Basin 17: Lake Memphremagog Basin

Including the following sites:

Falls of Black River	Black River, Coventry
Willoughby River Falls	Willoughby River, Barton
Great Falls of the Clyde	Clyde River, Charleston

This basin includes the watersheds of the Black, Barton, Clyde, Willoughy, and Coaticook Rivers in far northeastern Vermont. Much of the basin is remote, mountainous and poorly known. The three sites we studied are all in lowland portions of the basin, and it is quite likely that there are a number of unknown sites in the uplands.

Report 88, Falls of Black River, Black River, Coventry, Orleans County, Vermont.

Site N2, surveyed 6 October 1983 by J.C. Jenkins.

A small falls in a short wooded ravine.

Atlas map 56, USGS Irasburg 15' quadrangle. Visible from Route 14 about 14 miles north of Coventry.

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Site is in rural countryside, 50 feet from the road, in a wooded ravine about 50 feet deep. There are no buildings near but there are some large chunks of concrete left over from a former bridge near the falls.

The river is a medium-sized alluvial river, averaging 50-75 feet wide, carrying agricultural run-off, but supposedly no municipal pollution.

There is a single falls about five feet high and 60 feet wide. The rock is blue schist (Cambrian Hoosic schist); there are a few rock walls to ten feet high along the banks of the ravine and a few ledges near the stream but, by and large, the area is not rocky.

The gorge has young second-growth woods of cedar, pine, hemlock, elm and birch; older woods occur upstream. There is not much habitat for plants around the falls and only a few species occur, none of them rare or distinctive. No lists were made.

There is a path to the falls and some litter; I think they are used for a fishing and swimming place. They are nice but not of striking beauty or attractiveness.

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Summary: Rural falls, average rocks, poor botany, no seclusion, largely unlittered, clean water, fair swimming, probably good fishing, not threatened.

Report 89, Willoughby River Falls, Willoughby River, Barton, Orleans County, Vermont.

Site H, surveyed 6 October 1983 by J.C. Jenkins.

A small cascade with some pretty rocks at the edge of the Village of Orleans.

Atlas map 56, USGS Memphremagog 15' quadrangle. The falls are just upstream from where the river crosses a side street east of the settled part of Orleans.

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The site is in a rural area at the edge of Orleans; it is in second-growth hardwoods in a shallow ravine (about 20 feet deep); there are houses within 100 yards of the falls but not directly visible; and there is a paved road 50 yards away and a dirt road right beside them.

The stream is a medium-sized alluvial river about 30 feet wide near the falls. It does not receive any official pollution (that is pollution for which the state has given a permit) but looks a little suspicious and in the past has had occasional high coliform count and may receive raw sewage and agricultural wastes here and there.

The cascade is about 100 feet wide, 30 feet long, and four feet high. It is formed by ledges angling across the stream. Below them is a chute about 100 feet long with some separated ledges and rock faces to ten feet high along the west side. The whole area is about 200 feet long.

The rock is a dark gritty limestone (Barton member of the Devonian Waits River limestone) with beds of phyllite. There are no major potholes or sculptured features, but the rocky surface is nicely rippled and rather handsome.

Most of the rocks are covered at high water and there are comparatively few good places for plants to grow so there are only a few species despite the lime. No rarities were seen, and the diversity is low.

In the spring, rainbow trout from Lake Memphremagog migrate up the Willoughby, and many people come here to watch them jump the falls.

The falls seem to be a popular picnic, swimming and fishing place. Visually, they are pleasant but not striking, a nice place for the edge of town but not exceptionally beautiful or dramatic.

* * *

Summary: On the edge of town, average rocks, average botany, no seclusion, fairly clean, mildly polluted water, used for fishing, swimming and picnics; very popular spot for watching the spring migration of rainbow trout.

Plant Lists for Willoughby River Falls

Vascular Plants

- Betula populifolia
- Acer saccharum
- Phleum pratense
- Agrostis sp.
- Poa compressa
- Populus deltoides
- Rubus flagellaris
- Fragaria americana
- Acer rubrum
- Ulmus americana
- Carex torta
- Taraxacum officinale
- Salix rigida
- Cornus stolonifera
- Athyrium filix-femina

Mosses

The collections seem to be lost. We recall the following:

- Hygrohypnum sp.
- Grimmia sp.
- Ceratodon purpurreus
- unknown from Pottiaceae

A fairly small and ordinary moss flora.

Report 90, Great Falls of the Clyde, Clyde River, Charleston, Orleans County, Vermont.

Site 150, surveyed 6 October 1983 by J.C. Jenkins.

A large vertical-walled gorge in limestone, with several waterfalls, damaged by a dam and powerplant.

Atlas map 57, USGS Memphremagog 15' quadrangle. Immediately upstream from Lubber Lake and accessible from the road to the hydroelectric plant.

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The site is in a rural area; the surrounding land is partly woods, partly fields. The mouth of the gorge opens into Lubber Lake. There is a dam (eight feet high by 40 feet long) at the head of the gorge that diverts water into a penstock. The penstock (part wood, part replaced with steel) runs right along the east side of the gorge and in places, the gorge wall was blasted away to provide an even grade. There is a powerhouse at the foot of the gorge, a second building for diesel generators, a large surge tank, an oil tank, roads, fences, etc.

The Clyde River is a small or medium-sized stream, averaging 15 feet wide in the gorge. It receives treated wastes from Island Pond and agricultural runoff along its length. The water appears clean but there is much algal slime on the rocks in the channel.

The gorge is 800 feet long, 40-60 feet wide, and 40-60 feet deep. It has vegetated rock walls 20-50 feet high. Starting from the dam and descending the gorge there is a low-angle cascade about 200 feet long, a falls or steep cascade about 20 feet high, a pool about 20 feet across below the falls, and then a series of boulders and small pools to the mouth. The total drop is about 75 feet. It is an interesting place, with some nice rocks, but certainly not beautiful.

The rock is a gritty black limestone mixed with phyllite (Barton River member of the Devonian Waits River limestone). It is rippled in a few places, but mostly breaks off in small, sharp-edged chunks rather than wearing away and forming sculptured surfaces.

The gorge is most notable for the plants. It has no rare species but there are striking displays of ferns and mosses on moist walls on the west side. The diversity of mosses is good; 30 species were recorded and others are doubtless present. This is a good number for a relatively small site, and places the gorge among the 15 richest sites noted in this survey.

GREAT FALLS OF THE CLYDE

The gorge gets no use. It is an attractive place (more for the vegetation than the rock, though the black limestone is unusual), but suffers from the low summer flows which dry it out, and the clearing and blasting of the east side to install the penstock. (Which might have been averted if the engineers had been sensitive to the natural beauty and willing to pay the price of a more indirect line for the penstock.) It must have been a very striking place before it was developed.

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Summary: Industrial setting, average rocks, exemplary botany, no trash, no wildness or seclusion, no users, degraded from former condition by construction of hydroelectric project. Large limestone gorges are rare in Vermont and this one is important because it has an excellent flora; the site is altered and not very wild, but the gorge is valuable nonetheless.

Plants Seen

Mosses and Liverworts

Brachythecium sp.
Grimmia alpicola
Plagiochila asplenioides
Drepanocladus adjuncus
Fissadens taxifolius
Myurella sibirica
Bryum sp.
Coniocephalum conicum
Hypnum lindbergii
Hedwigia ciliata
Mnium sp. (single-tooth)
Tortella tortuosa
Amblystegium ? fluviatile
Bryum pseudotriquetrum
Brachythecium salebrosum
Eurynchium riparioides
Preissia quadrata
Ceratodon purpureus
Campylium sp.
Climacium dendroides
Amblystegium tenax
unknown from Pottiaceae
Thujidium sp.
Mnium punctatum
Porella platyphylloides
Amblystegium riparium
Anomodon attenuatus

Vascular Plants

Adiantum pedatum
Fragaria vesca
Aralia racemosa
Cerastium vulgare
Salix bebbiana
Muhlenbergia mexicana
Solidago flexicaulis
Thelypteris phegopteris
Bidens cernua
Athyrium felix femina
Osmunda claytonii
Agrostis sp.
Dryopteris marginalis
Clematis virginiana
Ulmus americanum
etc.
Lycopus uniflorus
Hypericum virginicum
Prenanthes sp.
Galium sp.
Cirsium vulgare
Cornus amomum
Cystopteris bulbifera
Thuja occidentalis
Mentha arvensis
Osmunda regalis
Thalictrum polygamum
Aster lateriflorus
Solidago caesia
Pilea pumila
Acer rubrum