

APPENDIX I

Aquatic Habitat Descriptions

How To Use This Appendix

This appendix is an alphabetic guide to a great majority of the lakes on the UNDERC property. Each entry includes a brief description of the body of water and its chemistry. Chemical data have been summarized from data collected since 1975. While the vernal ponds of the property have been mapped, they are not included in this guide.

Water chemistry data are self-explanatory. They were obtained by running replicated samples using Hach water chemistry kits (Hach Company, Loveland, Colorado). Samples not in agreement within 5% were discarded. Unless otherwise stated, alkalinity was determined by the total inflection method and color was read at 440 nm.

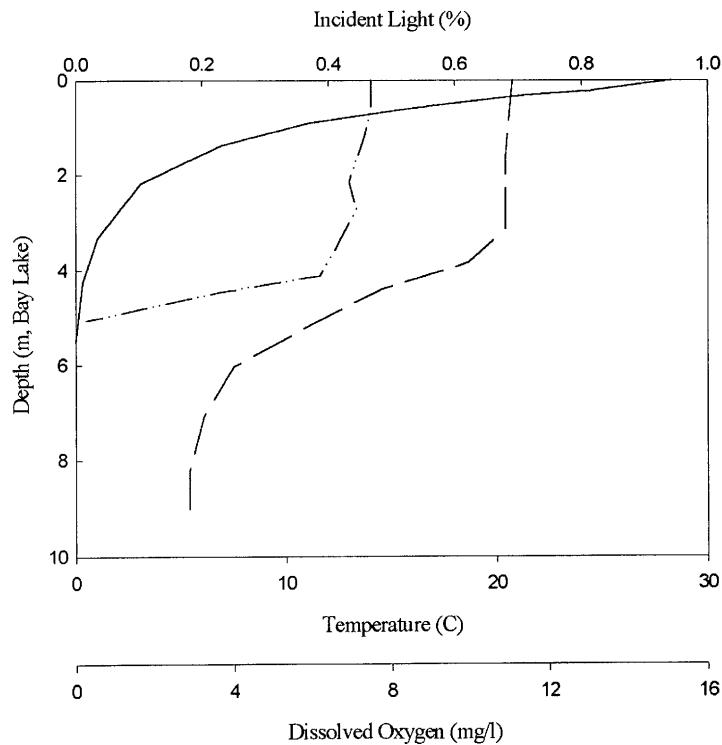
Plankton lists are provided for each body of water and provide genus name only. Each list is not complete, but rather offers a representative sample of the most abundant phytoplankton and zooplankton. Where applicable, a literature reference describing research on the lake is included.

Bay Lake

Bay Lake is a relatively large lake, with about 170 acres (68.9 ha) of surface area. It is divided into four main arms, one of which is not entirely on the property. Thus, Bay is accessible to the public and investigators should be aware of this point. A very small littoral zone (shallow area around the perimeter of the lake) exists with only a few grasses at the edge. The shore line is closely lined with spruce, pine, maple and many birch trees.

Bay lake has northern pike, yellow perch and largemouth and smallmouth bass.

Dominant phytoplankton include: *Anabaena*, *Aphanocapsa*, *Cosmoecium*, *Kirchneriella*, *Melosira*, *Quadrigula* and *Ulothrix*. Dominant zooplankton include: *Daphnia*, *Keratella* and colonial rotifers.



Maximum Depth (M)	Secchi Depth (M)	Chlorophyll _a (Mg/l)	Alkalinity (Mg/l CaCO ₃)	pH	Conductivity (μS)	Color
13.7	4.3	4.56	1.03	6	14	28.75

Data Source: Elser, 1987; S.R. Carpenter, unpublished; UNDERC, unpublished

Beaver Bog

Beaver Bog is a small, very acid bog. It is a seepage lake, not being fed or emptied by any stream. The outer perimeter is heavily forested with evergreens such as spruce and hardwoods such as maple and aspen. The inner perimeter of the bog is densely packed with a floating mat of *Sphagnum* moss. The mat extends up to 40 m in some directions and supports a sizable plant population. Common plants found on the mat include tamarack, leatherleaf, Labrador tea, pitcher plants, sundew and swamp laurel.

Dominant phytoplankton include: *Asterionella*, *Cosmarium*, *Raphidiopsis*, *Chodatella*, *Ulothrix* and *Dinobryon*. Dominant zooplankton include: *Brachionus*, *Keratella* and *Polyarthra*.

Maximum Depth (M)	Secchi Depth (M)	Chlorophyll _a (Mg/l)	Alkalinity (Mg/l CaCO ₃)	pH	Conductivity (μS)	Color
ND	2.15	ND	ND	3.6	ND	150

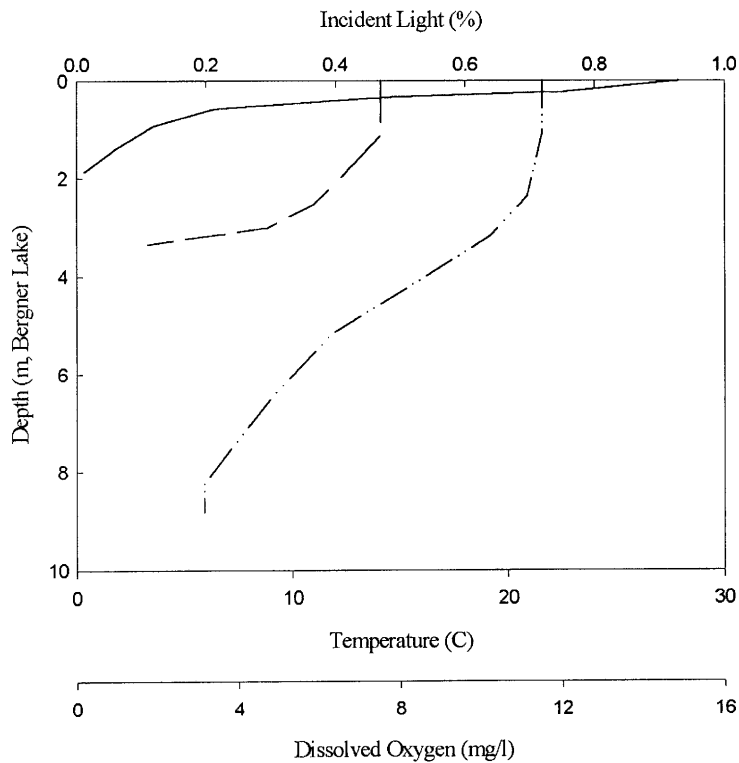
Data Source: S.R. Carpenter, unpublished; UNDERC, unpublished

Bergner Lake

Bergner Lake is roughly dumb-bell shaped with the lobes oriented to the north and south. The lake has a surface area of 23 acres (9.3 ha). There is a relatively deep hole in the southeast corner of the lake. Since the surrounding area is open, the surface becomes very choppy on windy days. The banks of the lake are very flat and contain a thick mat of shrubs. The surrounding terrain is mostly coniferous. **Access to this lake is prohibited without permission from the UNDERC Director or Assistant Director.**

Bergner contains yellow perch, sunfish and bass.

Dominant phytoplankton include: *Asterionella*, *Dinobryon* and *Tabellaria*. Dominant zooplankton are not well known in Bergner Lake.



Maximum Depth (M)	Secchi Depth (M)	Chlorophyll _a (Mg/l)	Alkalinity (Mg/l CaCO ₃)	pH	Conductivity (μS)	Color
12	2.4	6.19	4.64	5.2	15	82.5

Data Source: S.R. Carpenter, unpublished; UNDERC, unpublished

Bog Pot Lake

Bog Pot is a shallow body of water approximately two (2) meters deep. It is two to three times as long as it is wide. The southeast end holds a small floating *Sphagnum* island. The perimeter of the lake is covered with various grasses and sedges. There is a marshy area surrounding the east end where a small spring enters from the shore. Hardwoods and evergreens dominate the sloping shoreline. The lake is brown and murky, with a large water lily population. Many tadpoles, sticklebacks and mudminnows inhabit the grassy edges of Bog Pot.

Dominant phytoplankton include: *Dinobryon*. Dominant zooplankton include: *Asplanchna*, *Eucyclops* and *Keratella*.

Maximum Depth (M)	Secchi Depth (M)	Chlorophyll _a (Mg/l)	Alkalinity (Mg/l CaCO ₃)	pH	Conductivity (μS)	Color
2	1.25	ND	ND	5.2	ND	155

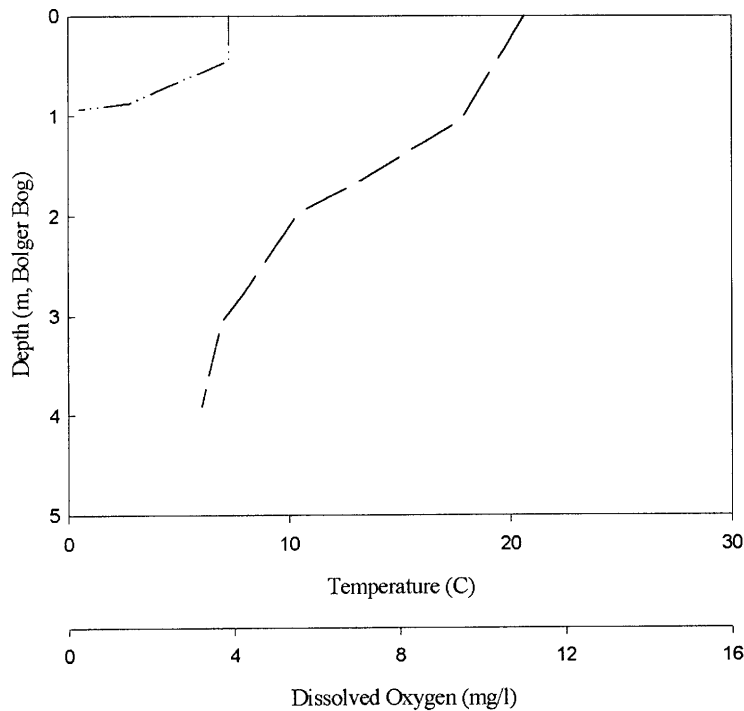
Data Source: S.R. Carpenter, unpublished; UNDERC, unpublished

Bolger Bog

Bolger Bog is a large kettle bog with a *Sphagnum* mat that extends three to six meters from the shore. Due to the expanse of the mat, Bolger affords a good example of a "quaking bog" since the entire mat quakes when one walks on it. Pitcher plants, sundew, Labrador tea, leather leaf, bog cranberry and tamarack all abound here. Beyond the bog mat, conifers such as white cedar and black spruce are present. Bolger is a seepage lake.

The larger fish in Bolger are suckers, shiners, bluegills and northern pike. Several small species of fish that live under and around the mat include the mudminnow, bluntnose minnow, northern redbelly dace and brook stickleback.

Dominant phytoplankton include: *Asterionella*, *Cryptomonas* and *Dinobryon*. Dominant zooplankton include: *Cyclops* and *Keratella*.



Maximum Depth (M)	Secchi Depth (M)	Chlorophyll _a (Mg/l)	Alkalinity (Mg/l CaCO ₃)	pH	Conductivity (μS)	Color
ND	0.75	ND	ND	5.4	ND	225

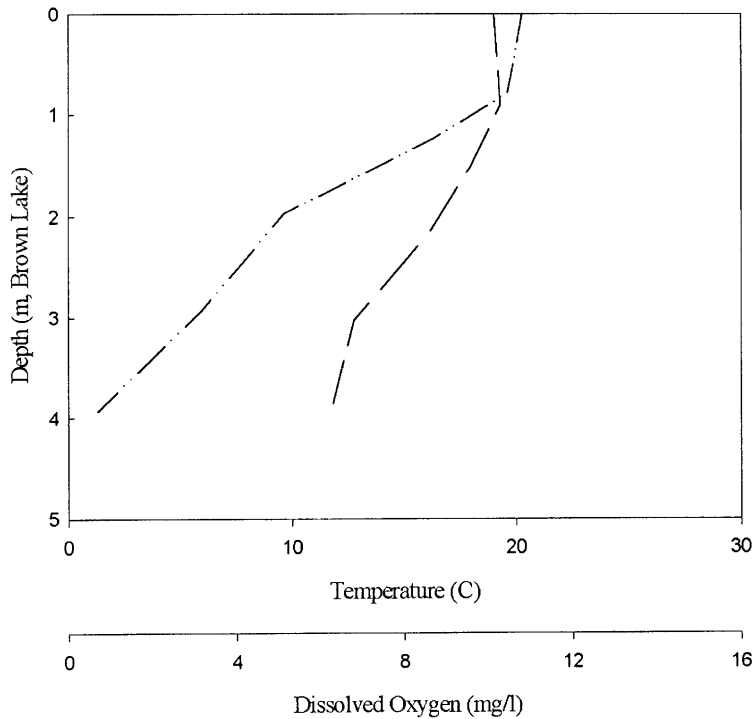
Data Source: S.R. Carpenter, unpublished; UNDERC, unpublished

Brown Lake

Brown Lake lies north of Crampton Lake and drains to the northwest into Brown Creek. It has a surface area of 63 acres (25.5 ha) and is relatively shallow with a maximum recorded depth of approximately 4.5 m. The water in Brown Lake is very turbid with a Secchi depth of less than 1 m. **Access to this lake is prohibited without permission from the UNDERC Director or Assistant Director.**

Brown Lake supports a fish assemblage consisting of northern pike, walleye, black crappie, yellow perch, bluegill, pumpkinseed, golden shiner and white sucker.

Dominant phytoplankton include: *Aphanizomenon* and *Anabaena*. Dominant zooplankton include: *Daphnia*, *Conochilus* and a variety of calanoid and cyclopoid copepods.



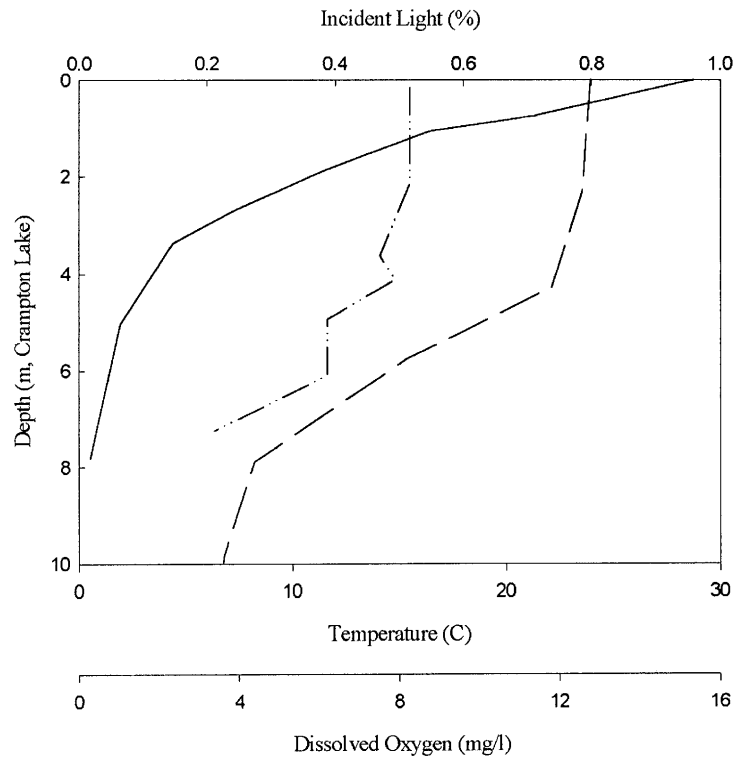
Maximum Depth (M)	Secchi Depth (M)	Chlorophyll _a (Mg/l)	Alkalinity (Mg/l CaCO ₃)	pH	Conductivity (μS)	Color
5.49	0.7	114.96	64.00	8.39	133.5	ND

Data Source: UNDERC, unpublished

Crampton Lake

This is the most easterly lake on the property. It has a surface area of almost 72 acres (29 ha) and is endowed with very clear water. There is some doubt as to whether it is a seepage lake, because no apparent drainage exists. **Access to this lake is prohibited without permission from the UNDERC Director or Assistant Director.**

The phytoplankton and zooplankton of this lake are not well known.



Maximum Depth (M)	Secchi Depth (M)	Chlorophyll _a (Mg/l)	Alkalinity (Mg/l CaCO ₃)	pH	Conductivity (μS)	Color
ND	4.25	4.13	0.09	6.0	18	25

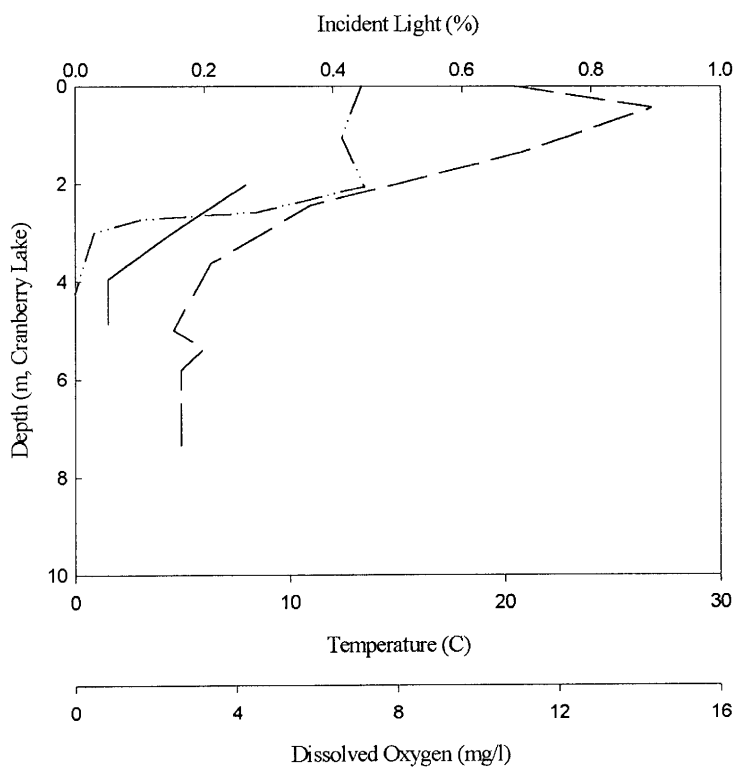
Data Source: Elser, 1987; Flanigon, 1942; S.R. Carpenter, unpublished; UNDERC, unpublished.

Cranberry Lake

Cranberry Lake lies northwest of Roach Lake and has a surface area of 3.0 acres (1.2 ha). The lake is located in an area of the property which has been inaccessible until recently. Improved lake access will enhance the collection of both biological and chemical data on Cranberry Lake in the next several years.

Initial fish surveys of Cranberry Lake indicate abundant populations of mudminnows.

Dominant zooplankton include: *Holopedium*, *Tropocyclops*, *Mesocyclops*, *Chaoborus punctipennis* and *Alona*.



Maximum Depth (M)	Secchi Depth (M)	Chlorophyll _a (Mg/l)	Alkalinity (Mg/l CaCO ₃)	pH	Conductivity (μS)	Color
7.5	1.3	ND	ND	5.33	ND	ND

Data Source: UNDERC, unpublished.

Donut Bog

Donut gets its name from the presence of a "moat" of open water surrounding a central floating *Sphagnum* island. Care should be taken in negotiating the open water. It is deep!

There are no data on the phytoplankton and zooplankton of this bog.

Maximum Depth (M)	Secchi Depth (M)	Chlorophyll _a (Mg/l)	Alkalinity (Mg/l CaCO ₃)	pH	Conductivity (μS)	Color
ND	ND	ND	ND	3.9?	ND	75

Data Source: S.R. Carpenter, unpublished; UNDERC, unpublished

Ed's Bog

Ed's Bog is relatively small compared to other bogs on the UNDERC property. It is a seepage lake and possesses a well-developed bog mat. The mat supports leatherleaf, tamarack, several grasses and sedges. Around the water's edge, *Utricularia* abounds. Ed's Bog is well protected from the wind by the growth of trees close to the water's edge. Dominant trees on the shore are black spruce and tamarack. In early spring great numbers of tadpoles may be seen in the open water.

Dominant phytoplankton include: *Dinobryon*, *Staurastrum* and *Ankistrodesmus*. Dominant zooplankton include: *Alona*, *Ceriodaphnia*, *Daphnia*, *Diaptomus*, *Keratella*, *Chaoborus* larvae and *Cyclops*.

Maximum Depth (M)	Secchi Depth (M)	Chlorophyll _a (Mg/l)	Alkalinity (Mg/l CaCO ₃)	pH	Conductivity (μS)	Color
ND	ND	ND	ND	4.2	ND	165

Data Source: S.R. Carpenter, unpublished; UNDERC, unpublished

Firestone Lake

This body of water is actually a marshy area belonging to Bergner Lake. An old beaver dam, which created the lake, stands at the southwest end of the area. The surface area of Firestone Lake is about 7.5 acres (3 ha).

There are no data available on the plankton of Firestone Lake.

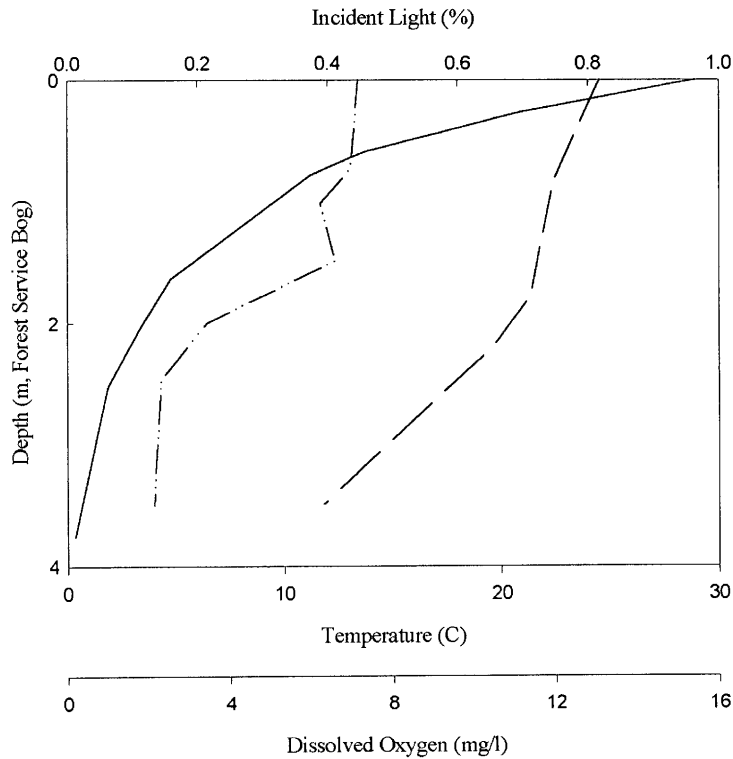
Maximum Depth (M)	Secchi Depth (M)	Chlorophyll _a (Mg/l)	Alkalinity (Mg/l CaCO ₃)	pH	Conductivity (μS)	Color
ND	ND	ND	ND	5.95	ND	90

Data Source: S.R. Carpenter, unpublished; UNDERC, unpublished

Forest Service Bog

Forest Service is a deep bog with a false bottom. The bottom is covered with 2-3 meters of silt. Much of the surface of the bog is overgrown with *Sphagnum* and there is a small floating island as well. The mat supports a dense population of black spruce, tamarack, swamp laurel, leatherleaf, pitcher plants and sundew.

Dominant phytoplankton include: *Asterionella*, *Desmidium*, *Dinobryon*, *Rhizoclonium*, *Scenedesmus* and *Ulothrix*. Dominant zooplankton include: *Daphnia* and *Keratella*.



Maximum Depth (M)	Secchi Depth (M)	Chlorophyll _a (Mg/l)	Alkalinity (Mg/l CaCO ₃)	pH	Conductivity (μS)	Color
4.5	3.0	2.17	ND	4.7	10	45

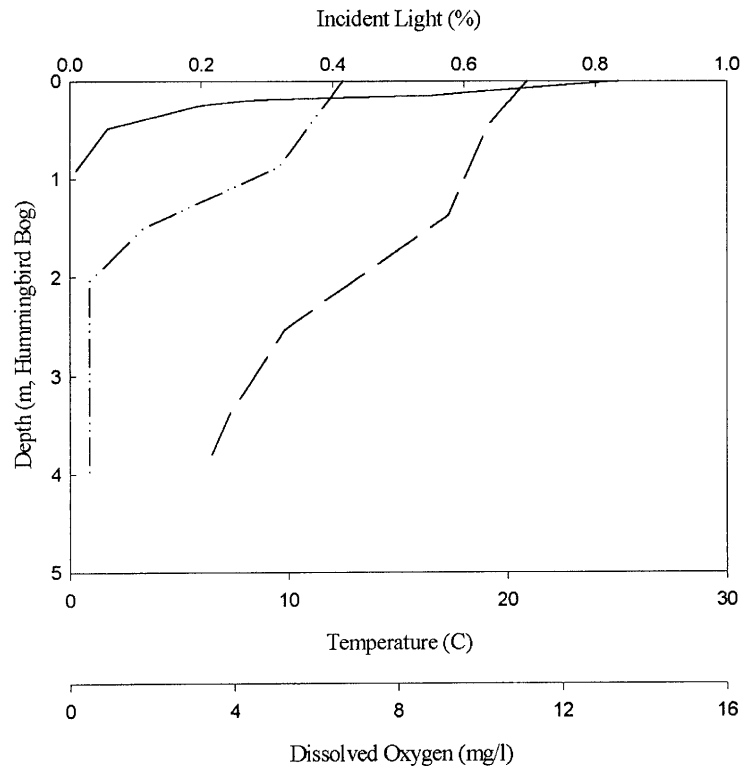
Data Source: Elser, 1987; von Ende, 1981, 1982; S.R. Carpenter, unpublished; UNDERC, unpublished

Hummingbird Bog

Lying just west of Bay Lake and south of Peter Lake, Hummingbird Bog is sheltered from the wind by a tall stand of spruce-dominated conifers with tamarack and alder reaching to the bog edge. A 2.5 acres (1.0 ha) elliptically shaped bog, Hummingbird has a soft peaty bottom and is surrounded by a narrow mat of *Sphagnum*. Other vegetation includes leatherleaf, Labrador tea and pitcher plants, as well as a substantial number of dead trees standing partially submerged in the bog.

A small fish population of stunted yellow perch lives in the bog, although it has been suggested that they are unable to reproduce in the highly acidic water. The proximity of the bog to Bay Lake forms a lowland isthmus that may be flooded in the spring, thus forming a channel for fish migration.

Dominant phytoplankton include: *Asterionella* and *Peridinium*. Dominant zooplankton include: *Cyclops* and *Polyarthra*.



Maximum Depth (M)	Secchi Depth (M)	Chlorophyll _a (Mg/l)	Alkalinity (Mg/l CaCO ₃)	pH	Conductivity (μS)	Color
7.0	0.75	16.28	ND	4.7	17	100

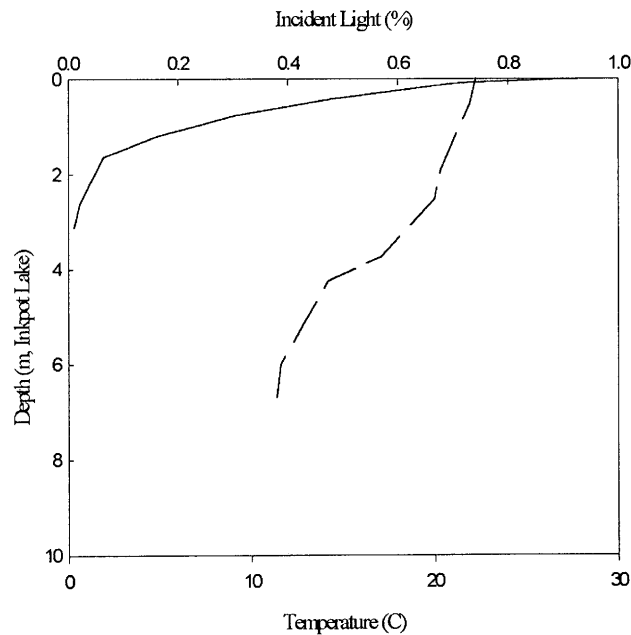
Data Source: Allan, 1973; S.R. Carpenter, unpublished; UNDERC, unpublished

Inkpot Lake

Inkpot, as its name implies, is a darkly stained lake, although not as dark as any of the bogs. The surface area is 16 acres (6.5 ha). At the northwest corner of the lake is a marsh, which extends for almost 100 meters, and is bounded externally by hardwood forest. The forest is composed of three main types of trees: black spruce, white spruce and cedar. Yellow water lilies abound around the edges of the lake. **Access to this lake is prohibited without permission from the UNDERC Director.**

Inkpot contains northern pike, yellow perch and muskellunge. The lake was also stocked with walleye.

Dominant phytoplankton include: *Anabaena*, *Asterionella*, *Chlorella*, *Dinobryon*, *Peridinium*, *Protococcus* and *Scenedesmus*. Dominant zooplankton include: *Cyclops*, *Ploesoma* and *Polyarthra*.



Maximum Depth (M)	Secchi Depth (M)	Chlorophyll _a (Mg/l)	Alkalinity (Mg/l CaCO ₃)	pH	Conductivity (μS)	Color
ND	1.1	9.11	10.3	7.5	62	61.9

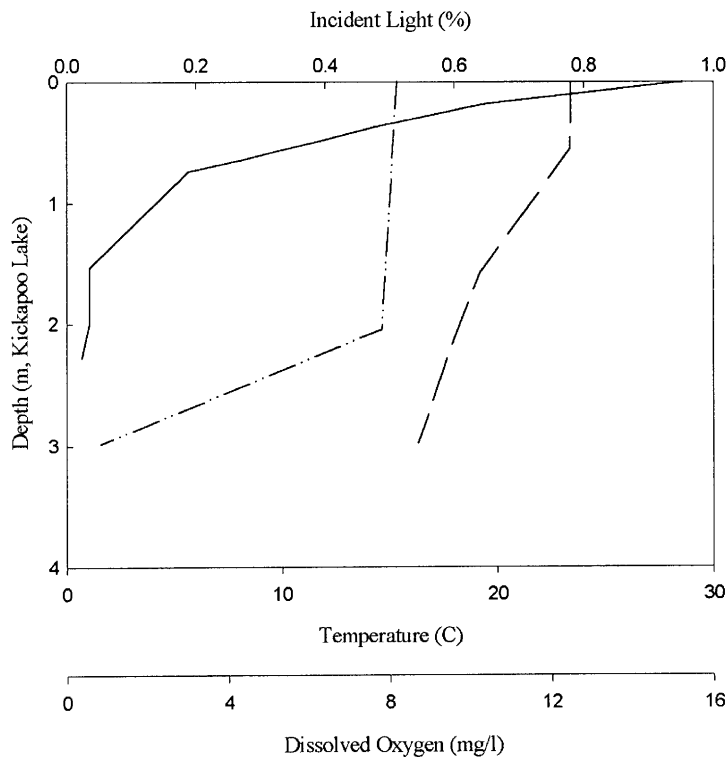
Data Source: Elser, 1987; S.R. Carpenter, unpublished, UNDERC, unpublished

Kickapoo Lake

This a moderately sized lake with a surface area of 15 acres (6.1 ha). The lake is roughly circular in shape and is relatively shallow with a bottom depth of 3.25 meters. It is a dark water lake, characterized by a murky bottom covered with several centimeters of soft sediments. At the shore-water interface there are scattered clusters of water lilies. There are several meters of marshy grasses around the shoreline, which support an unusually high population of ticks. **Access to this lake is prohibited without permission from the UNDERC Director or Assistant Director.**

The lake supports a fish population of muskellunge, yellow perch, crappie and northern pike.

Dominant phytoplankton include: *Anabaena*, *Asterionella*, *Dinobryon* and *Oedogonium*. Dominant zooplankton include: *Asplanchna* and *Keratella*.



Maximum Depth (M)	Secchi Depth (M)	Chlorophyll _a (Mg/l)	Alkalinity (Mg/l CaCO ₃)	pH	Conductivity (μS)	Color
3.25	1.3	13.2	8.7	7.3	59.8	47

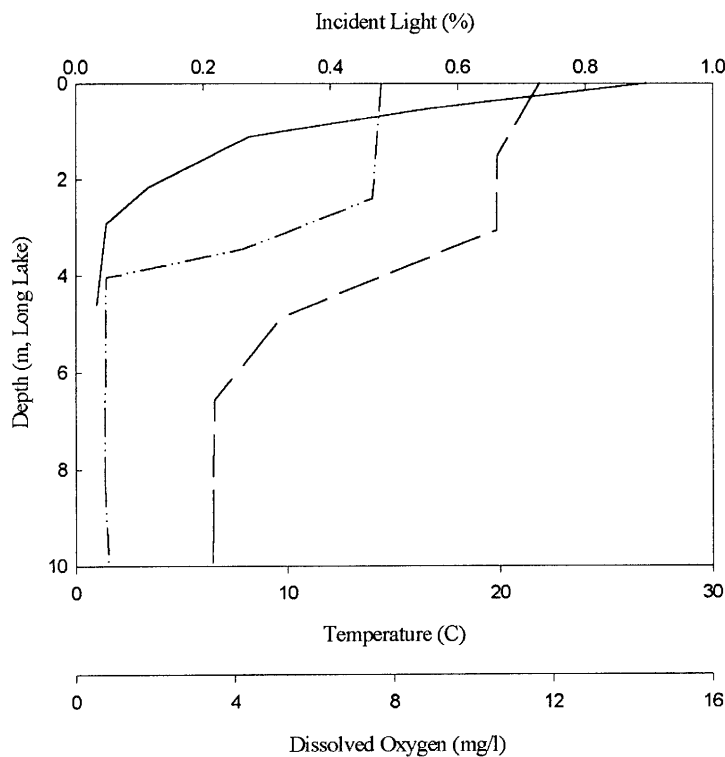
Data Source: Elser, 1987; S.R. Carpenter, unpublished; UNDERC, unpublished

Long (Kinwamakwad) Lake

Long Lake is roughly dumb-bell shaped, with two basins running east to west. It has a surface area of 20 acres (8.1 ha) and a maximum depth of about 14 m. The two basins are connected by a shallower area with a depth of about 4 m. No inlets or drainage areas seem to be present, and the lake has a rather muddy bottom. It is lined with a thin band of conifers, behind which extends a maple-beech forest. Tamarack, pines and shrubs predominate, and a small amount of *Sphagnum* is present along sections of the lake margin. The bank directly south of the central dock is faced with leatherleaf and sedges, with water lilies growing in the shallows. Freshwater sponges are occasionally found encrusting submerged logs and branches. Although Long has no obvious inlets or outlets, seepage between it and Bay Lake at its northwest corner is suggested. **Access to this lake is prohibited without permission from the UNDERC Director or Assistant Director.**

Long Lake contains a good population of both largemouth and smallmouth bass.

Dominant phytoplankton include: *Chryso-sphaerella*, *Cryptomonas*, *Dinobryon*, and *Synura*. Dominant zooplankton include: *Daphnia* and *Keratella*.



Maximum Depth (M)	Secchi Depth (M)	Chlorophyll _a (Mg/l)	Alkalinity (Mg/l CaCO ₃)	pH	Conductivity (μS)	Color
14	3.6	6.28	0.71	6.0	15	55

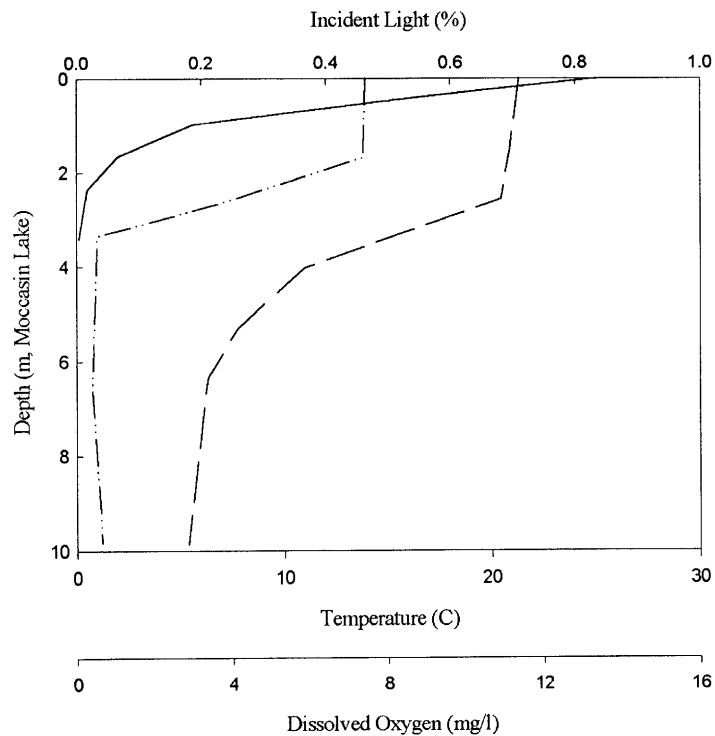
Data Source: Elser, 1987; S.R. Carpenter, unpublished; UNDERC, unpublished

Moccasin Lake

Moccasin Lake has a surface area of about 15 acres (6.1 ha) and drains into Inkpot Lake.
Access to this lake is prohibited without permission from the UNDERC Director.

Moccasin Lake fishes include walleye and large muskellunge.

Dominant phytoplankton and zooplankton populations are not documented.



Maximum Depth (M)	Secchi Depth (M)	Chlorophyll _a (Mg/l)	Alkalinity (Mg/l CaCO ₃)	pH	Conductivity (μS)	Color
12	17	20.59	4.6	7.1	37	75

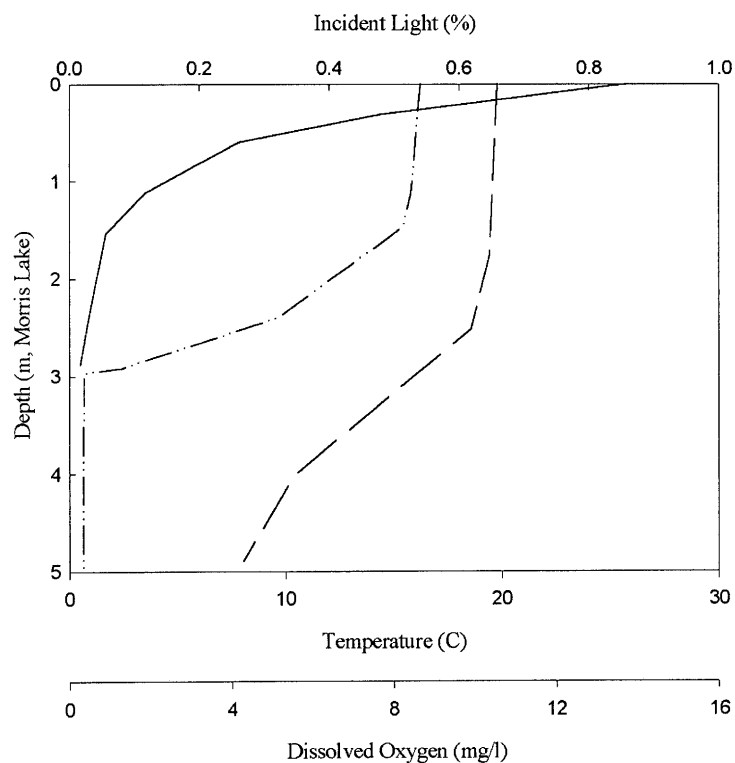
Data Source: Elser, 1987; S.R. Carpenter, unpublished; UNDERC, unpublished

Morris Lake

Comprising an area of 12 acres (4.9 ha), Morris is a fairly shallow lake whose most distinguishing feature is a prominent point jutting out from the north bank. While most of the shores of the lake are level, the southeastern and eastern shores are steeply banked. Most of Morris is surrounded by a "hedge" of alder, with only a few evergreen stands. There are several beaver lodges on the lake. Extensive littoral growth and submerged macrophytes (especially *Elodea*) grow from the lake's muddy bottom, along with patches of lily pads extending outward from the shore.

Minnnows and stunted northern pike abound in the lake along with a few yellow perch.

Dominant phytoplankton include *Dinobryon*. Dominant zooplankton include: *Asplanchna* and *Keratella*.



Maximum Depth (M)	Secchi Depth (M)	Chlorophyll _a (Mg/l)	Alkalinity (Mg/l CaCO ₃)	pH	Conductivity (μS)	Color
ND	1.6	25.05	10.8	7.5	95	90

Data Source: Elser, 1987; S.R. Carpenter, unpublished; UNDERC, unpublished

Mullahy Lake

Mullahy is a small lake with a surface of about 1.2 acres (.5 ha). It is a rather marshy body of water. Mullahy drains into Ward Lake through a narrow channel.

Bluegill and sunfish are the dominant fish found in the lake.

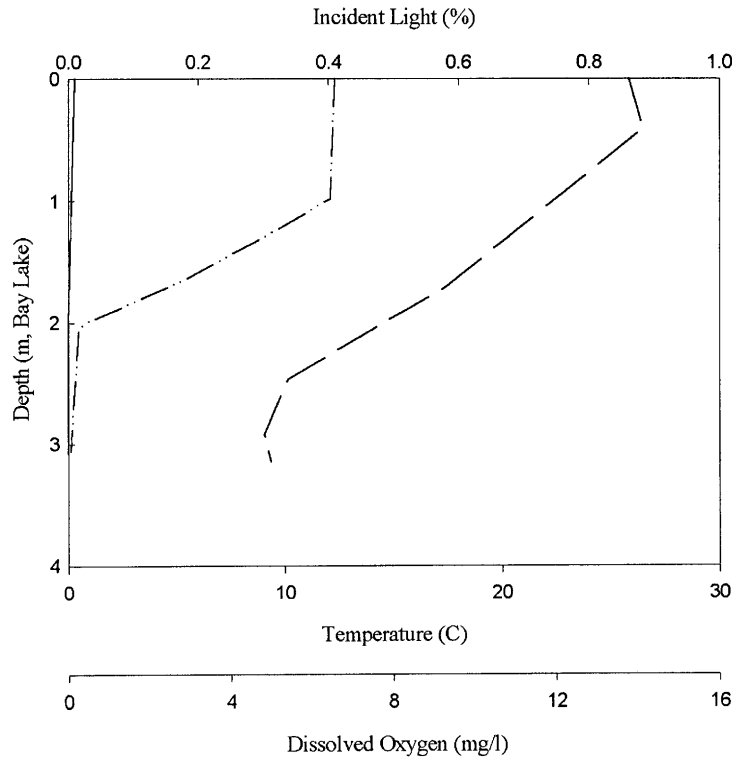
There are no data on the phytoplankton and zooplankton of Mullahy Lake.

Maximum Depth (M)	Secchi Depth (M)	Chlorophyll _a (Mg/l)	Alkalinity (Mg/l CaCO ₃)	pH	Conductivity (μS)	Color
ND	ND	ND	ND	5.8	ND	50

Data Source: S.R. Carpenter, unpublished; UNDERC, unpublished

Nansen Lake

Nansen Lake is located north of Cranberry and has a surface area of 9 acres (3.7 ha). The area immediately surrounding the lake is not forested and is dominated by low shrubs and grasses characteristic of bog mats. The lake is located in an area of the property which has been inaccessible until recently. Improved lake access will enhance the collection of both biological and chemical data on Nansen Lake in the next several years.



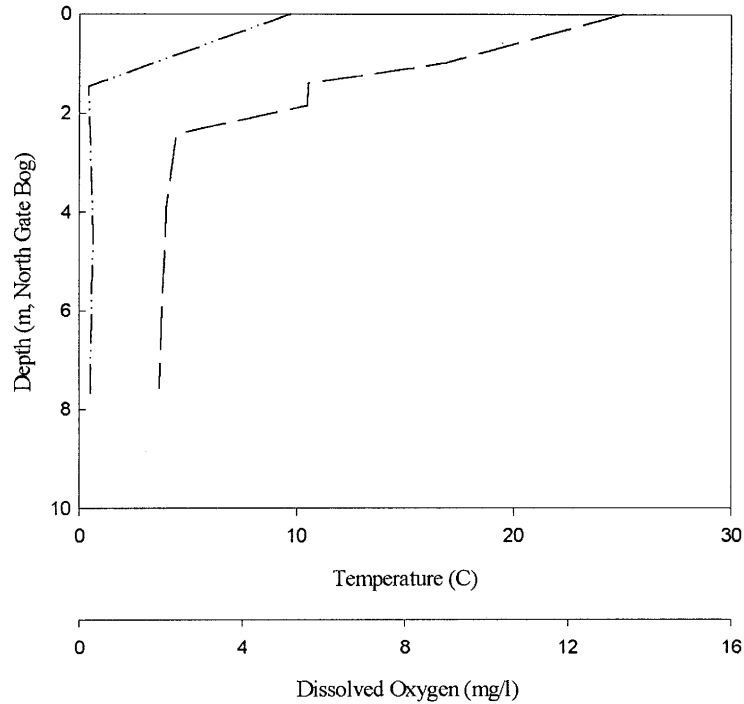
Maximum Depth (M)	Secchi Depth (M)	Chlorophyll _a (Mg/l)	Alkalinity (Mg/l CaCO ₃)	pH	Conductivity (μS)	Color
3.25	0.7	ND	ND	6.6	ND	ND

Data Source: UNDERC, unpublished

North Gate Bog

This is a small, darkly stained body of water with a rich phytoplankton and zooplankton population. 90% of the incident light at the surface is extinguished between 0.5 and 1.0 meter. The surface area of North Gate Bog is 4.5 acres (1.8 ha).

Dominant phytoplankton include: *Ceratium*, *Chryso-sphaerella* and *Micrasterias*.
 Dominant zooplankton include: *Bosmina*, *Daphnia* and *Keratella*.



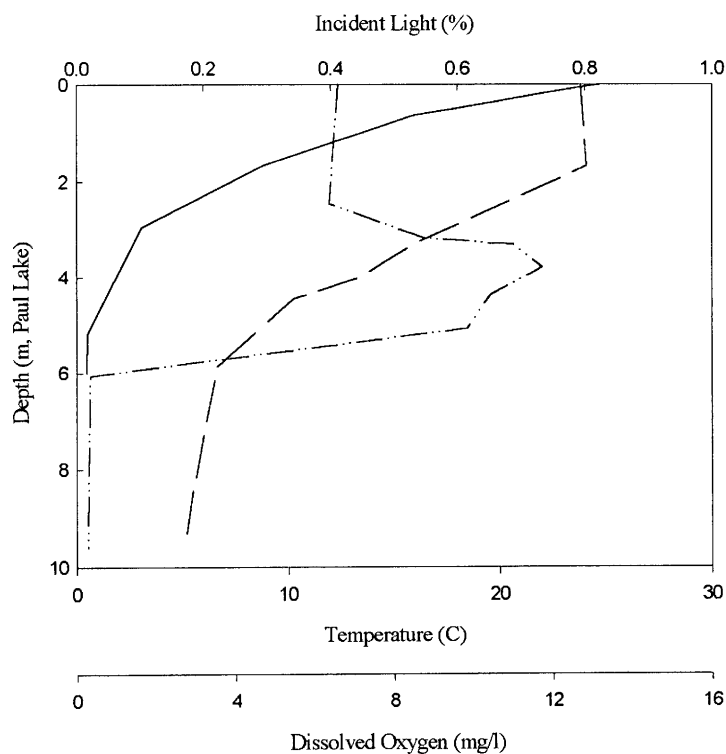
Maximum Depth (M)	Secchi Depth (M)	Chlorophyll _a (Mg/l)	Alkalinity (Mg/l CaCO ₃)	pH	Conductivity (μS)	Color
6.0	ND	ND	2.38	4.8	ND	ND

Data Source: Koenings, 1976; S.R. Carpenter, unpublished; UNDERC, unpublished

Paul Lake

Paul is the smaller of the Peter/Paul Lake complex (2.5 acres (1.0 ha)) that consists of two basins connected by a narrow culvert. At one time, Peter/Paul was one large lake separated by a shallow channel. A dam was built across the channel providing a road between the two basins and the culvert was maintained for drainage from Paul into Peter. Paul is one of three lakes that supports most of the active research at UNDERC (see Peter and Tuesday Lakes). **Access to this lake is prohibited without permission from the UNDERC Director or Assistant Director.**

Dominant phytoplankton include: *Cryptomonas*, *Dinobryon*, *Merismopedia*, *Sphaerocystis*, and *Teracystis*. Dominant zooplankton include: *Daphnia*, *Holopedium*, *Cyclops*, *Keratella* and *Polyarthra*.



Maximum Depth (M)	Secchi Depth (M)	Chlorophyll _a (Mg/l)	Alkalinity (Mg/l CaCO ₃)	pH	Conductivity (μS)	Color
15	5.25	4.29	1.07	6.3	12	35

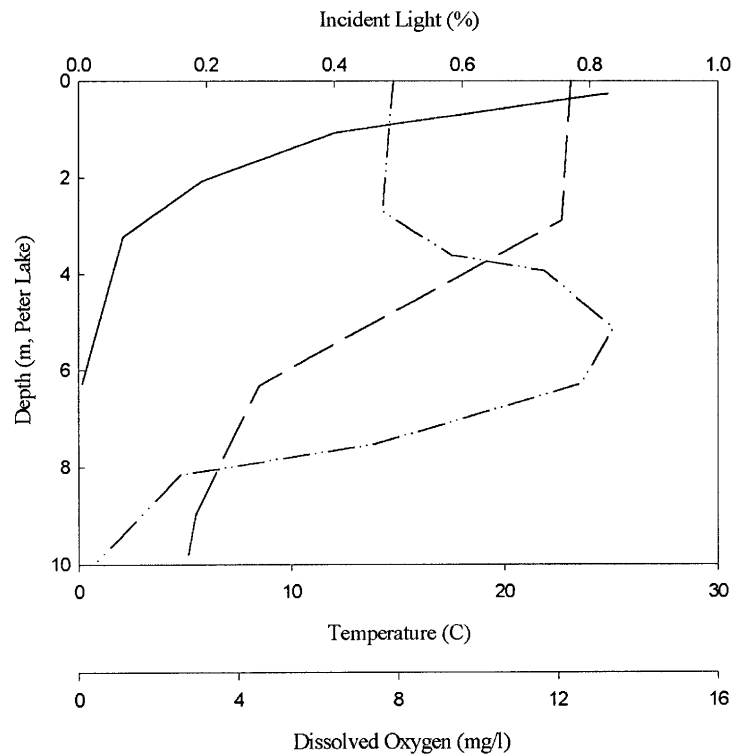
Data Source: Elser, 1987, Elser *et al.*, 1986; S.R. Carpenter, unpublished; UNDERC, unpublished

Peter Lake

Located at the north end of the property, Peter Lake is 7 acres (2.8 ha) in area. Muddy shores support a rich macrophyte population including cattail, arrowhead, sedges, reeds and wild iris in the marshy areas. Swamp laurel, pitcher plants, sundew and *Sphagnum* moss also exist around the more "boggy" areas of the lake. Trees dominated by black spruce and other conifers slope down to the lake edge where a few tamaracks are found. **Access to this lake is prohibited without permission from the UNDERC Director or Assistant Director.**

Peter Lake has had a large population of bass removed as part of a current project looking at trophic interactions and changes in productivity (included in the same study are Paul and Tuesday Lakes).

Dominant phytoplankton include: *Aphanocapsa*, *Dinobryon*, *Oocystis*, *Sphaerocystis*.
 Dominant zooplankton include: *Daphnia*, *Conochilus* and *Orthocyclops*.



Maximum Depth (M)	Secchi Depth (M)	Chlorophyll _a (Mg/l)	Alkalinity (Mg/l CaCO ₃)	pH	Conductivity (μS)	Color
19.6	4.8	3.64	2.4	6.9	22	26

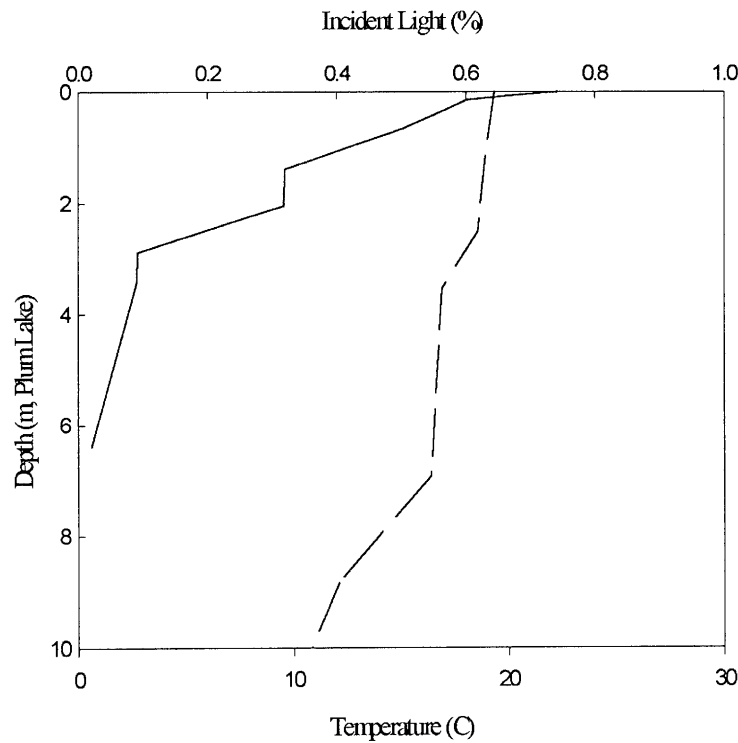
Data Source: Elser, 1987; Elser *et al.*, 1986; S.R. Carpenter, unpublished; UNDERC, unpublished

Plum Lake

Plum Lake is located east of Tenderfoot Lake and south of Inkpot Lake. It has a large surface area, 220 acres (89.1 ha), making it the second largest lake on the UNDERC property and the largest lake entirely on the property. Plum Lake routinely develops blooms of algae during the summer. It gets its water from Inkpot Lake and drains into Kickapoo Lake. **Access to this lake is prohibited without permission from the UNDERC Director.**

Plum Lake fishes include pumpkinseed, bluegill, smallmouth bass, yellow perch, walleye, northern pike and muskellunge.

Dominant phytoplankton and zooplankton populations are not documented.



Maximum Depth (M)	Secchi Depth (M)	Chlorophyll _a (Mg/l)	Alkalinity (Mg/l CaCO ₃)	pH	Conductivity (μS)	Color
12	25	6.87	8.3	7.5	50	40

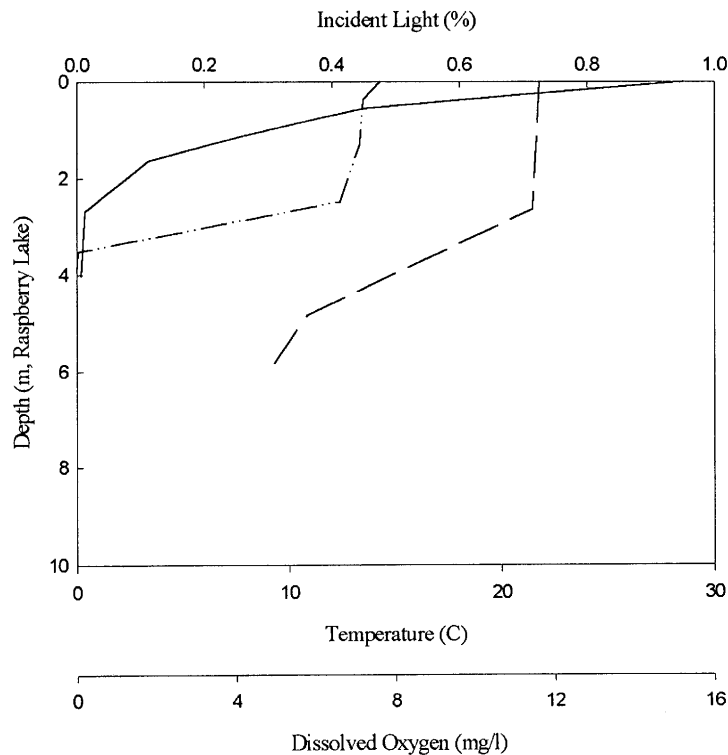
Data Source: Elser, 1987; S.R. Carpenter, unpublished; UNDERC, unpublished

Raspberry Lake

Raspberry is a kettle lake surrounded by a bog mat with hardwoods farther back from the lake edge. Plants associated with the mat include *Sphagnum*, leatherleaf, sundew, bladderwort, pitcher plants and tamarack. The terrain surrounding the lake is small rolling hills that produce a slight slope towards the lake. Raspberry is small, with a surface area of only 10.5 acres (4.3 ha). **Access to this lake is prohibited without permission from the UNDERC Director or Assistant Director.**

Smallmouth and largemouth bass are found in Raspberry's waters.

Dominant phytoplankton include: *Anabaena*, *Anacystis*, *Melosira*, *Oscillatoria* and *Tabellaria*. Dominant zooplankton include: *Asplanchna*, *Bosmina*, *Cyclops*, *Daphnia* and *Keratella*.



Maximum Depth (M)	Secchi Depth (M)	Chlorophyll _a (Mg/l)	Alkalinity (Mg/l CaCO ₃)	pH	Conductivity (μS)	Color
6	2.75	7.09	0.59	5.9	12	43.3

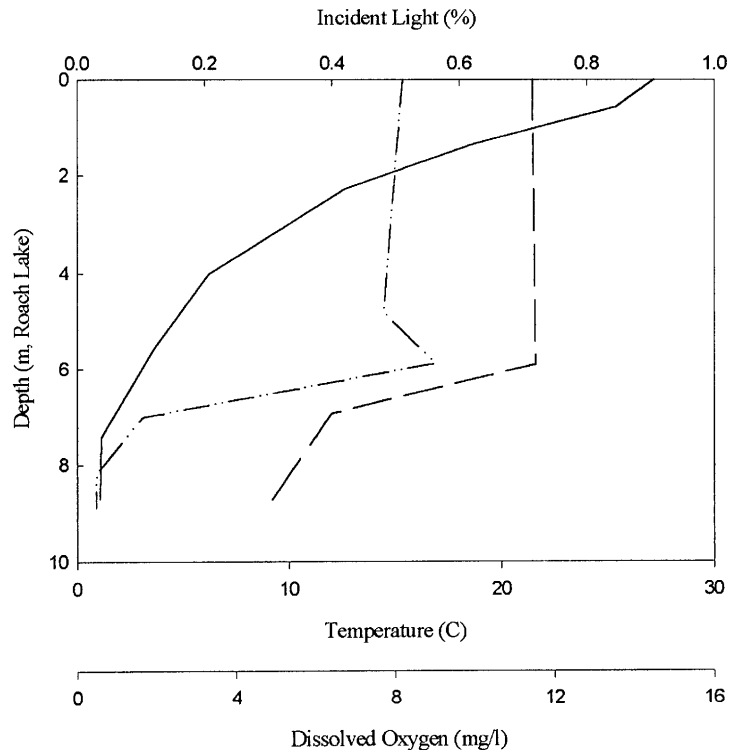
Data Source: Elser, 1987; S.R. Carpenter, unpublished; UNDERC, unpublished

Roach Lake

Roach Lake's most noticeable characteristic is the clearness of its water. It is a large lake with a surface area of 87 acres (35.2 ha). Roach is a seepage lake surrounded primarily by birch. Conifers are virtually absent from the thick woods surrounding the lake. There are two small islands in Roach. **Access to this lake is prohibited without permission from the UNDERC Director or Assistant Director.**

The lake has yellow perch, largemouth bass, pumpkinseed and muskellunge. In June 1979, a 124.5 cm (49 inch) muskellunge was taken from Roach on an artificial lure.

Dominant phytoplankton include: *Asterionella*, *Dinobryon* and *Peridinium*.
 Dominant zooplankton include: *Bosmina*, *Eucyclops*, *Keratella*, *Orthocyclops* and *Trichocera*.



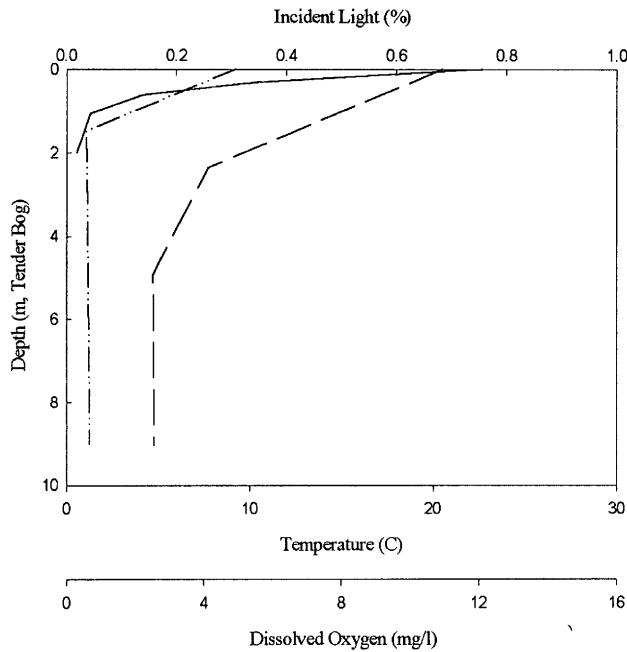
Maximum Depth (M)	Secchi Depth (M)	Chlorophyll _a (Mg/l)	Alkalinity (Mg/l CaCO ₃)	pH	Conductivity (μS)	Color
10	5.4	5.09	0.59	5.9	12	22.4

Data Source: Carpenter and McCreary, 1985; Elser, 1987; S.R. Carpenter, unpublished; UNDERC, unpublished

Tender Bog

Tender Bog has an open water surface area of about 2.5 acres (1.0 ha) and is about 15 m deep. There is an extensive bog mat surrounding the open water, beyond which a thick coniferous forest is flourishing.

Dominant phytoplankton include: *Cryptomonas*, *Dinobryon*, *Oedogonium*, *Spirogyra*, *Staurastrum*, *Tabellaria* and *Zygnema*. Dominant zooplankton include: *Bosmina*, *Daphnia* and *Keratella*.



Maximum Depth (M)	Secchi Depth (M)	Chlorophyll _a (Mg/l)	Alkalinity (Mg/l CaCO ₃)	pH	Conductivity (μS)	Color
15	1.1	7.31	ND	4.2	22	122.5

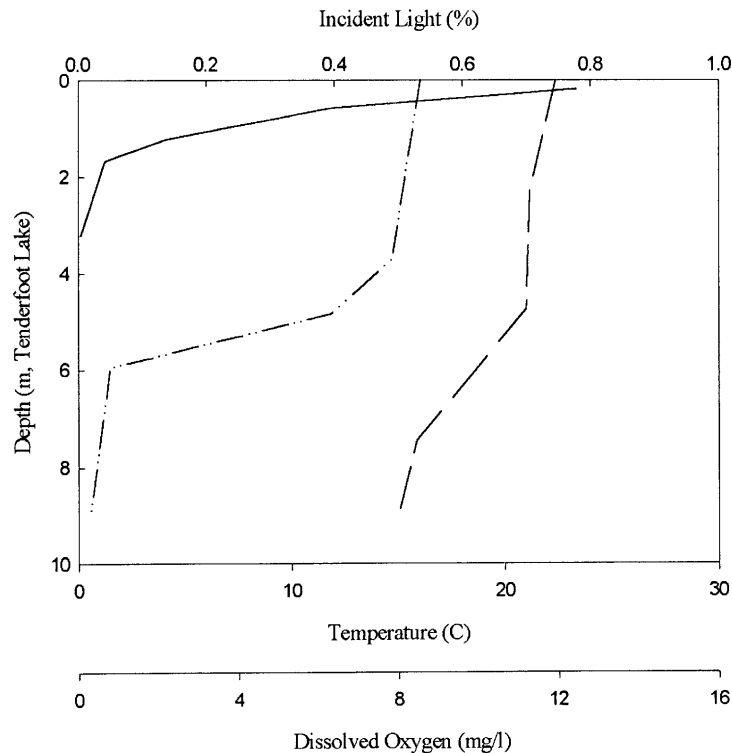
Data Source: S.R. Carpenter, unpublished; UNDERC, unpublished

Tenderfoot Lake

Tenderfoot is a very large lake with a surface area approaching 442 acres (179 ha). The lake has five small bays and two islands. Tenderfoot Lake is a drainage lake, having inflow and outflow through established streams. There are many large weed beds through the lake and surrounding shore, which include water milfoil, waterweed, cattail, duckweed and fragrant water lily. The shore has a combination of conifers and hardwoods.

Fish in the lake include muskellunge, northern pike, walleye, yellow perch, crappie, sunfish, rock bass and largemouth and smallmouth bass. Tenderfoot Lake is not totally on the UNDERC property and, as a result, is accessible to the public.

Dominant phytoplankton include: *Anabaena*, *Aphanocapsa*, *Ceratium*, *Dinobryon*, *Scenedesmus* and *Sphaerocystis*. Dominant zooplankton include: *Asplanchna*, *Daphnia* and *Keratella*.



Maximum Depth (M)	Secchi Depth (M)	Chlorophyll _a (Mg/l)	Alkalinity (Mg/l CaCO ₃)	pH	Conductivity (μS)	Color
9.14	1.3	3.09	18.6	7.8	78	56

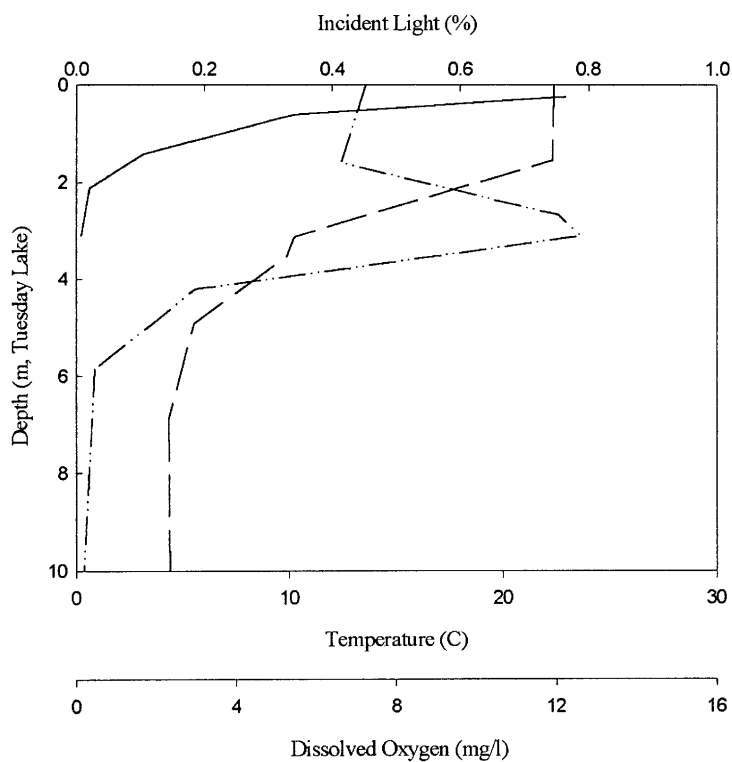
Data Source: Birge and Juday, 1931; Elser, 1987, S.R. Carpenter, unpublished; UNDERC, unpublished

Tuesday Lake

Tuesday Lake has a surface area of 3 acres (1.2 ha) and, compared to other lakes on the UNDERC property, has a very low surface area to volume ratio. It is a deep lake, with a recorded depth of about 20 meters. Tuesday is surrounded by mixed forest and a large *Sphagnum* mat with abundant tamarack. **Access to this lake is prohibited without permission from the UNDERC Director or Assistant Director.**

The lake originally supported a dense population of minnows. In 1985, bass from Peter Lake were moved to Tuesday Lake and minnows from Tuesday Lake were moved to Peter Lake. The fish removal was part of a continuing investigation studying the effects of trophic interactions on lake productivity. Peter and Paul Lakes are included in the same study.

Dominant phytoplankton include: *Cryptomonas*, *Dinobryon*, *Glenodinium*, and *Peridinium*. Dominant zooplankton include: *Bosmina*, *Eucyclops* and *Keratella*.



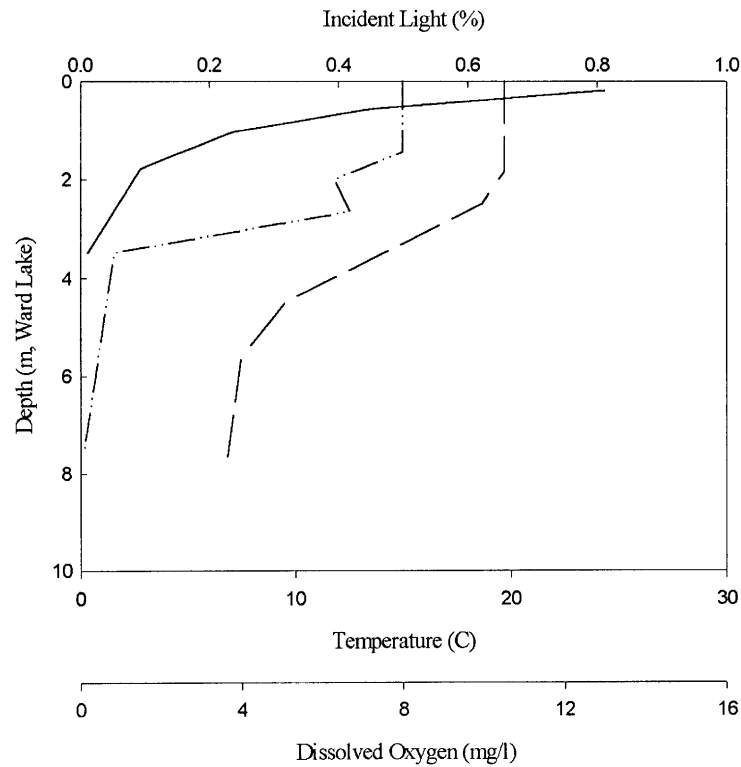
Maximum Depth (M)	Secchi Depth (M)	Chlorophyll _a (Mg/l)	Alkalinity (Mg/l CaCO ₃)	pH	Conductivity (μS)	Color
19.0	2.2	8.07	1.36	5.7	11	93.8

Data Source: Carpenter *et al.*, 1986; Elser, 1987; S.R. Carpenter, unpublished; UNDERC, unpublished

Ward Lake

Ward Lake has a surface area of 2.7 acres (1.1 ha) and a depth of 7 meters in some parts. Ferns, grasses and some *Sphagnum* dominate the edge of the lake. In addition, there are tamaracks, cattails and a few birch trees. Evergreens populate much of the surrounding land.

Dominant phytoplankton include: *Anacystis*, *Dinobryon* and *Gonium*. Dominant zooplankton include: *Bosmina* and *Keratella*.



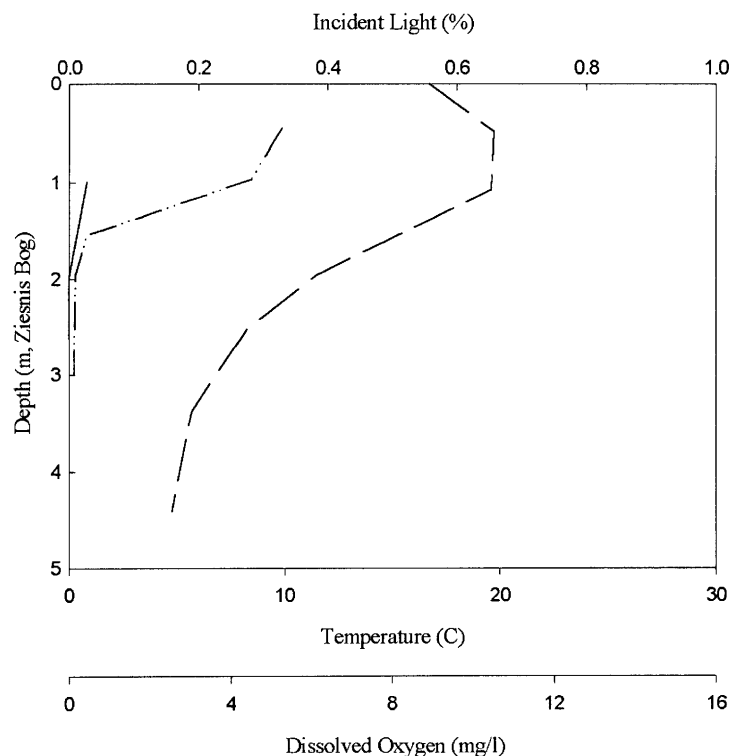
Maximum Depth (M)	Secchi Depth (M)	Chlorophyll _a (Mg/l)	Alkalinity (Mg/l CaCO ₃)	pH	Conductivity (μS)	Color
7	2.2	7.46	18.5	7.5	61	57.5

Data Source: Elser, 1987; S.R. Carpenter, unpublished; UNDERC, unpublished

Ziesnis Bog

Ziesnis is a small fishless bog with a false bottom. The area around the bog is forested with trees growing to the bog's edge. Plants associated with the surrounding mat include pitcher plants, tamarack and leatherleaf.

There are no data on the phytoplankton of Ziesnis Bog. Dominant zooplankton include:



Chaoborus americanus, *Keratella*, *Daphnia*, *Holopedium* and *Leptodiptomus*.

Maximum Depth (M)	Secchi Depth (M)	Chlorophyll _a (Mg/l)	Alkalinity (Mg/l CaCO ₃)	pH	Conductivity (μS)	Color
4.5	1.1	ND	ND	4.5	ND	ND

Data Source: UNDERC, unpublished