	0
Tipulidae - larva	0	0	0	0	0	0	0	0
Total Insecta	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total Invertebrates	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table A3-4. Continued.

Area	4: Tub Bay							
Zone	2							
Site	2							
Subsample	A	B	Mean	SD	A	B	Mean	SD
Mesh Size (µm)	400				500			
Annelida								
Oligochaeta	62	17	39	32	57	26	42	22
Hirudinea	0	0	0	0	5	0	2	3
Total Annelida	**62**	**17**	**39**	**32**	**62**	**26**	**44**	**25**
Crustacea								
Ostracoda	0	0	0	0	0	0	0	0
Amphipoda - unidentified	0	0	0	0	0	0	0	0
Gammaridae	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0
Talitridae	0	0	0	0	5	0	2	3
Diplostraca[1]	0	0	0	0	0	0	0	0
Total Crustacea	**0**	**0**	**0**	**0**	**5**	**0**	**2**	**3**
Arachnida								
Acarina	0	0	0	0	0	0	0	0
Mollusca								
Bivalvia								
Pisidiidae	0	0	0	0	0	0	0	0
Gastropoda - unidentified	0	0	0	0	0	0	0	0
Hydrobiidae	0	0	0	0	0	0	0	0
Lymnaeidae	0	0	0	0	17	2	10	10
Physidae	0	0	0	0	7	0	4	5
Planorbidae	0	0	0	0	21	2	12	13
Valvatidae	0	0	0	0	2	2	2	0
Total Mollusca	**0**	**0**	**0**	**0**	**48**	**7**	**27**	**29**
Hydrozoa	0	0	0	0	0	0	0	0
Insecta								
Odonata								
Anisoptera								
Aeshnidae - larva	0	0	0	0	0	0	0	0
Coleoptera								
Chrysomelidae - larva	0	0	0	0	0	0	0	0
Curculionidae - larva	0	0	0	0	0	0	0	0
Curculionidae - adult	0	0	0	0	0	0	0	0
Dytiscidae - larva	0	0	0	0	0	0	0	0
Gyrinidae - larva	0	0	0	0	7	0	4	5
Haliplidae - larva	0	0	0	0	0	0	0	0
Hemiptera	0	0	0	0	0	0	0	0
Corixidae - larva	0	2	1	2	21	0	11	15
Corixidae - adult	0	0	0	0	0	0	0	0
Gerridae - adult	0	0	0	0	0	0	0	0
Ephemeroptera - unidentified larva	0	0	0	0	0	0	0	0
Baetidae - larva	0	0	0	0	2	0	1	2
Caenidae - larva	0	0	0	0	0	0	0	0
Siphlonuridae - larva	0	0	0	0	0	0	0	0
Trichoptera - unidentified	0	0	0	0	0	0	0	0
Brachycentridae - larva	0	0	0	0	0	0	0	0
Hydropsychidae - larva	0	0	0	0	2	0	1	2
Lepidostomatidae - larva	0	0	0	0	0	0	0	0
Diptera - unidentified pupa	0	0	0	0	0	0	0	0
Ceratopogonidae - larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified larva	0	0	0	0	2	0	1	2
Chironomidae - unidentified pupa	0	0	0	0	2	2	2	0
Chironominae - larva	2	5	4	2	43	2	23	29
Orthocladiinae - larva	264	62	163	143	288	43	165	173
Tanypodinae - larva	0	0	0	0	2	0	1	2
Tipulidae - larva	0	0	0	0	0	0	0	0
Total Insecta	**267**	**69**	**168**	**140**	**371**	**48**	**210**	**229**
Total Invertebrates	**329**	**86**	**207**	**172**	**486**	**81**	**283**	**286**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table A3-4. Continued.

Area	4: Tub Bay						
Zone	3					4[2]	
Site	1[2]	2				1	2
Subsample		A[2]	B	A[2]	B		
Mesh Size (µm)		400		500			
Annelida							
Oligochaeta	t.d.	t.d.	0	t.d.	0	t.d.	t.d.
Hirudinea	t.d.	t.d.	0	t.d.	0	t.d.	t.d.
Total Annelida	**t.d.**	**t.d.**	**0**	**t.d.**	**0**	**t.d.**	**t.d.**
Crustacea							
Ostracoda	t.d.	t.d.	0	t.d.	0	t.d.	t.d.
Amphipoda - unidentified	t.d.	t.d.	0	t.d.	0	t.d.	t.d.
Gammaridae	t.d.	t.d.	0	t.d.	0	t.d.	t.d.
Haustoriidae	t.d.	t.d.	0	t.d.	0	t.d.	t.d.
Talitridae	t.d.	t.d.	0	t.d.	0	t.d.	t.d.
Diplostraca[1]	t.d.	t.d.	0	t.d.	0	t.d.	t.d.
Total Crustacea	**t.d.**	**t.d.**	**0**	**t.d.**	**0**	**t.d.**	**t.d.**
Arachnida							
Acarina	t.d.	t.d.	0	t.d.	0	t.d.	t.d.
Mollusca							
Bivalvia							
Pisidiidae	t.d.	t.d.	0	t.d.	0	t.d.	t.d.
Gastropoda - unidentified	t.d.	t.d.	0	t.d.	0	t.d.	t.d.
Hydrobiidae	t.d.	t.d.	0	t.d.	0	t.d.	t.d.
Lymnaeidae	t.d.	t.d.	0	t.d.	0	t.d.	t.d.
Physidae	t.d.	t.d.	0	t.d.	0	t.d.	t.d.
Planorbidae	t.d.	t.d.	0	t.d.	0	t.d.	t.d.
Valvatidae	t.d.	t.d.	0	t.d.	0	t.d.	t.d.
Total Mollusca	**t.d.**	**t.d.**	**0**	**t.d.**	**0**	**t.d.**	**t.d.**
Hydrozoa	t.d.	t.d.	0	t.d.	0	t.d.	t.d.
Insecta							
Odonata							
Anisoptera							
Aeshnidae - larva	t.d.	t.d.	0	t.d.	0	t.d.	t.d.
Coleoptera							
Chrysomelidae - larva	t.d.	t.d.	0	t.d.	0	t.d.	t.d.
Curculionidae - larva	t.d.	t.d.	0	t.d.	0	t.d.	t.d.
Curculionidae - adult	t.d.	t.d.	0	t.d.	0	t.d.	t.d.
Dytiscidae - larva	t.d.	t.d.	0	t.d.	0	t.d.	t.d.
Gyrinidae - larva	t.d.	t.d.	0	t.d.	0	t.d.	t.d.
Haliplidae - larva	t.d.	t.d.	0	t.d.	0	t.d.	t.d.
Hemiptera	t.d.	t.d.	0	t.d.	0	t.d.	t.d.
Corixidae - larva	t.d.	t.d.	0	t.d.	0	t.d.	t.d.
Corixidae - adult	t.d.	t.d.	0	t.d.	0	t.d.	t.d.
Gerridae - adult	t.d.	t.d.	0	t.d.	0	t.d.	t.d.
Ephemeroptera - unidentified larva	t.d.	t.d.	0	t.d.	0	t.d.	t.d.
Baetidae - larva	t.d.	t.d.	0	t.d.	0	t.d.	t.d.
Caenidae - larva	t.d.	t.d.	0	t.d.	0	t.d.	t.d.
Siphlonuridae - larva	t.d.	t.d.	0	t.d.	0	t.d.	t.d.
Trichoptera - unidentified	t.d.	t.d.	0	t.d.	0	t.d.	t.d.
Brachycentridae - larva	t.d.	t.d.	0	t.d.	0	t.d.	t.d.
Hydropsychidae - larva	t.d.	t.d.	0	t.d.	0	t.d.	t.d.
Lepidostomatidae - larva	t.d.	t.d.	0	t.d.	0	t.d.	t.d.
Diptera - unidentified pupa	t.d.	t.d.	0	t.d.	0	t.d.	t.d.
Ceratopogonidae - larva	t.d.	t.d.	0	t.d.	0	t.d.	t.d.
Chironomidae - unidentified larva	t.d.	t.d.	0	t.d.	0	t.d.	t.d.
Chironomidae - unidentified pupa	t.d.	t.d.	0	t.d.	0	t.d.	t.d.
Chironominae - larva	t.d.	t.d.	0	t.d.	0	t.d.	t.d.
Orthocladiinae - larva	t.d.	t.d.	0	t.d.	0	t.d.	t.d.
Tanypodinae - larva	t.d.	t.d.	0	t.d.	0	t.d.	t.d.
Tipulidae - larva	t.d.	t.d.	0	t.d.	0	t.d.	t.d.
Total Insecta	**t.d.**	**t.d.**	**0**	**t.d.**	**0**	**t.d.**	**t.d.**
Total Invertebrates	**t.d.**	**t.d.**	**0**	**t.d.**	**0**	**t.d.**	**t.d.**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

[2] t.d. = too deep for sampler.

Table A3-5. Abundance (individuals/m²), +/- one standard deviation (SD), of epiphytic invertebrates collected in association with macrophyte sampling in Area 5: Caribou Island, summer 2004. Individual abundances may not add up to totals due to rounding.

Area	**5: Caribou Island**							
Zone	**East**							
Site	**1**							
Subsample	**A**	**B**	**Mean**	**SD**	**A**	**B**	**Mean**	**SD**
Mesh Size (µm)	**400**				**500**			
Annelida								
Oligochaeta	19	38	29	13	21	43	32	15
Hirudinea	0	0	0	0	0	0	0	0
Total Annelida	**19**	**38**	**29**	**13**	**21**	**43**	**32**	**15**
Crustacea								
Ostracoda	0	2	1	2	2	0	1	2
Amphipoda - unidentified	0	0	0	0	0	0	0	0
Gammaridae	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0
Talitridae	0	0	0	0	0	0	0	0
Diplostraca[1]	0	0	0	0	0	0	0	0
Total Crustacea	**0**	**2**	**1**	**2**	**2**	**0**	**1**	**2**
Arachnida								
Acarina	0	0	0	0	0	0	0	0
Mollusca								
Bivalvia								
Pisidiidae	0	0	0	0	0	0	0	0
Gastropoda - unidentified	0	0	0	0	0	0	0	0
Hydrobiidae	0	0	0	0	0	0	0	0
Lymnaeidae	0	0	0	0	31	19	25	8
Physidae	0	0	0	0	0	0	0	0
Planorbidae	5	7	6	2	83	43	63	29
Valvatidae	0	0	0	0	26	12	19	10
Total Mollusca	**5**	**7**	**6**	**2**	**140**	**74**	**107**	**47**
Hydrozoa	0	0	0	0	2	2	2	0
Insecta								
Odonata								
Anisoptera								
Aeshnidae - larva	0	0	0	0	0	0	0	0
Coleoptera								
Chrysomelidae - larva	0	0	0	0	0	0	0	0
Curculionidae - larva	0	0	0	0	0	0	0	0
Curculionidae - adult	0	0	0	0	0	0	0	0
Dytiscidae - larva	0	0	0	0	0	0	0	0
Gyrinidae - larva	0	0	0	0	2	0	1	2
Haliplidae - larva	0	0	0	0	0	0	0	0
Hemiptera	0	0	0	0	0	0	0	0
Corixidae - larva	0	0	0	0	0	7	4	5
Corixidae - adult	0	0	0	0	0	0	0	0
Gerridae - adult	0	0	0	0	0	0	0	0
Ephemeroptera - unidentified larva	0	0	0	0	0	0	0	0
Baetidae - larva	0	0	0	0	5	0	2	3
Caenidae - larva	0	0	0	0	0	0	0	0
Siphlonuridae - larva	0	0	0	0	0	0	0	0
Trichoptera - unidentified	0	0	0	0	0	0	0	0
Brachycentridae - larva	0	0	0	0	0	0	0	0
Hydropsychidae - larva	0	0	0	0	0	0	0	0
Lepidostomatidae - larva	0	0	0	0	0	0	0	0
Diptera - unidentified pupa	0	0	0	0	0	0	0	0
Ceratopogonidae - larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified larva	2	2	2	0	0	0	0	0
Chironomidae - unidentified pupa	0	0	0	0	0	0	0	0
Chironominae - larva	0	7	4	5	7	17	12	7
Orthocladiinae - larva	5	19	12	10	12	29	20	12
Tanypodinae - larva	0	0	0	0	5	0	2	3
Tipulidae - larva	0	0	0	0	0	0	0	0
Total Insecta	**7**	**29**	**18**	**15**	**31**	**52**	**42**	**15**
Total Invertebrates	**31**	**76**	**54**	**32**	**198**	**171**	**185**	**19**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table A3-5. Continued.

Area	5: Caribou Island							
Zone	East							
Site	2							
Subsample	A	B	Mean	SD	A	B	Mean	SD
Mesh Size (µm)	400				500			
Annelida								
Oligochaeta	21	10	15	8	48	202	125	109
Hirudinea	0	0	0	0	2	0	1	2
Total Annelida	**21**	**10**	**15**	**8**	**50**	**202**	**126**	**108**
Crustacea								
Ostracoda	0	0	0	0	0	0	0	0
Amphipoda - unidentified	0	0	0	0	0	0	0	0
Gammaridae	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0
Talitridae	0	0	0	0	0	0	0	0
Diplostraca[1]	0	0	0	0	0	0	0	0
Total Crustacea	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Arachnida								
Acarina	0	0	0	0	0	0	0	0
Mollusca								
Bivalvia								
Pisidiidae	0	0	0	0	0	0	0	0
Gastropoda - unidentified	0	5	2	3	0	17	8	12
Hydrobiidae	0	0	0	0	0	0	0	0
Lymnaeidae	0	2	1	2	210	138	174	51
Physidae	0	0	0	0	0	0	0	0
Planorbidae	0	0	0	0	264	102	183	114
Valvatidae	0	0	0	0	317	38	177	197
Total Mollusca	**0**	**7**	**4**	**5**	**790**	**295**	**543**	**350**
Hydrozoa	0	0	0	0	0	0	0	0
Insecta								
Odonata								
Anisoptera								
Aeshnidae - larva	0	0	0	0	0	0	0	0
Coleoptera								
Chrysomelidae - larva	0	0	0	0	0	0	0	0
Curculionidae - larva	0	0	0	0	0	0	0	0
Curculionidae - adult	0	0	0	0	0	0	0	0
Dytiscidae - larva	0	0	0	0	0	0	0	0
Gyrinidae - larva	0	0	0	0	0	2	1	2
Haliplidae - larva	0	0	0	0	0	0	0	0
Hemiptera	0	0	0	0	0	0	0	0
Corixidae - larva	0	0	0	0	0	2	1	2
Corixidae - adult	0	0	0	0	0	0	0	0
Gerridae - adult	0	0	0	0	0	0	0	0
Ephemeroptera - unidentified larva	0	0	0	0	0	0	0	0
Baetidae - larva	0	0	0	0	2	0	1	2
Caenidae - larva	0	0	0	0	0	0	0	0
Siphlonuridae - larva	0	0	0	0	0	0	0	0
Trichoptera - unidentified	0	0	0	0	0	0	0	0
Brachycentridae - larva	0	0	0	0	0	0	0	0
Hydropsychidae - larva	0	0	0	0	0	0	0	0
Lepidostomatidae - larva	0	0	0	0	0	0	0	0
Diptera - unidentified pupa	0	0	0	0	0	0	0	0
Ceratopogonidae - larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified larva	0	2	1	2	10	0	5	7
Chironomidae - unidentified pupa	0	0	0	0	10	0	5	7
Chironominae - larva	5	14	10	7	43	17	30	19
Orthocladiinae - larva	33	33	33	0	217	131	174	61
Tanypodinae - larva	2	0	1	2	5	0	2	3
Tipulidae - larva	0	0	0	0	0	0	0	0
Total Insecta	**40**	**50**	**45**	**7**	**286**	**152**	**219**	**94**
Total Invertebrates	**62**	**67**	**64**	**3**	**1126**	**650**	**888**	**337**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table A3-5. Continued.

Area	5: Caribou Island							
Zone	East							
Site	3							
Subsample	A	B	Mean	SD	A	B	Mean	SD
Mesh Size (µm)	400				500			
Annelida								
Oligochaeta	14	12	13	2	88	5	46	59
Hirudinea	0	0	0	0	0	0	0	0
Total Annelida	**14**	**12**	**13**	**2**	**88**	**5**	**46**	**59**
Crustacea								
Ostracoda	0	0	0	0	0	0	0	0
Amphipoda - unidentified	0	0	0	0	0	0	0	0
Gammaridae	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0
Talitridae	0	0	0	0	2	0	1	2
Diplostraca[1]	0	0	0	0	0	0	0	0
Total Crustacea	**0**	**0**	**0**	**0**	**2**	**0**	**1**	**2**
Arachnida								
Acarina	0	0	0	0	0	0	0	0
Mollusca								
Bivalvia								
Pisidiidae	0	0	0	0	0	0	0	0
Gastropoda - unidentified	0	0	0	0	0	0	0	0
Hydrobiidae	0	0	0	0	5	0	2	3
Lymnaeidae	0	0	0	0	10	0	5	7
Physidae	0	0	0	0	0	0	0	0
Planorbidae	0	0	0	0	19	10	14	7
Valvatidae	0	0	0	0	12	5	8	5
Total Mollusca	**0**	**0**	**0**	**0**	**45**	**14**	**30**	**22**
Hydrozoa	0	0	0	0	0	0	0	0
Insecta								
Odonata								
Anisoptera								
Aeshnidae - larva	0	0	0	0	0	0	0	0
Coleoptera								
Chrysomelidae - larva	0	0	0	0	0	0	0	0
Curculionidae - larva	0	0	0	0	0	0	0	0
Curculionidae - adult	0	0	0	0	0	0	0	0
Dytiscidae - larva	0	0	0	0	0	0	0	0
Gyrinidae - larva	0	0	0	0	7	0	4	5
Haliplidae - larva	0	0	0	0	0	0	0	0
Hemiptera	0	0	0	0	0	0	0	0
Corixidae - larva	0	0	0	0	0	0	0	0
Corixidae - adult	0	0	0	0	0	0	0	0
Gerridae - adult	0	0	0	0	0	0	0	0
Ephemeroptera - unidentified larva	0	0	0	0	0	0	0	0
Baetidae - larva	0	0	0	0	7	5	6	2
Caenidae - larva	0	0	0	0	0	0	0	0
Siphlonuridae - larva	0	0	0	0	0	0	0	0
Trichoptera - unidentified	0	0	0	0	0	0	0	0
Brachycentridae - larva	0	0	0	0	0	0	0	0
Hydropsychidae - larva	0	0	0	0	0	0	0	0
Lepidostomatidae - larva	0	0	0	0	0	0	0	0
Diptera - unidentified pupa	0	0	0	0	0	0	0	0
Ceratopogonidae - larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified larva	0	0	0	0	7	2	5	3
Chironomidae - unidentified pupa	0	0	0	0	5	2	4	2
Chironominae - larva	14	17	15	2	102	29	65	52
Orthocladiinae - larva	69	33	51	25	114	26	70	62
Tanypodinae - larva	0	0	0	0	0	2	1	2
Tipulidae - larva	0	0	0	0	0	0	0	0
Total Insecta	**83**	**50**	**67**	**24**	**243**	**67**	**155**	**125**
Total Invertebrates	**98**	**62**	**80**	**25**	**379**	**86**	**232**	**207**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table A3-5. Continued.

Area	5: Caribou Island							
Zone	West							
Site	1							
Subsample	A	B	Mean	SD	A	B	Mean	SD
Mesh Size (µm)	400				500			
Annelida								
Oligochaeta	5	14	10	7	5	43	24	27
Hirudinea	0	0	0	0	0	0	0	0
Total Annelida	**5**	**14**	**10**	**7**	**5**	**43**	**24**	**27**
Crustacea								
Ostracoda	0	0	0	0	0	0	0	0
Amphipoda - unidentified	0	0	0	0	0	0	0	0
Gammaridae	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0
Talitridae	0	0	0	0	0	0	0	0
Diplostraca[1]	0	0	0	0	0	0	0	0
Total Crustacea	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Arachnida								
Acarina	0	0	0	0	0	0	0	0
Mollusca								
Bivalvia								
Pisidiidae	0	0	0	0	0	0	0	0
Gastropoda - unidentified	0	0	0	0	0	0	0	0
Hydrobiidae	0	0	0	0	0	0	0	0
Lymnaeidae	0	2	1	2	5	2	4	2
Physidae	0	0	0	0	0	0	0	0
Planorbidae	5	0	2	3	12	21	17	7
Valvatidae	0	0	0	0	0	0	0	0
Total Mollusca	**5**	**2**	**4**	**2**	**17**	**24**	**20**	**5**
Hydrozoa	0	5	2	3	0	14	7	10
Insecta								
Odonata								
Anisoptera								
Aeshnidae - larva	0	0	0	0	0	0	0	0
Coleoptera								
Chrysomelidae - larva	0	0	0	0	0	0	0	0
Curculionidae - larva	0	0	0	0	0	0	0	0
Curculionidae - adult	0	0	0	0	0	0	0	0
Dytiscidae - larva	0	0	0	0	0	0	0	0
Gyrinidae - larva	0	0	0	0	0	0	0	0
Haliplidae - larva	0	0	0	0	0	0	0	0
Hemiptera	0	0	0	0	0	0	0	0
Corixidae - larva	0	0	0	0	0	0	0	0
Corixidae - adult	0	0	0	0	0	0	0	0
Gerridae - adult	0	0	0	0	0	0	0	0
Ephemeroptera - unidentified larva	0	0	0	0	0	2	1	2
Baetidae - larva	0	0	0	0	0	0	0	0
Caenidae - larva	0	0	0	0	0	0	0	0
Siphlonuridae - larva	0	0	0	0	0	0	0	0
Trichoptera - unidentified	0	0	0	0	0	0	0	0
Brachycentridae - larva	0	0	0	0	0	0	0	0
Hydropsychidae - larva	0	0	0	0	0	0	0	0
Lepidostomatidae - larva	0	0	0	0	0	0	0	0
Diptera - unidentified pupa	0	0	0	0	0	0	0	0
Ceratopogonidae - larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified pupa	0	0	0	0	0	0	0	0
Chironominae - larva	0	5	2	3	0	0	0	0
Orthocladiinae - larva	10	12	11	2	48	31	39	12
Tanypodinae - larva	0	0	0	0	0	0	0	0
Tipulidae - larva	0	0	0	0	0	0	0	0
Total Insecta	**10**	**17**	**13**	**5**	**48**	**33**	**40**	**10**
Total Invertebrates	**19**	**38**	**29**	**13**	**69**	**114**	**92**	**32**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table A3-5. Continued.

Area	5: Caribou Island							
Zone	West							
Site	2							
Subsample	A	B	Mean	SD	A	B	Mean	SD
Mesh Size (µm)	400				500			
Annelida								
Oligochaeta	26	10	18	12	48	17	32	22
Hirudinea	0	0	0	0	0	0	0	0
Total Annelida	**26**	**10**	**18**	**12**	**48**	**17**	**32**	**22**
Crustacea								
Ostracoda	2	0	1	2	0	0	0	0
Amphipoda - unidentified	0	0	0	0	0	0	0	0
Gammaridae	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0
Talitridae	0	0	0	0	0	0	0	0
Diplostraca[1]	0	0	0	0	0	0	0	0
Total Crustacea	**2**	**0**	**1**	**2**	**0**	**0**	**0**	**0**
Arachnida								
Acarina	0	0	0	0	0	0	0	0
Mollusca								
Bivalvia								
Pisidiidae	0	0	0	0	7	0	4	5
Gastropoda - unidentified	0	0	0	0	0	0	0	0
Hydrobiidae	0	0	0	0	0	0	0	0
Lymnaeidae	0	0	0	0	74	38	56	25
Physidae	0	0	0	0	0	0	0	0
Planorbidae	2	0	1	2	162	81	121	57
Valvatidae	0	0	0	0	21	5	13	12
Total Mollusca	**2**	**0**	**1**	**2**	**264**	**124**	**194**	**99**
Hydrozoa	0	0	0	0	0	0	0	0
Insecta								
Odonata								
Anisoptera								
Aeshnidae - larva	0	0	0	0	0	0	0	0
Coleoptera								
Chrysomelidae - larva	0	0	0	0	0	0	0	0
Curculionidae - larva	0	0	0	0	0	0	0	0
Curculionidae - adult	0	0	0	0	0	0	0	0
Dytiscidae - larva	0	0	0	0	0	0	0	0
Gyrinidae - larva	0	0	0	0	0	0	0	0
Haliplidae - larva	0	0	0	0	0	0	0	0
Hemiptera	0	0	0	0	0	0	0	0
Corixidae - larva	0	0	0	0	2	2	2	0
Corixidae - adult	0	0	0	0	0	2	1	2
Gerridae - adult	0	0	0	0	0	0	0	0
Ephemeroptera - unidentified larva	0	0	0	0	0	0	0	0
Baetidae - larva	0	0	0	0	2	0	1	2
Caenidae - larva	0	0	0	0	0	0	0	0
Siphlonuridae - larva	0	0	0	0	0	0	0	0
Trichoptera - unidentified	0	0	0	0	0	0	0	0
Brachycentridae - larva	0	0	0	0	0	0	0	0
Hydropsychidae - larva	0	0	0	0	0	0	0	0
Lepidostomatidae - larva	0	0	0	0	0	0	0	0
Diptera - unidentified pupa	0	0	0	0	0	0	0	0
Ceratopogonidae - larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified pupa	0	0	0	0	2	0	1	2
Chironominae - larva	17	14	15	2	17	2	10	10
Orthocladiinae - larva	26	24	25	2	19	14	17	3
Tanypodinae - larva	0	0	0	0	2	0	1	2
Tipulidae - larva	0	0	0	0	0	0	0	0
Total Insecta	**43**	**38**	**40**	**3**	**45**	**21**	**33**	**17**
Total Invertebrates	**74**	**48**	**61**	**19**	**357**	**162**	**260**	**138**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table A3-5. Continued.

Area	5: Caribou Island			
Zone	West			
Site	3			
Subsample	A[2]	B	A[2]	B
Mesh Size (µm)	400		500	
Annelida				
Oligochaeta	s.l.	40	s.l.	69
Hirudinea	s.l.	0	s.l.	0
Total Annelida	**s.l.**	**40**	**s.l.**	**69**
Crustacea				
Ostracoda	s.l.	0	s.l.	0
Amphipoda - unidentified	s.l.	0	s.l.	0
Gammaridae	s.l.	0	s.l.	0
Haustoriidae	s.l.	0	s.l.	0
Talitridae	s.l.	0	s.l.	0
Diplostraca[1]	s.l.	0	s.l.	0
Total Crustacea	**s.l.**	**0**	**s.l.**	**0**
Arachnida				
Acarina	s.l.	0	s.l.	0
Mollusca				
Bivalvia				
Pisidiidae	s.l.	0	s.l.	0
Gastropoda - unidentified	s.l.	0	s.l.	7
Hydrobiidae	s.l.	0	s.l.	0
Lymnaeidae	s.l.	7	s.l.	52
Physidae	s.l.	0	s.l.	0
Planorbidae	s.l.	0	s.l.	48
Valvatidae	s.l.	0	s.l.	2
Total Mollusca	**s.l.**	**7**	**s.l.**	**110**
Hydrozoa	s.l.	0	s.l.	0
Insecta				
Odonata				
Anisoptera				
Aeshnidae - larva	s.l.	0	s.l.	0
Coleoptera				
Chrysomelidae - larva	s.l.	0	s.l.	0
Curculionidae - larva	s.l.	0	s.l.	0
Curculionidae - adult	s.l.	0	s.l.	0
Dytiscidae - larva	s.l.	0	s.l.	0
Gyrinidae - larva	s.l.	0	s.l.	0
Haliplidae - larva	s.l.	0	s.l.	0
Hemiptera	s.l.	0	s.l.	0
Corixidae - larva	s.l.	0	s.l.	2
Corixidae - adult	s.l.	2	s.l.	0
Gerridae - adult	s.l.	0	s.l.	0
Ephemeroptera - unidentified larva	s.l.	0	s.l.	5
Baetidae - larva	s.l.	0	s.l.	2
Caenidae - larva	s.l.	0	s.l.	0
Siphlonuridae - larva	s.l.	0	s.l.	0
Trichoptera - unidentified	s.l.	0	s.l.	0
Brachycentridae - larva	s.l.	0	s.l.	0
Hydropsychidae - larva	s.l.	0	s.l.	0
Lepidostomatidae - larva	s.l.	0	s.l.	0
Diptera - unidentified pupa	s.l.	0	s.l.	0
Ceratopogonidae - larva	s.l.	0	s.l.	0
Chironomidae - unidentified larva	s.l.	0	s.l.	0
Chironomidae - unidentified pupa	s.l.	0	s.l.	5
Chironominae - larva	s.l.	5	s.l.	50
Orthocladiinae - larva	s.l.	17	s.l.	21
Tanypodinae - larva	s.l.	0	s.l.	0
Tipulidae - larva	s.l.	0	s.l.	0
Total Insecta	**s.l.**	**24**	**s.l.**	**86**
Total Invertebrates	**s.l.**	**71**	**s.l.**	**264**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca

[2] s.l. = sample lost.

Table A3-6. Abundance (individuals/m²), +/- one standard deviation (SD), of epiphytic invertebrates collected in association with macrophyte sampling in Area 6: John Kitch Bay, summer 2004. Individual abundances may not add up to totals due to rounding.

Area	**6: John Kitch Bay**								
Zone	**East**								
Site	**1**								**2[2]**
Subsample	**A**	**B**	**Mean**	**SD**	**A**	**B**	**Mean**	**SD**	
Mesh Size (µm)	**400**				**500**				
Annelida									
Oligochaeta	0	12	6	8	29	12	20	12	t.d.
Hirudinea	0	0	0	0	0	17	8	12	t.d.
Total Annelida	**0**	**12**	**6**	**8**	**29**	**29**	**29**	**0**	**t.d.**
Crustacea									
Ostracoda	0	0	0	0	0	0	0	0	t.d.
Amphipoda - unidentified	0	0	0	0	0	0	0	0	t.d.
Gammaridae	0	0	0	0	0	0	0	0	t.d.
Haustoriidae	0	0	0	0	0	0	0	0	t.d.
Talitridae	0	0	0	0	0	2	1	2	t.d.
Diplostraca[1]	0	0	0	0	0	0	0	0	t.d.
Total Crustacea	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**2**	**t.d.**
Arachnida									
Acarina	0	0	0	0	0	5	2	3	t.d.
Mollusca									
Bivalvia									
Pisidiidae	0	0	0	0	2	0	1	2	t.d.
Gastropoda - unidentified	0	0	0	0	0	0	0	0	t.d.
Hydrobiidae	10	0	5	7	5	14	10	7	t.d.
Lymnaeidae	0	0	0	0	0	7	4	5	t.d.
Physidae	0	0	0	0	0	0	0	0	t.d.
Planorbidae	0	0	0	0	36	21	29	10	t.d.
Valvatidae	0	0	0	0	0	0	0	0	t.d.
Total Mollusca	**10**	**0**	**5**	**7**	**43**	**43**	**43**	**0**	**t.d.**
Hydrozoa	0	0	0	0	0	0	0	0	t.d.
Insecta									
Odonata									
Anisoptera									
Aeshnidae - larva	0	0	0	0	0	0	0	0	t.d.
Coleoptera									
Chrysomelidae - larva	0	0	0	0	0	0	0	0	t.d.
Curculionidae - larva	0	0	0	0	0	0	0	0	t.d.
Curculionidae - adult	0	0	0	0	0	0	0	0	t.d.
Dytiscidae - larva	0	0	0	0	0	0	0	0	t.d.
Gyrinidae - larva	0	0	0	0	0	0	0	0	t.d.
Haliplidae - larva	0	0	0	0	0	0	0	0	t.d.
Hemiptera	0	0	0	0	0	0	0	0	t.d.
Corixidae - larva	0	0	0	0	19	19	19	0	t.d.
Corixidae - adult	0	0	0	0	0	2	1	2	t.d.
Gerridae - adult	0	0	0	0	0	0	0	0	t.d.
Ephemeroptera - unidentified larva	0	0	0	0	0	0	0	0	t.d.
Baetidae - larva	0	0	0	0	0	0	0	0	t.d.
Caenidae - larva	0	0	0	0	0	0	0	0	t.d.
Siphlonuridae - larva	0	0	0	0	0	0	0	0	t.d.
Trichoptera - unidentified	0	0	0	0	0	0	0	0	t.d.
Brachycentridae - larva	0	0	0	0	2	0	1	2	t.d.
Hydropsychidae - larva	0	0	0	0	0	0	0	0	t.d.
Lepidostomatidae - larva	0	0	0	0	0	0	0	0	t.d.
Diptera - unidentified pupa	0	0	0	0	0	0	0	0	t.d.
Ceratopogonidae - larva	0	0	0	0	0	0	0	0	t.d.
Chironomidae - unidentified larva	0	2	1	2	0	0	0	0	t.d.
Chironomidae - unidentified pupa	0	0	0	0	0	10	5	7	t.d.
Chironominae - larva	0	0	0	0	0	7	4	5	t.d.
Orthocladiinae - larva	0	224	112	158	62	419	240	253	t.d.
Tanypodinae - larva	0	0	0	0	0	0	0	0	t.d.
Tipulidae - larva	0	0	0	0	0	0	0	0	t.d.
Total Insecta	**0**	**226**	**113**	**160**	**83**	**457**	**270**	**264**	**t.d.**
Total Invertebrates	**10**	**238**	**124**	**162**	**155**	**536**	**345**	**269**	**t.d.**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

[2] t.d. = too deep for sampler.

Table A3-6. Continued.

Area	6: John Kitch Bay							
Zone	East							
Site	3							
Subsample	A	B	Mean	SD	A	B	Mean	SD
Mesh Size (µm)	400				500			
Annelida								
Oligochaeta	0	21	11	15	0	43	21	30
Hirudinea	0	0	0	0	0	2	1	2
Total Annelida	**0**	**21**	**11**	**15**	**0**	**45**	**23**	**32**
Crustacea								
Ostracoda	0	0	0	0	0	0	0	0
Amphipoda - unidentified	0	0	0	0	0	0	0	0
Gammaridae	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0
Talitridae	0	2	1	2	0	0	0	0
Diplostraca[1]	0	0	0	0	0	0	0	0
Total Crustacea	**0**	**2**	**1**	**2**	**0**	**0**	**0**	**0**
Arachnida								
Acarina	0	0	0	0	0	0	0	0
Mollusca								
Bivalvia								
Pisidiidae	0	0	0	0	0	0	0	0
Gastropoda - unidentified	0	0	0	0	0	14	7	10
Hydrobiidae	0	0	0	0	0	2	1	2
Lymnaeidae	0	2	1	2	0	0	0	0
Physidae	0	0	0	0	0	7	4	5
Planorbidae	0	0	0	0	0	2	1	2
Valvatidae	0	0	0	0	0	0	0	0
Total Mollusca	**0**	**2**	**1**	**2**	**0**	**26**	**13**	**19**
Hydrozoa	0	0	0	0	0	110	55	77
Insecta								
Odonata								
Anisoptera								
Aeshnidae - larva	0	0	0	0	0	0	0	0
Coleoptera								
Chrysomelidae - larva	0	0	0	0	0	0	0	0
Curculionidae - larva	0	0	0	0	0	0	0	0
Curculionidae - adult	0	0	0	0	0	0	0	0
Dytiscidae - larva	0	0	0	0	0	0	0	0
Gyrinidae - larva	0	0	0	0	0	0	0	0
Haliplidae - larva	0	0	0	0	0	0	0	0
Hemiptera	0	0	0	0	0	0	0	0
Corixidae - larva	0	0	0	0	0	2	1	2
Corixidae - adult	0	0	0	0	0	0	0	0
Gerridae - adult	0	0	0	0	0	0	0	0
Ephemeroptera - unidentified larva	0	0	0	0	0	0	0	0
Baetidae - larva	0	0	0	0	0	0	0	0
Caenidae - larva	0	0	0	0	0	0	0	0
Siphlonuridae - larva	0	0	0	0	0	0	0	0
Trichoptera - unidentified	0	0	0	0	0	0	0	0
Brachycentridae - larva	0	0	0	0	0	0	0	0
Hydropsychidae - larva	0	0	0	0	0	0	0	0
Lepidostomatidae - larva	0	0	0	0	0	0	0	0
Diptera - unidentified pupa	0	0	0	0	0	0	0	0
Ceratopogonidae - larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified pupa	0	0	0	0	0	2	1	2
Chironominae - larva	0	5	2	3	0	10	5	7
Orthocladiinae - larva	0	57	29	40	0	71	36	51
Tanypodinae - larva	0	0	0	0	0	0	0	0
Tipulidae - larva	0	0	0	0	0	0	0	0
Total Insecta	**0**	**62**	**31**	**44**	**0**	**86**	**43**	**61**
Total Invertebrates	**0**	**88**	**44**	**62**	**0**	**267**	**133**	**189**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table A3-6. Continued.

Area	6: John Kitch Bay							
Zone	West							
Site	1							
Subsample	A	B	Mean	SD	A	B	Mean	SD
Mesh Size (µm)	400				500			
Annelida								
Oligochaeta	43	14	29	20	12	10	11	2
Hirudinea	0	0	0	0	2	12	7	7
Total Annelida	**43**	**14**	**29**	**20**	**14**	**21**	**18**	**5**
Crustacea								
Ostracoda	0	0	0	0	2	0	1	2
Amphipoda - unidentified	0	0	0	0	0	0	0	0
Gammaridae	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0
Talitridae	0	2	1	2	0	2	1	2
Diplostraca[1]	0	0	0	0	0	0	0	0
Total Crustacea	**0**	**2**	**1**	**2**	**2**	**2**	**2**	**0**
Arachnida								
Acarina	0	0	0	0	0	0	0	0
Mollusca								
Bivalvia								
Pisidiidae	0	0	0	0	0	0	0	0
Gastropoda - unidentified	0	0	0	0	0	0	0	0
Hydrobiidae	0	0	0	0	0	2	1	2
Lymnaeidae	0	0	0	0	2	12	7	7
Physidae	0	0	0	0	0	0	0	0
Planorbidae	0	2	1	2	14	31	23	12
Valvatidae	0	0	0	0	0	0	0	0
Total Mollusca	**0**	**2**	**1**	**2**	**17**	**45**	**31**	**20**
Hydrozoa	2	0	1	2	0	0	0	0
Insecta								
Odonata								
Anisoptera								
Aeshnidae - larva	0	0	0	0	0	0	0	0
Coleoptera								
Chrysomelidae - larva	0	0	0	0	0	0	0	0
Curculionidae - larva	0	0	0	0	0	0	0	0
Curculionidae - adult	0	0	0	0	0	0	0	0
Dytiscidae - larva	0	0	0	0	0	0	0	0
Gyrinidae - larva	0	0	0	0	0	0	0	0
Haliplidae - larva	0	0	0	0	0	0	0	0
Hemiptera	0	0	0	0	0	0	0	0
Corixidae - larva	0	0	0	0	0	2	1	2
Corixidae - adult	0	0	0	0	0	0	0	0
Gerridae - adult	0	0	0	0	0	0	0	0
Ephemeroptera - unidentified larva	0	0	0	0	0	0	0	0
Baetidae - larva	0	0	0	0	0	0	0	0
Caenidae - larva	0	0	0	0	0	0	0	0
Siphlonuridae - larva	0	0	0	0	0	0	0	0
Trichoptera - unidentified	0	0	0	0	0	0	0	0
Brachycentridae - larva	0	0	0	0	0	0	0	0
Hydropsychidae - larva	0	0	0	0	0	0	0	0
Lepidostomatidae - larva	0	0	0	0	0	0	0	0
Diptera - unidentified pupa	0	0	0	0	0	0	0	0
Ceratopogonidae - larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified pupa	0	0	0	0	0	0	0	0
Chironominae - larva	2	5	4	2	0	10	5	7
Orthocladiinae - larva	21	17	19	3	12	14	13	2
Tanypodinae - larva	0	0	0	0	0	2	1	2
Tipulidae - larva	0	0	0	0	0	0	0	0
Total Insecta	**24**	**21**	**23**	**2**	**12**	**29**	**20**	**12**
Total Invertebrates	**69**	**40**	**55**	**20**	**45**	**98**	**71**	**37**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table A3-6. Continued.

Area	6: John Kitch Bay							
Zone	West							
Site	2							
Subsample	A	B	Mean	SD	A	B	Mean	SD
Mesh Size (µm)	400				500			
Annelida								
Oligochaeta	0	0	0	0	0	0	0	0
Hirudinea	0	0	0	0	0	0	0	0
Total Annelida	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Crustacea								
Ostracoda	0	0	0	0	0	0	0	0
Amphipoda - unidentified	0	0	0	0	0	0	0	0
Gammaridae	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0
Talitridae	0	0	0	0	0	0	0	0
Diplostraca[1]	0	0	0	0	0	0	0	0
Total Crustacea	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Arachnida								
Acarina	0	0	0	0	0	0	0	0
Mollusca								
Bivalvia								
Pisidiidae	0	0	0	0	0	0	0	0
Gastropoda - unidentified	0	0	0	0	0	0	0	0
Hydrobiidae	0	0	0	0	0	0	0	0
Lymnaeidae	0	0	0	0	0	0	0	0
Physidae	0	0	0	0	0	0	0	0
Planorbidae	0	0	0	0	0	0	0	0
Valvatidae	0	0	0	0	0	0	0	0
Total Mollusca	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Hydrozoa	0	0	0	0	0	0	0	0
Insecta								
Odonata								
Anisoptera								
Aeshnidae - larva	0	0	0	0	0	0	0	0
Coleoptera								
Chrysomelidae - larva	0	0	0	0	0	0	0	0
Curculionidae - larva	0	0	0	0	0	0	0	0
Curculionidae - adult	0	0	0	0	0	0	0	0
Dytiscidae - larva	0	0	0	0	0	0	0	0
Gyrinidae - larva	0	0	0	0	0	0	0	0
Haliplidae - larva	0	0	0	0	0	0	0	0
Hemiptera	0	0	0	0	0	0	0	0
Corixidae - larva	0	0	0	0	0	0	0	0
Corixidae - adult	0	0	0	0	0	0	0	0
Gerridae - adult	0	0	0	0	0	0	0	0
Ephemeroptera - unidentified larva	0	0	0	0	0	0	0	0
Baetidae - larva	0	0	0	0	0	0	0	0
Caenidae - larva	0	0	0	0	0	0	0	0
Siphlonuridae - larva	0	0	0	0	0	0	0	0
Trichoptera - unidentified	0	0	0	0	0	0	0	0
Brachycentridae - larva	0	0	0	0	0	0	0	0
Hydropsychidae - larva	0	0	0	0	0	0	0	0
Lepidostomatidae - larva	0	0	0	0	0	0	0	0
Diptera - unidentified pupa	0	0	0	0	0	0	0	0
Ceratopogonidae - larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified pupa	0	0	0	0	0	0	0	0
Chironominae - larva	0	0	0	0	0	0	0	0
Orthocladiinae - larva	0	0	0	0	0	0	0	0
Tanypodinae - larva	0	0	0	0	0	0	0	0
Tipulidae - larva	0	0	0	0	0	0	0	0
Total Insecta	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total Invertebrates	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table A3-6. Continued.

Area	6: John Kitch Bay							
Zone	West							
Site	3							
Subsample	A	B	Mean	SD	A	B	Mean	SD
Mesh Size (µm)	400				500			
Annelida								
Oligochaeta	24	0	12	17	14	0	7	10
Hirudinea	0	0	0	0	2	0	1	2
Total Annelida	**24**	**0**	**12**	**17**	**17**	**0**	**8**	**12**
Crustacea								
Ostracoda	0	0	0	0	0	0	0	0
Amphipoda - unidentified	0	0	0	0	0	0	0	0
Gammaridae	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0
Talitridae	0	0	0	0	0	0	0	0
Diplostraca[1]	0	0	0	0	0	0	0	0
Total Crustacea	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Arachnida								
Acarina	0	0	0	0	0	0	0	0
Mollusca								
Bivalvia								
Pisidiidae	0	0	0	0	0	0	0	0
Gastropoda - unidentified	0	0	0	0	0	0	0	0
Hydrobiidae	0	0	0	0	0	0	0	0
Lymnaeidae	0	0	0	0	2	0	1	2
Physidae	0	0	0	0	0	0	0	0
Planorbidae	2	0	1	2	0	0	0	0
Valvatidae	0	0	0	0	0	0	0	0
Total Mollusca	**2**	**0**	**1**	**2**	**2**	**0**	**1**	**2**
Hydrozoa	0	0	0	0	0	0	0	0
Insecta								
Odonata								
Anisoptera								
Aeshnidae - larva	0	0	0	0	0	0	0	0
Coleoptera								
Chrysomelidae - larva	0	0	0	0	0	0	0	0
Curculionidae - larva	0	0	0	0	0	0	0	0
Curculionidae - adult	0	0	0	0	0	0	0	0
Dytiscidae - larva	0	0	0	0	0	0	0	0
Gyrinidae - larva	0	0	0	0	0	0	0	0
Haliplidae - larva	0	0	0	0	0	0	0	0
Hemiptera	0	0	0	0	0	0	0	0
Corixidae - larva	0	0	0	0	5	0	2	3
Corixidae - adult	0	0	0	0	0	0	0	0
Gerridae - adult	0	0	0	0	0	0	0	0
Ephemeroptera - unidentified larva	0	0	0	0	0	0	0	0
Baetidae - larva	0	0	0	0	0	0	0	0
Caenidae - larva	0	0	0	0	0	0	0	0
Siphlonuridae - larva	0	0	0	0	0	0	0	0
Trichoptera - unidentified	0	0	0	0	0	0	0	0
Brachycentridae - larva	0	0	0	0	0	0	0	0
Hydropsychidae - larva	0	0	0	0	0	0	0	0
Lepidostomatidae - larva	0	0	0	0	0	0	0	0
Diptera - unidentified pupa	0	0	0	0	0	0	0	0
Ceratopogonidae - larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified larva	0	0	0	0	2	0	1	2
Chironomidae - unidentified pupa	0	0	0	0	0	0	0	0
Chironominae - larva	29	0	14	20	7	0	4	5
Orthocladiinae - larva	79	0	39	56	12	0	6	8
Tanypodinae - larva	0	0	0	0	0	0	0	0
Tipulidae - larva	0	0	0	0	0	0	0	0
Total Insecta	**107**	**0**	**54**	**76**	**26**	**0**	**13**	**19**
Total Invertebrates	**133**	**0**	**67**	**94**	**45**	**0**	**23**	**32**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table A3-7. Abundance (individuals/m²), +/- one standard deviation (SD), of epiphytic invertebrates collected in association with macrophyte sampling in Area 7: Bay East of Rabbit Creek, summer 2004. Individual abundances may not add up to totals due to rounding.

Area	**7: Bay East of Rabbit Creek**							
Zone	**1**							
Site	**1**							
Subsample	**A**	**B**	**Mean**	**SD**	**A**	**B**	**Mean**	**SD**
Mesh Size (µm)	**400**				**500**			
Annelida								
Oligochaeta	5	0	2	3	52	7	30	32
Hirudinea	0	0	0	0	0	0	0	0
Total Annelida	**5**	**0**	**2**	**3**	**52**	**7**	**30**	**32**
Crustacea								
Ostracoda	0	0	0	0	0	0	0	0
Amphipoda - unidentified	0	0	0	0	0	0	0	0
Gammaridae	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0
Talitridae	0	2	1	2	0	0	0	0
Diplostraca[1]	0	0	0	0	0	0	0	0
Total Crustacea	**0**	**2**	**1**	**2**	**0**	**0**	**0**	**0**
Arachnida								
Acarina	0	0	0	0	0	0	0	0
Mollusca								
Bivalvia								
Pisidiidae	0	0	0	0	0	0	0	0
Gastropoda - unidentified	0	0	0	0	0	0	0	0
Hydrobiidae	0	0	0	0	0	0	0	0
Lymnaeidae	0	0	0	0	0	0	0	0
Physidae	0	0	0	0	2	0	1	2
Planorbidae	2	0	1	2	10	0	5	7
Valvatidae	0	0	0	0	0	0	0	0
Total Mollusca	**2**	**0**	**1**	**2**	**12**	**0**	**6**	**8**
Hydrozoa	2	0	1	2	0	0	0	0
Insecta								
Odonata								
Anisoptera								
Aeshnidae - larva	0	0	0	0	0	0	0	0
Coleoptera								
Chrysomelidae - larva	0	0	0	0	0	0	0	0
Curculionidae - larva	0	0	0	0	0	0	0	0
Curculionidae - adult	0	0	0	0	0	0	0	0
Dytiscidae - larva	0	0	0	0	0	0	0	0
Gyrinidae - larva	0	0	0	0	0	0	0	0
Haliplidae - larva	0	0	0	0	0	0	0	0
Hemiptera	0	0	0	0	0	0	0	0
Corixidae - larva	0	0	0	0	0	0	0	0
Corixidae - adult	0	0	0	0	0	0	0	0
Gerridae - adult	0	0	0	0	0	0	0	0
Ephemeroptera - unidentified larva	0	0	0	0	0	0	0	0
Baetidae - larva	0	0	0	0	0	0	0	0
Caenidae - larva	0	0	0	0	0	0	0	0
Siphlonuridae - larva	0	0	0	0	0	0	0	0
Trichoptera - unidentified	0	0	0	0	0	0	0	0
Brachycentridae - larva	0	0	0	0	0	0	0	0
Hydropsychidae - larva	0	0	0	0	0	0	0	0
Lepidostomatidae - larva	0	0	0	0	0	0	0	0
Diptera - unidentified pupa	0	0	0	0	0	0	0	0
Ceratopogonidae - larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified pupa	0	0	0	0	0	0	0	0
Chironominae - larva	0	0	0	0	2	0	1	2
Orthocladiinae - larva	21	10	15	8	52	19	36	24
Tanypodinae - larva	0	0	0	0	0	0	0	0
Tipulidae - larva	0	0	0	0	0	0	0	0
Total Insecta	**21**	**10**	**15**	**8**	**55**	**19**	**37**	**25**
Total Invertebrates	**31**	**12**	**21**	**13**	**119**	**26**	**73**	**66**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table A3-7. Continued.

Area	7: Bay East of Rabbit Creek							
Zone	1							
Site	2							
Subsample	A	B	Mean	SD	A	B	Mean	SD
Mesh Size (µm)	400				500			
Annelida								
Oligochaeta	0	0	0	0	0	0	0	0
Hirudinea	0	0	0	0	0	0	0	0
Total Annelida	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Crustacea								
Ostracoda	0	0	0	0	0	0	0	0
Amphipoda - unidentified	0	0	0	0	0	0	0	0
Gammaridae	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0
Talitridae	0	0	0	0	0	0	0	0
Diplostraca[1]	0	0	0	0	0	0	0	0
Total Crustacea	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Arachnida								
Acarina	0	0	0	0	0	0	0	0
Mollusca								
Bivalvia								
Pisidiidae	0	0	0	0	0	0	0	0
Gastropoda - unidentified	0	0	0	0	0	0	0	0
Hydrobiidae	0	0	0	0	0	0	0	0
Lymnaeidae	0	0	0	0	0	0	0	0
Physidae	0	0	0	0	0	0	0	0
Planorbidae	0	5	2	3	0	2	1	2
Valvatidae	0	0	0	0	0	0	0	0
Total Mollusca	**0**	**5**	**2**	**3**	**0**	**2**	**1**	**2**
Hydrozoa	0	0	0	0	0	0	0	0
Insecta								
Odonata								
Anisoptera								
Aeshnidae - larva	0	0	0	0	0	0	0	0
Coleoptera								
Chrysomelidae - larva	0	0	0	0	0	0	0	0
Curculionidae - larva	0	0	0	0	0	0	0	0
Curculionidae - adult	0	0	0	0	0	0	0	0
Dytiscidae - larva	0	0	0	0	0	0	0	0
Gyrinidae - larva	0	0	0	0	0	0	0	0
Haliplidae - larva	0	0	0	0	0	0	0	0
Hemiptera	0	0	0	0	0	0	0	0
Corixidae - larva	0	0	0	0	0	0	0	0
Corixidae - adult	0	0	0	0	0	0	0	0
Gerridae - adult	0	0	0	0	0	0	0	0
Ephemeroptera - unidentified larva	0	0	0	0	0	0	0	0
Baetidae - larva	0	0	0	0	0	0	0	0
Caenidae - larva	0	0	0	0	0	0	0	0
Siphlonuridae - larva	0	0	0	0	0	0	0	0
Trichoptera - unidentified	0	0	0	0	0	0	0	0
Brachycentridae - larva	0	0	0	0	0	0	0	0
Hydropsychidae - larva	0	0	0	0	0	0	0	0
Lepidostomatidae - larva	0	0	0	0	0	0	0	0
Diptera - unidentified pupa	0	0	0	0	0	0	0	0
Ceratopogonidae - larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified pupa	0	0	0	0	0	0	0	0
Chironominae - larva	0	0	0	0	0	2	1	2
Orthocladiinae - larva	0	0	0	0	0	0	0	0
Tanypodinae - larva	0	0	0	0	0	0	0	0
Tipulidae - larva	0	0	0	0	0	0	0	0
Total Insecta	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**2**
Total Invertebrates	**0**	**5**	**2**	**3**	**0**	**5**	**2**	**3**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table A3-7. Continued.

Area	7: Bay East of Rabbit Creek							
Zone	2							
Site	1							
Subsample	A	B	Mean	SD	A	B	Mean	SD
Mesh Size (µm)	400				500			
Annelida								
Oligochaeta	0	0	0	0	0	0	0	0
Hirudinea	0	0	0	0	0	0	0	0
Total Annelida	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Crustacea								
Ostracoda	0	0	0	0	0	0	0	0
Amphipoda - unidentified	0	0	0	0	0	0	0	0
Gammaridae	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0
Talitridae	0	0	0	0	0	0	0	0
Diplostraca[1]	0	0	0	0	0	0	0	0
Total Crustacea	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Arachnida								
Acarina	0	0	0	0	0	0	0	0
Mollusca								
Bivalvia								
Pisidiidae	0	0	0	0	0	0	0	0
Gastropoda - unidentified	0	0	0	0	0	0	0	0
Hydrobiidae	0	0	0	0	0	0	0	0
Lymnaeidae	0	0	0	0	0	0	0	0
Physidae	0	0	0	0	0	0	0	0
Planorbidae	0	0	0	0	0	0	0	0
Valvatidae	0	0	0	0	0	0	0	0
Total Mollusca	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Hydrozoa	0	0	0	0	0	0	0	0
Insecta								
Odonata								
Anisoptera								
Aeshnidae - larva	0	0	0	0	0	0	0	0
Coleoptera								
Chrysomelidae - larva	0	0	0	0	0	0	0	0
Curculionidae - larva	0	0	0	0	0	0	0	0
Curculionidae - adult	0	0	0	0	0	0	0	0
Dytiscidae - larva	0	0	0	0	0	0	0	0
Gyrinidae - larva	0	0	0	0	0	0	0	0
Haliplidae - larva	0	0	0	0	0	0	0	0
Hemiptera	0	0	0	0	0	0	0	0
Corixidae - larva	0	0	0	0	0	0	0	0
Corixidae - adult	0	0	0	0	0	0	0	0
Gerridae - adult	0	0	0	0	0	0	0	0
Ephemeroptera - unidentified larva	0	0	0	0	0	0	0	0
Baetidae - larva	0	0	0	0	0	0	0	0
Caenidae - larva	0	0	0	0	0	0	0	0
Siphlonuridae - larva	0	0	0	0	0	0	0	0
Trichoptera - unidentified	0	0	0	0	0	0	0	0
Brachycentridae - larva	0	0	0	0	0	0	0	0
Hydropsychidae - larva	0	0	0	0	0	0	0	0
Lepidostomatidae - larva	0	0	0	0	0	0	0	0
Diptera - unidentified pupa	0	0	0	0	0	0	0	0
Ceratopogonidae - larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified pupa	0	0	0	0	0	0	0	0
Chironominae - larva	0	0	0	0	0	0	0	0
Orthocladiinae - larva	0	0	0	0	0	0	0	0
Tanypodinae - larva	0	0	0	0	0	0	0	0
Tipulidae - larva	0	0	0	0	0	0	0	0
Total Insecta	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total Invertebrates	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table A3-7. Continued.

Area	7: Bay East of Rabbit Creek							
Zone	2							
Site	2							
Subsample	A	B	Mean	SD	A	B	Mean	SD
Mesh Size (µm)	400				500			
Annelida								
Oligochaeta	7	10	8	2	5	10	7	3
Hirudinea	0	0	0	0	0	0	0	0
Total Annelida	**7**	**10**	**8**	**2**	**5**	**10**	**7**	**3**
Crustacea								
Ostracoda	0	0	0	0	0	0	0	0
Amphipoda - unidentified	0	0	0	0	0	0	0	0
Gammaridae	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0
Talitridae	0	0	0	0	0	0	0	0
Diplostraca[1]	0	0	0	0	0	0	0	0
Total Crustacea	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Arachnida								
Acarina	0	0	0	0	0	0	0	0
Mollusca								
Bivalvia								
Pisidiidae	0	0	0	0	0	0	0	0
Gastropoda - unidentified	0	0	0	0	0	0	0	0
Hydrobiidae	0	0	0	0	0	0	0	0
Lymnaeidae	0	0	0	0	0	0	0	0
Physidae	0	0	0	0	0	0	0	0
Planorbidae	0	0	0	0	5	10	7	3
Valvatidae	0	0	0	0	0	0	0	0
Total Mollusca	**0**	**0**	**0**	**0**	**5**	**10**	**7**	**3**
Hydrozoa	0	0	0	0	0	2	1	2
Insecta								
Odonata								
Anisoptera								
Aeshnidae - larva	0	0	0	0	0	0	0	0
Coleoptera								
Chrysomelidae - larva	0	0	0	0	0	0	0	0
Curculionidae - larva	0	0	0	0	0	0	0	0
Curculionidae - adult	0	0	0	0	0	0	0	0
Dytiscidae - larva	0	0	0	0	0	0	0	0
Gyrinidae - larva	0	0	0	0	0	0	0	0
Haliplidae - larva	0	0	0	0	0	0	0	0
Hemiptera	0	0	0	0	0	0	0	0
Corixidae - larva	0	0	0	0	0	0	0	0
Corixidae - adult	0	0	0	0	0	0	0	0
Gerridae - adult	0	0	0	0	0	0	0	0
Ephemeroptera - unidentified larva	0	0	0	0	0	0	0	0
Baetidae - larva	0	0	0	0	0	0	0	0
Caenidae - larva	0	0	0	0	0	0	0	0
Siphlonuridae - larva	0	0	0	0	0	0	0	0
Trichoptera - unidentified	0	0	0	0	0	0	0	0
Brachycentridae - larva	0	0	0	0	0	0	0	0
Hydropsychidae - larva	0	0	0	0	0	0	0	0
Lepidostomatidae - larva	0	0	0	0	0	0	0	0
Diptera - unidentified pupa	0	0	0	0	0	0	0	0
Ceratopogonidae - larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified larva	2	0	1	2	0	0	0	0
Chironomidae - unidentified pupa	0	0	0	0	0	0	0	0
Chironominae - larva	2	0	1	2	2	0	1	2
Orthocladiinae - larva	14	21	18	5	5	12	8	5
Tanypodinae - larva	0	0	0	0	0	0	0	0
Tipulidae - larva	0	0	0	0	0	0	0	0
Total Insecta	**19**	**21**	**20**	**2**	**7**	**12**	**10**	**3**
Total Invertebrates	**26**	**31**	**29**	**3**	**17**	**33**	**25**	**12**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table A3-7. Continued.

Area	7: Bay East of Rabbit Creek							
Zone	3							
Site	1							
Subsample	A	B	Mean	SD	A	B	Mean	SD
Mesh Size (µm)	400				500			
Annelida								
Oligochaeta	24	7	15	12	50	24	37	19
Hirudinea	0	0	0	0	0	0	0	0
Total Annelida	**24**	**7**	**15**	**12**	**50**	**24**	**37**	**19**
Crustacea								
Ostracoda	0	0	0	0	0	0	0	0
Amphipoda - unidentified	0	0	0	0	0	0	0	0
Gammaridae	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0
Talitridae	0	0	0	0	0	0	0	0
Diplostraca[1]	0	0	0	0	0	0	0	0
Total Crustacea	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Arachnida								
Acarina	0	0	0	0	2	0	1	2
Mollusca								
Bivalvia								
Pisidiidae	0	0	0	0	0	0	0	0
Gastropoda - unidentified	0	0	0	0	0	0	0	0
Hydrobiidae	0	0	0	0	12	0	6	8
Lymnaeidae	0	0	0	0	10	2	6	5
Physidae	0	0	0	0	7	0	4	5
Planorbidae	0	0	0	0	202	2	102	141
Valvatidae	0	0	0	0	2	0	1	2
Total Mollusca	**0**	**0**	**0**	**0**	**233**	**5**	**119**	**162**
Hydrozoa	2	2	2	0	12	71	42	42
Insecta								
Odonata								
Anisoptera								
Aeshnidae - larva	0	0	0	0	0	0	0	0
Coleoptera								
Chrysomelidae - larva	0	0	0	0	0	0	0	0
Curculionidae - larva	0	0	0	0	0	0	0	0
Curculionidae - adult	0	0	0	0	0	0	0	0
Dytiscidae - larva	0	0	0	0	0	0	0	0
Gyrinidae - larva	0	0	0	0	7	2	5	3
Haliplidae - larva	0	0	0	0	0	0	0	0
Hemiptera	0	0	0	0	0	0	0	0
Corixidae - larva	0	0	0	0	14	0	7	10
Corixidae - adult	0	0	0	0	0	0	0	0
Gerridae - adult	0	0	0	0	0	0	0	0
Ephemeroptera - unidentified larva	0	0	0	0	0	0	0	0
Baetidae - larva	0	0	0	0	2	0	1	2
Caenidae - larva	0	0	0	0	0	0	0	0
Siphlonuridae - larva	0	0	0	0	0	0	0	0
Trichoptera - unidentified	0	0	0	0	0	0	0	0
Brachycentridae - larva	0	0	0	0	0	0	0	0
Hydropsychidae - larva	0	0	0	0	0	0	0	0
Lepidostomatidae - larva	0	0	0	0	0	0	0	0
Diptera - unidentified pupa	0	0	0	0	0	0	0	0
Ceratopogonidae - larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified pupa	0	0	0	0	0	0	0	0
Chironominae - larva	7	0	4	5	5	0	2	3
Orthocladiinae - larva	119	43	81	54	81	40	61	29
Tanypodinae - larva	0	0	0	0	2	0	1	2
Tipulidae - larva	0	0	0	0	0	0	0	0
Total Insecta	**126**	**43**	**85**	**59**	**112**	**43**	**77**	**49**
Total Invertebrates	**152**	**52**	**102**	**71**	**410**	**143**	**276**	**189**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table A3-7. Continued.

Area	7: Bay East of Rabbit Creek							
Zone	3							
Site	2							
Subsample	A	B	Mean	SD	A	B	Mean	SD
Mesh Size (µm)	400				500			
Annelida								
Oligochaeta	0	0	0	0	0	0	0	0
Hirudinea	0	0	0	0	0	0	0	0
Total Annelida	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Crustacea								
Ostracoda	0	0	0	0	0	0	0	0
Amphipoda - unidentified	0	0	0	0	0	0	0	0
Gammaridae	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0
Talitridae	0	0	0	0	0	0	0	0
Diplostraca[1]	0	0	0	0	0	0	0	0
Total Crustacea	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Arachnida								
Acarina	0	0	0	0	0	0	0	0
Mollusca								
Bivalvia								
Pisidiidae	0	0	0	0	0	0	0	0
Gastropoda - unidentified	0	0	0	0	0	0	0	0
Hydrobiidae	0	0	0	0	0	0	0	0
Lymnaeidae	0	0	0	0	0	0	0	0
Physidae	0	0	0	0	0	0	0	0
Planorbidae	0	0	0	0	0	0	0	0
Valvatidae	0	0	0	0	0	0	0	0
Total Mollusca	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Hydrozoa	0	0	0	0	0	0	0	0
Insecta								
Odonata								
Anisoptera								
Aeshnidae - larva	0	0	0	0	0	0	0	0
Coleoptera								
Chrysomelidae - larva	0	0	0	0	0	0	0	0
Curculionidae - larva	0	0	0	0	0	0	0	0
Curculionidae - adult	0	0	0	0	0	0	0	0
Dytiscidae - larva	0	0	0	0	0	0	0	0
Gyrinidae - larva	0	0	0	0	0	0	0	0
Haliplidae - larva	0	0	0	0	0	0	0	0
Hemiptera	0	0	0	0	0	0	0	0
Corixidae - larva	0	0	0	0	0	0	0	0
Corixidae - adult	0	0	0	0	0	0	0	0
Gerridae - adult	0	0	0	0	0	0	0	0
Ephemeroptera - unidentified larva	0	0	0	0	0	0	0	0
Baetidae - larva	0	0	0	0	0	0	0	0
Caenidae - larva	0	0	0	0	0	0	0	0
Siphlonuridae - larva	0	0	0	0	0	0	0	0
Trichoptera - unidentified	0	0	0	0	0	0	0	0
Brachycentridae - larva	0	0	0	0	0	0	0	0
Hydropsychidae - larva	0	0	0	0	0	0	0	0
Lepidostomatidae - larva	0	0	0	0	0	0	0	0
Diptera - unidentified pupa	0	0	0	0	0	0	0	0
Ceratopogonidae - larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified pupa	0	0	0	0	0	0	0	0
Chironominae - larva	0	0	0	0	0	0	0	0
Orthocladiinae - larva	0	0	0	0	0	0	0	0
Tanypodinae - larva	0	0	0	0	0	0	0	0
Tipulidae - larva	0	0	0	0	0	0	0	0
Total Insecta	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total Invertebrates	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table A3-7. Continued.

Area	7: Bay East of Rabbit Creek								
Zone	4								
Site	1								2[2]
Subsample	A	B	Mean	SD	A	B	Mean	SD	
Mesh Size (µm)	400				500				
Annelida									
Oligochaeta	0	0	0	0	0	0	0	0	t.d.
Hirudinea	0	0	0	0	0	0	0	0	t.d.
Total Annelida	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**t.d.**
Crustacea									
Ostracoda	0	0	0	0	0	0	0	0	t.d.
Amphipoda - unidentified	0	0	0	0	0	0	0	0	t.d.
Gammaridae	0	0	0	0	0	0	0	0	t.d.
Haustoriidae	0	0	0	0	0	0	0	0	t.d.
Talitridae	0	0	0	0	0	0	0	0	t.d.
Diplostraca[1]	0	0	0	0	0	0	0	0	t.d.
Total Crustacea	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**t.d.**
Arachnida									
Acarina	0	0	0	0	0	0	0	0	t.d.
Mollusca									
Bivalvia									
Pisidiidae	0	0	0	0	0	0	0	0	t.d.
Gastropoda - unidentified	0	0	0	0	0	0	0	0	t.d.
Hydrobiidae	0	0	0	0	0	0	0	0	t.d.
Lymnaeidae	0	0	0	0	0	0	0	0	t.d.
Physidae	0	0	0	0	0	0	0	0	t.d.
Planorbidae	0	0	0	0	0	0	0	0	t.d.
Valvatidae	0	0	0	0	0	0	0	0	t.d.
Total Mollusca	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**t.d.**
Hydrozoa	0	0	0	0	0	0	0	0	t.d.
Insecta									
Odonata									
Anisoptera									
Aeshnidae - larva	0	0	0	0	0	0	0	0	t.d.
Coleoptera									
Chrysomelidae - larva	0	0	0	0	0	0	0	0	t.d.
Curculionidae - larva	0	0	0	0	0	0	0	0	t.d.
Curculionidae - adult	0	0	0	0	0	0	0	0	t.d.
Dytiscidae - larva	0	0	0	0	0	0	0	0	t.d.
Gyrinidae - larva	0	0	0	0	0	0	0	0	t.d.
Haliplidae - larva	0	0	0	0	0	0	0	0	t.d.
Hemiptera	0	0	0	0	0	0	0	0	t.d.
Corixidae - larva	0	0	0	0	0	0	0	0	t.d.
Corixidae - adult	0	0	0	0	0	0	0	0	t.d.
Gerridae - adult	0	0	0	0	0	0	0	0	t.d.
Ephemeroptera - unidentified larva	0	0	0	0	0	0	0	0	t.d.
Baetidae - larva	0	0	0	0	0	0	0	0	t.d.
Caenidae - larva	0	0	0	0	0	0	0	0	t.d.
Siphlonuridae - larva	0	0	0	0	0	0	0	0	t.d.
Trichoptera - unidentified	0	0	0	0	0	0	0	0	t.d.
Brachycentridae - larva	0	0	0	0	0	0	0	0	t.d.
Hydropsychidae - larva	0	0	0	0	0	0	0	0	t.d.
Lepidostomatidae - larva	0	0	0	0	0	0	0	0	t.d.
Diptera - unidentified pupa	0	0	0	0	0	0	0	0	t.d.
Ceratopogonidae - larva	0	0	0	0	0	0	0	0	t.d.
Chironomidae - unidentified larva	0	0	0	0	0	0	0	0	t.d.
Chironomidae - unidentified pupa	0	0	0	0	0	0	0	0	t.d.
Chironominae - larva	0	0	0	0	0	0	0	0	t.d.
Orthocladiinae - larva	0	0	0	0	0	0	0	0	t.d.
Tanypodinae - larva	0	0	0	0	0	0	0	0	t.d.
Tipulidae - larva	0	0	0	0	0	0	0	0	t.d.
Total Insecta	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**t.d.**
Total Invertebrates	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**t.d.**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

[2] t.d. = too deep for sampler.

Table A3-8. Abundance (individuals/m²), +/- one standard deviation (SD), of epiphytic invertebrates collected in association with macrophyte sampling in Area 8: Clark Lake, summer 2004. Individual abundances may not add up to totals due to rounding.

Area	**8: Clark Lake**							
Zone	**1**							
Site	**1**							
Subsample	**A**	**B**	**Mean**	**SD**	**A**	**B**	**Mean**	**SD**
Mesh Size (µm)	**400**				**500**			
Annelida								
Oligochaeta	0	10	5	7	5	10	7	3
Hirudinea	0	0	0	0	0	0	0	0
Total Annelida	**0**	**10**	**5**	**7**	**5**	**10**	**7**	**3**
Crustacea								
Ostracoda	0	0	0	0	0	0	0	0
Amphipoda - unidentified	0	0	0	0	0	0	0	0
Gammaridae	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0
Talitridae	0	0	0	0	0	0	0	0
Diplostraca[1]	0	0	0	0	0	0	0	0
Total Crustacea	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Arachnida								
Acarina	0	0	0	0	0	0	0	0
Mollusca								
Bivalvia								
Pisidiidae	0	0	0	0	0	0	0	0
Gastropoda - unidentified	2	0	1	2	2	0	1	2
Hydrobiidae	0	0	0	0	2	0	1	2
Lymnaeidae	0	0	0	0	0	0	0	0
Physidae	0	0	0	0	0	0	0	0
Planorbidae	0	0	0	0	29	19	24	7
Valvatidae	0	0	0	0	0	0	0	0
Total Mollusca	**2**	**0**	**1**	**2**	**33**	**19**	**26**	**10**
Hydrozoa	0	0	0	0	0	0	0	0
Insecta								
Odonata								
Anisoptera								
Aeshnidae - larva	0	0	0	0	0	0	0	0
Coleoptera								
Chrysomelidae - larva	0	0	0	0	0	0	0	0
Curculionidae - larva	0	0	0	0	0	0	0	0
Curculionidae - adult	0	0	0	0	0	0	0	0
Dytiscidae - larva	0	0	0	0	0	0	0	0
Gyrinidae - larva	0	0	0	0	0	0	0	0
Haliplidae - larva	0	0	0	0	0	0	0	0
Hemiptera	0	0	0	0	0	0	0	0
Corixidae - larva	0	0	0	0	0	0	0	0
Corixidae - adult	0	0	0	0	0	0	0	0
Gerridae - adult	0	0	0	0	0	0	0	0
Ephemeroptera - unidentified larva	0	0	0	0	0	0	0	0
Baetidae - larva	0	0	0	0	0	0	0	0
Caenidae - larva	0	0	0	0	0	0	0	0
Siphlonuridae - larva	0	0	0	0	0	0	0	0
Trichoptera - unidentified	0	0	0	0	0	0	0	0
Brachycentridae - larva	0	0	0	0	0	0	0	0
Hydropsychidae - larva	0	0	0	0	0	0	0	0
Lepidostomatidae - larva	0	0	0	0	0	0	0	0
Diptera - unidentified pupa	0	0	0	0	0	0	0	0
Ceratopogonidae - larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified pupa	0	0	0	0	0	2	1	2
Chironominae - larva	0	0	0	0	0	0	0	0
Orthocladiinae - larva	2	2	2	0	12	7	10	3
Tanypodinae - larva	0	2	1	2	0	0	0	0
Tipulidae - larva	0	0	0	0	0	0	0	0
Total Insecta	**2**	**5**	**4**	**2**	**12**	**10**	**11**	**2**
Total Invertebrates	**5**	**14**	**10**	**7**	**50**	**38**	**44**	**8**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table A3-8. Continued.

Area	8: Clark Lake							
Zone	1				2			
Site	2				1			
Subsample	A	B[2]	A	B[2]	A	B	Mean	SD
Mesh Size (µm)	400		500		400			
Annelida								
Oligochaeta	7	s.l.	2	s.l.	24	33	29	7
Hirudinea	0	s.l.	0	s.l.	0	0	0	0
Total Annelida	**7**	**s.l.**	**2**	**s.l.**	**24**	**33**	**29**	**7**
Crustacea								
Ostracoda	0	s.l.	0	s.l.	0	0	0	0
Amphipoda - unidentified	0	s.l.	0	s.l.	0	0	0	0
Gammaridae	0	s.l.	0	s.l.	0	0	0	0
Haustoriidae	0	s.l.	0	s.l.	0	0	0	0
Talitridae	0	s.l.	0	s.l.	0	0	0	0
Diplostraca[1]	0	s.l.	0	s.l.	0	0	0	0
Total Crustacea	**0**	**s.l.**	**0**	**s.l.**	**0**	**0**	**0**	**0**
Arachnida								
Acarina	0	s.l.	0	s.l.	0	0	0	0
Mollusca								
Bivalvia								
Pisidiidae	0	s.l.	0	s.l.	0	0	0	0
Gastropoda - unidentified	0	s.l.	0	s.l.	0	0	0	0
Hydrobiidae	0	s.l.	0	s.l.	0	0	0	0
Lymnaeidae	0	s.l.	0	s.l.	0	0	0	0
Physidae	0	s.l.	0	s.l.	0	0	0	0
Planorbidae	0	s.l.	7	s.l.	0	0	0	0
Valvatidae	0	s.l.	0	s.l.	0	0	0	0
Total Mollusca	**0**	**s.l.**	**7**	**s.l.**	**0**	**0**	**0**	**0**
Hydrozoa	0	s.l.	0	s.l.	0	0	0	0
Insecta								
Odonata								
Anisoptera								
Aeshnidae - larva	0	s.l.	0	s.l.	0	0	0	0
Coleoptera								
Chrysomelidae - larva	0	s.l.	0	s.l.	0	0	0	0
Curculionidae - larva	0	s.l.	0	s.l.	0	0	0	0
Curculionidae - adult	0	s.l.	0	s.l.	0	0	0	0
Dytiscidae - larva	0	s.l.	0	s.l.	0	0	0	0
Gyrinidae - larva	0	s.l.	0	s.l.	0	0	0	0
Haliplidae - larva	0	s.l.	0	s.l.	0	0	0	0
Hemiptera	0	s.l.	0	s.l.	0	0	0	0
Corixidae - larva	0	s.l.	0	s.l.	0	0	0	0
Corixidae - adult	0	s.l.	0	s.l.	0	0	0	0
Gerridae - adult	0	s.l.	0	s.l.	0	0	0	0
Ephemeroptera - unidentified larva	0	s.l.	0	s.l.	0	0	0	0
Baetidae - larva	0	s.l.	0	s.l.	0	0	0	0
Caenidae - larva	0	s.l.	0	s.l.	0	0	0	0
Siphlonuridae - larva	0	s.l.	0	s.l.	0	0	0	0
Trichoptera - unidentified	0	s.l.	0	s.l.	0	0	0	0
Brachycentridae - larva	0	s.l.	0	s.l.	0	0	0	0
Hydropsychidae - larva	0	s.l.	0	s.l.	0	0	0	0
Lepidostomatidae - larva	0	s.l.	0	s.l.	0	0	0	0
Diptera - unidentified pupa	0	s.l.	0	s.l.	0	0	0	0
Ceratopogonidae - larva	0	s.l.	0	s.l.	0	0	0	0
Chironomidae - unidentified larva	0	s.l.	0	s.l.	0	2	1	2
Chironomidae - unidentified pupa	0	s.l.	0	s.l.	0	0	0	0
Chironominae - larva	0	s.l.	0	s.l.	5	12	8	5
Orthocladiinae - larva	10	s.l.	7	s.l.	21	50	36	20
Tanypodinae - larva	0	s.l.	0	s.l.	0	0	0	0
Tipulidae - larva	0	s.l.	0	s.l.	0	0	0	0
Total Insecta	**10**	**s.l.**	**7**	**s.l.**	**26**	**64**	**45**	**27**
Total Invertebrates	**17**	**s.l.**	**17**	**s.l.**	**50**	**98**	**74**	**34**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

[2] s.l. = sample lost

Table A3-8. Continued.

Area	8: Clark Lake							
Zone	2							
Site	1				2			
Subsample	A	B	Mean	SD	A	B	Mean	SD
Mesh Size (µm)	500				400			
Annelida								
Oligochaeta	90	388	239	210	0	31	15	22
Hirudinea	0	0	0	0	0	0	0	0
Total Annelida	**90**	**388**	**239**	**210**	**0**	**31**	**15**	**22**
Crustacea								
Ostracoda	0	0	0	0	0	0	0	0
Amphipoda - unidentified	0	0	0	0	0	0	0	0
Gammaridae	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0
Talitridae	0	0	0	0	0	0	0	0
Diplostraca[1]	0	0	0	0	0	0	0	0
Total Crustacea	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Arachnida								
Acarina	0	0	0	0	0	0	0	0
Mollusca								
Bivalvia								
Pisidiidae	0	0	0	0	0	0	0	0
Gastropoda - unidentified	0	2	1	2	0	0	0	0
Hydrobiidae	0	0	0	0	0	0	0	0
Lymnaeidae	0	0	0	0	0	0	0	0
Physidae	0	0	0	0	0	0	0	0
Planorbidae	52	233	143	128	0	5	2	3
Valvatidae	0	0	0	0	0	0	0	0
Total Mollusca	**52**	**236**	**144**	**130**	**0**	**5**	**2**	**3**
Hydrozoa	0	0	0	0	0	0	0	0
Insecta								
Odonata								
Anisoptera								
Aeshnidae - larva	0	0	0	0	0	0	0	0
Coleoptera								
Chrysomelidae - larva	0	0	0	0	0	0	0	0
Curculionidae - larva	0	0	0	0	0	0	0	0
Curculionidae - adult	0	0	0	0	0	0	0	0
Dytiscidae - larva	0	0	0	0	0	0	0	0
Gyrinidae - larva	0	0	0	0	0	0	0	0
Haliplidae - larva	0	0	0	0	0	0	0	0
Hemiptera	0	0	0	0	0	0	0	0
Corixidae - larva	0	2	1	2	0	0	0	0
Corixidae - adult	0	0	0	0	0	0	0	0
Gerridae - adult	0	0	0	0	0	0	0	0
Ephemeroptera - unidentified larva	0	0	0	0	0	0	0	0
Baetidae - larva	0	0	0	0	0	0	0	0
Caenidae - larva	0	0	0	0	0	0	0	0
Siphlonuridae - larva	0	2	1	2	0	0	0	0
Trichoptera - unidentified	0	0	0	0	0	0	0	0
Brachycentridae - larva	0	0	0	0	0	0	0	0
Hydropsychidae - larva	0	0	0	0	0	0	0	0
Lepidostomatidae - larva	0	0	0	0	0	0	0	0
Diptera - unidentified pupa	0	2	1	2	0	0	0	0
Ceratopogonidae - larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified pupa	0	0	0	0	0	0	0	0
Chironominae - larva	7	50	29	30	0	7	4	5
Orthocladiinae - larva	31	121	76	64	0	12	6	8
Tanypodinae - larva	0	0	0	0	0	0	0	0
Tipulidae - larva	0	0	0	0	0	0	0	0
Total Insecta	**38**	**179**	**108**	**99**	**0**	**19**	**10**	**13**
Total Invertebrates	**181**	**802**	**492**	**439**	**0**	**55**	**27**	**39**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table A3-8. Continued.

Area	8: Clark Lake							
Zone	2				3			
Site	2				1			
Subsample	A	B	Mean	SD	A	B	Mean	SD
Mesh Size (µm)	500				400			
Annelida								
Oligochaeta	0	57	29	40	0	0	0	0
Hirudinea	0	0	0	0	0	0	0	0
Total Annelida	**0**	**57**	**29**	**40**	**0**	**0**	**0**	**0**
Crustacea								
Ostracoda	0	0	0	0	0	0	0	0
Amphipoda - unidentified	0	0	0	0	0	0	0	0
Gammaridae	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0
Talitridae	0	0	0	0	0	0	0	0
Diplostraca[1]	0	0	0	0	0	0	0	0
Total Crustacea	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Arachnida								
Acarina	0	0	0	0	0	0	0	0
Mollusca								
Bivalvia								
Pisidiidae	0	0	0	0	0	0	0	0
Gastropoda - unidentified	0	0	0	0	0	0	0	0
Hydrobiidae	0	0	0	0	0	0	0	0
Lymnaeidae	0	0	0	0	0	0	0	0
Physidae	0	0	0	0	0	0	0	0
Planorbidae	0	112	56	79	0	0	0	0
Valvatidae	0	0	0	0	0	0	0	0
Total Mollusca	**0**	**112**	**56**	**79**	**0**	**0**	**0**	**0**
Hydrozoa	0	0	0	0	0	0	0	0
Insecta								
Odonata								
Anisoptera								
Aeshnidae - larva	0	0	0	0	0	0	0	0
Coleoptera								
Chrysomelidae - larva	0	0	0	0	0	0	0	0
Curculionidae - larva	0	0	0	0	0	0	0	0
Curculionidae - adult	0	0	0	0	0	0	0	0
Dytiscidae - larva	0	0	0	0	0	0	0	0
Gyrinidae - larva	0	0	0	0	0	0	0	0
Haliplidae - larva	0	0	0	0	0	0	0	0
Hemiptera	0	0	0	0	0	0	0	0
Corixidae - larva	0	0	0	0	0	0	0	0
Corixidae - adult	0	0	0	0	0	0	0	0
Gerridae - adult	0	0	0	0	0	0	0	0
Ephemeroptera - unidentified larva	0	0	0	0	0	0	0	0
Baetidae - larva	0	0	0	0	0	0	0	0
Caenidae - larva	0	0	0	0	0	0	0	0
Siphlonuridae - larva	0	0	0	0	0	0	0	0
Trichoptera - unidentified	0	0	0	0	0	0	0	0
Brachycentridae - larva	0	0	0	0	0	0	0	0
Hydropsychidae - larva	0	0	0	0	0	0	0	0
Lepidostomatidae - larva	0	0	0	0	0	0	0	0
Diptera - unidentified pupa	0	0	0	0	0	0	0	0
Ceratopogonidae - larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified pupa	0	10	5	7	0	0	0	0
Chironominae - larva	0	36	18	25	0	0	0	0
Orthocladiinae - larva	0	17	8	12	0	0	0	0
Tanypodinae - larva	0	0	0	0	0	0	0	0
Tipulidae - larva	0	0	0	0	0	0	0	0
Total Insecta	**0**	**62**	**31**	**44**	**0**	**0**	**0**	**0**
Total Invertebrates	**0**	**231**	**115**	**163**	**0**	**0**	**0**	**0**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table A3-8. Continued.

Area	8: Clark Lake							
Zone	3							
Site	1				2			
Subsample	A	B	Mean	SD	A	B	Mean	SD
Mesh Size (µm)	500				400			
Annelida								
Oligochaeta	0	0	0	0	0	45	23	32
Hirudinea	0	0	0	0	0	0	0	0
Total Annelida	**0**	**0**	**0**	**0**	**0**	**45**	**23**	**32**
Crustacea								
Ostracoda	0	0	0	0	0	0	0	0
Amphipoda - unidentified	0	0	0	0	0	5	2	3
Gammaridae	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0
Talitridae	0	0	0	0	0	2	1	2
Diplostraca[1]	0	0	0	0	0	0	0	0
Total Crustacea	**0**	**0**	**0**	**0**	**0**	**7**	**4**	**5**
Arachnida								
Acarina	0	0	0	0	0	0	0	0
Mollusca								
Bivalvia								
Pisidiidae	0	0	0	0	0	0	0	0
Gastropoda - unidentified	0	0	0	0	0	0	0	0
Hydrobiidae	0	0	0	0	0	0	0	0
Lymnaeidae	0	0	0	0	0	0	0	0
Physidae	0	0	0	0	0	2	1	2
Planorbidae	0	0	0	0	0	0	0	0
Valvatidae	0	0	0	0	0	0	0	0
Total Mollusca	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**2**
Hydrozoa	0	0	0	0	0	0	0	0
Insecta								
Odonata								
Anisoptera								
Aeshnidae - larva	0	0	0	0	0	0	0	0
Coleoptera								
Chrysomelidae - larva	0	0	0	0	0	0	0	0
Curculionidae - larva	0	0	0	0	0	0	0	0
Curculionidae - adult	0	0	0	0	0	0	0	0
Dytiscidae - larva	0	0	0	0	0	0	0	0
Gyrinidae - larva	0	0	0	0	0	0	0	0
Haliplidae - larva	0	0	0	0	0	0	0	0
Hemiptera	0	0	0	0	0	0	0	0
Corixidae - larva	0	0	0	0	0	0	0	0
Corixidae - adult	0	0	0	0	0	0	0	0
Gerridae - adult	0	0	0	0	0	0	0	0
Ephemeroptera - unidentified larva	0	0	0	0	0	0	0	0
Baetidae - larva	0	0	0	0	0	0	0	0
Caenidae - larva	0	0	0	0	0	0	0	0
Siphlonuridae - larva	0	0	0	0	0	0	0	0
Trichoptera - unidentified	0	0	0	0	0	0	0	0
Brachycentridae - larva	0	0	0	0	0	0	0	0
Hydropsychidae - larva	0	0	0	0	0	0	0	0
Lepidostomatidae - larva	0	0	0	0	0	0	0	0
Diptera - unidentified pupa	0	0	0	0	0	0	0	0
Ceratopogonidae - larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified larva	0	0	0	0	0	0	0	0
Chironomidae - unidentified pupa	0	0	0	0	0	0	0	0
Chironominae - larva	0	0	0	0	0	0	0	0
Orthocladiinae - larva	0	0	0	0	0	55	27	39
Tanypodinae - larva	0	0	0	0	0	0	0	0
Tipulidae - larva	0	0	0	0	0	0	0	0
Total Insecta	**0**	**0**	**0**	**0**	**0**	**55**	**27**	**39**
Total Invertebrates	**0**	**0**	**0**	**0**	**0**	**110**	**55**	**77**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

Table A3-8. Continued.

Area	8: Clark Lake					
Zone	3				4[2]	
Site	2				1	2
Subsample	A	B	Mean	SD		
Mesh Size (µm)	500					
Annelida						
Oligochaeta	0	279	139	197	t.d.	t.d.
Hirudinea	0	0	0	0	t.d.	t.d.
Total Annelida	**0**	**279**	**139**	**197**	**t.d.**	**t.d.**
Crustacea						
Ostracoda	0	0	0	0	t.d.	t.d.
Amphipoda - unidentified	0	0	0	0	t.d.	t.d.
Gammaridae	0	0	0	0	t.d.	t.d.
Haustoriidae	0	0	0	0	t.d.	t.d.
Talitridae	0	5	2	3	t.d.	t.d.
Diplostraca[1]	0	0	0	0	t.d.	t.d.
Total Crustacea	**0**	**5**	**2**	**3**	**t.d.**	**t.d.**
Arachnida						
Acarina	0	0	0	0	t.d.	t.d.
Mollusca						
Bivalvia						
Pisidiidae	0	0	0	0	t.d.	t.d.
Gastropoda - unidentified	0	0	0	0	t.d.	t.d.
Hydrobiidae	0	0	0	0	t.d.	t.d.
Lymnaeidae	0	0	0	0	t.d.	t.d.
Physidae	0	57	29	40	t.d.	t.d.
Planorbidae	0	45	23	32	t.d.	t.d.
Valvatidae	0	0	0	0	t.d.	t.d.
Total Mollusca	**0**	**102**	**51**	**72**	**t.d.**	**t.d.**
Hydrozoa	0	0	0	0	t.d.	t.d.
Insecta						
Odonata						
Anisoptera						
Aeshnidae - larva	0	0	0	0	t.d.	t.d.
Coleoptera						
Chrysomelidae - larva	0	0	0	0	t.d.	t.d.
Curculionidae - larva	0	0	0	0	t.d.	t.d.
Curculionidae - adult	0	0	0	0	t.d.	t.d.
Dytiscidae - larva	0	0	0	0	t.d.	t.d.
Gyrinidae - larva	0	0	0	0	t.d.	t.d.
Haliplidae - larva	0	0	0	0	t.d.	t.d.
Hemiptera	0	0	0	0	t.d.	t.d.
Corixidae - larva	0	0	0	0	t.d.	t.d.
Corixidae - adult	0	0	0	0	t.d.	t.d.
Gerridae - adult	0	0	0	0	t.d.	t.d.
Ephemeroptera - unidentified larva	0	0	0	0	t.d.	t.d.
Baetidae - larva	0	0	0	0	t.d.	t.d.
Caenidae - larva	0	0	0	0	t.d.	t.d.
Siphlonuridae - larva	0	0	0	0	t.d.	t.d.
Trichoptera - unidentified	0	0	0	0	t.d.	t.d.
Brachycentridae - larva	0	0	0	0	t.d.	t.d.
Hydropsychidae - larva	0	0	0	0	t.d.	t.d.
Lepidostomatidae - larva	0	0	0	0	t.d.	t.d.
Diptera - unidentified pupa	0	0	0	0	t.d.	t.d.
Ceratopogonidae - larva	0	0	0	0	t.d.	t.d.
Chironomidae - unidentified larva	0	0	0	0	t.d.	t.d.
Chironomidae - unidentified pupa	0	2	1	2	t.d.	t.d.
Chironominae - larva	0	17	8	12	t.d.	t.d.
Orthocladiinae - larva	0	114	57	81	t.d.	t.d.
Tanypodinae - larva	0	0	0	0	t.d.	t.d.
Tipulidae - larva	0	0	0	0	t.d.	t.d.
Total Insecta	**0**	**133**	**67**	**94**	**t.d.**	**t.d.**
Total Invertebrates	**0**	**519**	**260**	**367**	**t.d.**	**t.d.**

[1] Scientific name updated according to the Integrated Taxonomic Information System (2006): old name Conchostraca updated to Diplostraca.

[2] t.d. = too deep for sampler.