

Basin 7: Lamoille River Basin

Including the following sites:

Woods Falls (Milton Falls)	Lamoille River, Milton
Fairfax Falls	Lamoille River, Fairfax
Ithiel Falls Gorge	Lamoille River, Johnson
Kelly River Falls	North Branch of Lamoille, Belvidere
Dogs Head Falls	Lamoille River, Johnson
Baldin Brook Falls	Baldin Brook, Wolcott
Woodbury Falls	Tributary of Cooper Brook, Woodbury
Terrill Gorge	Kenfield Brook, Morristown
Upper Green River Falls	Green River, Hyde Park
Lower Green River Falls	Green River, Hyde Park
Brewster River Gorge	Brewster River, Cambridge

See appendix for:

Cady Falls	Lamoille River, Morristown
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Basin 8 is the Lamoille watershed, located in northwestern and north central Vermont, between the Missisquoi and Winooski basins. Much of the basin is heavily farmed, but it also contains the northern part of the Mt. Mansfield range (Underhill, Cambridge and Morrisville) and part of the Worcester Range (Elmore, Woodbury) and the Lowell Range (Eden). With the exception of a few sites in Morristown no upland or mountain sites are known for this basin, and we believe that there must be a number of sites that have not been mapped.

Report 20, Woods Falls (Milton Falls), Lamoille River, Milton, Chittenden County, Vermont.

Site 919, surveyed 18 July, J.C. Jenkins and P.F. Zika.

Large and small falls, large cascade, large and small gorges, potholes, pools for swimming, major dam and hydroelectric plant.

Atlas map 44, USGS Milton 15' quadrangle. The falls are located about one-quarter mile downstream of the Town of Milton and accessible from the road to the dam and powerplant.

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The falls are in a broad wooded ravine quite near town; a dam, penstock and powerplant are adjacent to the area and visible from most parts of the falls.

The river is a large lowland river; it receives much agricultural runoff and treated waste from Milton, Fairfax, Johnson, and Morrisville. The Milton Wastewater Treatment Plant is downstream of the falls.

Woods Falls are located immediately below the dam; there is a cascade dropping about 20 feet below the dam, then a falls of about 15 feet into a large pool where people swim. Cliffs to 40 feet high overhang the pool. Below this there is a complicated area of rocks, channels and pools, in which the water divides into one of two gorges. The north gorge has walls to 40 feet high and flows only at high water. The south gorge has walls to 60 feet and flows through the summer. There is a 30 foot high waterfall at the side of the south gorge. The area is large, perhaps 400 yards from the dam to the bottom of the gorges. We classify it as a "New York" type gorge, a steep-walled gorge abruptly incised in flatter country and formed by the recession of a falls.

The falls are near the contact zone between the Cambrian Dunham dolomite and the Sweetsburg slate-conglomerate. Most of the rock seems to be dolomite; it is highly sculptured and has many potholes, water carved channels, undercut ledges, enlarged cracks and other forms occur. Altogether it is an attractive and interesting area, and if it were not for the dam would be a real beauty spot.

The plants are typical of limy Champlain Valley ledges. No rarities occur. Much of the falls area is scoured at high water, and so the plants are limited to the ledge walls and other protected sites. The open rocks have few plants. We judge the botany to be above average for a limy ravine, and were pleased at a few crevices and grottos under overhangs that had nice collections of limestone mosses, and at two walls with good colonies of cliffbrakes Pellaea atropurpurea and Pellaea



WOODS FALLS

glabella, two ferns that are locally frequent in the Champlain Valley and rare elsewhere in Vermont.

The water is mildly polluted; it does not smell bad and is fairly clear but is heavily loaded with nutrients and encourages algae growth, and turns septic in stagnant pools.

The large pool is quite deep and affords good swimming; the area is used frequently, probably mostly by kids. Three local boys showed us how they jump from a ledge 40 feet above the pool. They offered to let us try, but we did not. It does not appear to be a party site, and there is no litter or junk.

All the flow at low water comes from more or less accidental leakage around the dam.

We judge the site important at high water for the oxygenation of a river carrying heavy nutrient loads, and in general as a large, interesting and spectacular area; we regret that the summer flow is almost totally intercepted by the dam, and that the dam and power facilities impinge on what otherwise would be one of the state's most striking gorges.

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Summary: Developed for hydroelectric generation, fine to spectacular rocks, exemplary botany, no seclusion, clean site, mildly polluted water, great swimming.

HIGH IMPORTANCE: Exemplary botany, large and spectacular site, great swimming.

RECOMMENDATIONS: Guarantee minimum flows to keep the gorge moist and to oxygenate the water, assure good swimming, and improve aesthetics.

Vascular Plants of Milton Falls

Andropogon gerardi	Chrysanthemum leucanthemum
Solidago puberula	Hypericum perforatum
Lonicera dioica	Melilotus albus
Poa compressa	Carex eburnea
Campanula rotundifolia	Anemone virginiana
Quercus rubra	Impatiens sp.
Aralia nudicaulis	Cystopteris bulbifera
Hamamelis virginiana	Pellaea glabella
Erigeron annuus	Aralia racemosa
Sphenopholis intermedia	Betula allegheniensis
Deschampsia caespitosa	Populus deltoides
Panicum lanuginosum	Toxicodendron radicans
Thuja occidentalis	Smilacina stellata

Report 21, Fairfax Falls, Lamoille River, Fairfax, Franklin County, Vermont.

Site 759, surveyed 18 July 1983 by P.F. Zika and J.C. Jenkins.

A large cascade in the lower part of the Lamoille River, dammed and used for hydroelectric power since 1918.

Atlas map 45, USGS Gilson Mountain 7.5' quadrangle. Take Route 104 east one mile from Fairfax; park at or opposite the power-station and walk north to the river and falls.

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The Lamoille is, by Vermont standards, a large river; it flows through six towns above Fairfax Falls and at least formerly received sewage and industrial wastes from them. The floodplain is extensively farmed and the river receives sediment and agricultural runoff.

We observed the river at low summer flow, after a dry spell. The water was basically clean but carrying some fine sediment and had a slight river smell and taste. Where the water collects in stagnant pools among the rocks there is considerable algae growth. Sediment and some algae accumulate in the shallows and in the pools below the waterfall. We judge the water here to be very fertile and probably have some unnatural sediment sources and light organic pollution. You could easily swim in it but would not think it extremely fine water.

The area around the falls is about half farmed and half wooded. Standing at the falls you see wooded banks and one pasture in the distance, and the dam, powerlines, penstock, and powerhouse nearby. The dam and powerhouse are large, and the site feels industrial rather than natural.

The river channel is about 200 feet wide at the falls. The rocks are massive cubical blocks of green greywacke and form an irregular series of ledges about 60 feet high, down which the river cascades in a series of low falls, which we regard as a single large cascade. Above the ledges is a concrete dam about 25 feet high. There is a pool at the bottom partially circled by a rock spur, and below this about 200 feet of scattered rocks where the channel runs among boulders and where there are several small pools. Further downstream the river has sandy and silty banks with vegetated bars and islands and wooded bluffs about 50 feet high along the concave bank.

The bedrock is a massive greywacke with vertical bands of mica-schist and quartzite. It is listed by the state geological map as the Pinnacle formation, of lower Cambrian age and part of the Camels Hump group of quartzite-schists. It seems a hard rock, barely rounded by the river, and with few potholes. It is dark grey to deep green, and the vertical strata and cubical



FAIRFAX FALLS

cleavage make it unusual for Vermont as a whole. There are some handsome colors and shapes, and the site as a whole seemed to us quite striking and memorable.

The rock lacks lime and is for the most part bare, with only a few mosses and flowering plants. No rare species were seen, and in fact the flora of the rocks themselves consists for the most part of weedy species that are widespread and have no particular association with rivers or ledges.

The cobble bars and sandy shores are dominated by a common group of riverside plants that we call the willow-dogbane community. No rare or scarce species were seen: again the plants are all common moderately aggressive species of sunny wetlands.

Near the south bank of the river there is a large elevated steel penstock that feeds water to the powerhouse. In a shaded seepage area below the pipe there are a number of mosses that may be receiving some lime from the masonry. Four different species from the Pottiaceae were noted; I can not identify anything in this family accurately, but someone who could might find them interesting.

Plant lists are included, but they are purely for documentation; neither the individual species nor the community as a whole are remarkable.

The site has been used for hydroelectric power for 65 years. The dam diverts much of the river into the penstock and this feeds two vertical turbines. The water re-enters the river below the falls. Because of the diversion, summer flows over the rocks are usually very low. P.F. Zika happened to see the site after a large rainstorm and reports that the falls are extremely impressive.

There are a few paths used by fishermen, but local use is believed to be light. There are a few places for swimming, but with the low flows they are not too attractive. More water might help. There is very little trash.

These falls must have been a place of great beauty and power in Indian times. At present they are noteworthy for the handsome exposures of the greywacke and for the width of the river and the size and squareness of the ledges, but the site as a whole is compromised by the dam, powerhouse, powerlines and pipes, and by the low summer flows and mild pollution. The site is proposed for redevelopment and expansion of the generating facility.

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Summary: Developed for hydroelectric generation, fine rocks, average biology, no wildness, fairly clean site, mild pollution, fair swimming, fine rocks, large cascade, very

impressive when the water is high. Would be very important without the dam.

Plants From Fairfax Falls

Bryophytes

Amblystegium riparium	Amblystegium tenax
Bartramia pomiformis	Brachythecium ssp.
Eurynchium riparioides	Grimmia alpicola
Hygrohypnum luridum	Philonotis sp.
Tortula tortuosa	
Pottiaceae: 4 spp., including:	
? Barbula sp. &	
Gymnostomum recurvirostrum	

Vascular plants

Apocynum sibiricum	Taraxacum officinale
Cornus stolonifera	Eupatorium maculatum
Rubus idaeus	Verbena hastata
Solidago graminifolia	Onoclea sensibilis
Chrysanthemum leucanthemum	Trifolium pratense
Poa pratensis	Eleocharis obtusa
Poa compressa	Athyrium filix-femina
Oxalis europaea	Betula populifolia
Galium mollugo	Dryopteris marginalis
Agropyron repens	Ulmus americana
Solidago gigantea	Prunus virginiana
Salix rigida	Diervilla lonicera
Alnus rugosa	Potentilla norvegica
Phalaris arundinacea	Amelanchier sp.
Agrostis sp.	Amphicarpa bracteata
Hypericum perforatum	Trifolium agrarium
Calamagrostis canadensis	Trifolium hybridum
Fragaria virginiana	Thuja occidentalis
Tanacetum vulgare	Lactuca canadensis
Lysimachia ciliata	Thalictrum polygamum
Juncus tenuis	Ribes cynosbati
Vicia cracca	Clematis virginiana
Populus tremuloides	Myosotis scorpioides
Solidago juncea	Juncus brevicaudatus ?
Achillea millefolium	Festuca pratensis
Acer saccharinum	Carex crinita
Aquilegia canadensis	Carex cephalantha
Lindernia dubia	Cerasteum vulgatum
Epilobium glandulosum	Xanthium strumarium
Aster lateriflorus	Prunella vulgaris
Lysimachia nummularia	Sphenopholis intermedia
Spiraea alba	

Report 22, Ithiel Falls Gorge, Lamoille River, Johnson, Lamoille County, Vermont.

Site 193, surveyed 25 September 1983 by J.C. Jenkins.

A rapids and cascade. Not really a gorge.

Atlas map 46, USGS Hyde Park 15' quadrangle. Area is about two to three miles west of Johnson. There is good access from a secondary road.

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This area barely qualifies for this survey and is briefly noted. It is in an agricultural valley in a pretty setting. A road runs close to the river and a few houses and farms are visible.

The river is a large lowland river over 100 feet wide. It receives treated municipal waste in Johnson and industrial waste from a talc plant in Hyde Park but is moderately clean here; some turbidity is evident.

The area consists of two stretches of rapids. The upper rapids are about 150 yards long and are in a wooded ravine; there are occasional slanting rock walls to 30 feet but the walls are not continuous and it is not really a rock gorge. After some quiet water there is another stretch of rapids of much the same length and character, with interrupted slanting rock walls to 20 feet high. Below this the channel divides around some rock islands with isolated rapids at the bends. There are no falls or drops.

The rock is the Cambrian Hazens Notch schist, and appears to be without lime. The outcrops are massive and rather handsome, but are not sculptured or particularly striking.

The biology appears ordinary and no plant lists were made. The surrounding woods are hemlock and hardwoods.

The gorge is used by fishermen; the area is clean, and generally pretty and pleasing though not particularly distinctive. On a canoe trip it would be a nice change from the farmed land along much of the river.

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Summary: Rural setting, average rocks, average biology, no seclusion, clean site, mildly polluted water, used for fishing.

Report 23, Kelly River Falls, North Branch of the Lamoille River, Belvidere, Lamoille County, Vermont.

Site 255, surveyed 26 September 1983 by J.C. Jenkins.

Small pretty cascade, bordered by low ledges.

Atlas map 46, USGS Hyde Park 15' quadrangle. The falls are just north of Route 109 and right on the Waterville-Belvidere town line. The west part of the area is probably in Belvidere.

* * *

The cascade is in a ravine about 30 feet deep, in the Village of Belvidere Junction. Next to it is a house, the road, and some meadows. The walls of the ravine have hemlock, pine and hardwoods. The Village has only five houses and the setting is quiet, attractive and rural.

The river is a small to medium-sized alluvial stream, averaging 30-75 feet wide, with clean or very clean water.

The cascades are created by sloping rock dikes that project into the stream from alternate sides; the stream comes around one such dike, makes an s-turn into a narrow channel of solid rock behind an island, cascades down through some small pools, makes another s-turn into a pool about 15 feet across, goes around the last dikes and then down a cascade about five feet high into a pool about 75 feet across. Below the pool are a few small sandy beaches. The whole area, island, dikes and cascades, is about 100 yards long.

The dikes are typically about five feet high and of dense blue mica-quartz schist (Cambrian Underhill formation). There are no side walls. The colors and texture of the rock are nice. There are no major carved features, but small potholes occur.

The rock is acid and has the common mosses and vascular plants normally seen in such places. The plants are attractive but not noteworthy. Because of the clean water there is little algae on the rocks.

The falls are a popular place for fishing and bathing. They are privately owned and the owners do not have them posted but selectively discourage noisy and messy users and out-of-towners in general. They also keep them clean.

This is a small but very attractive area. I was impressed by a nice balance of water and rock, and found it a sunny, quiet, inviting place - the kind of place that you wish you could find on every farmland stream but usually do not. Nice flat sheets of water, good places to sit, and the mountains are in close and are handsome.

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Summary: Rural setting, nice rocks, average biology, not secluded, no trash, clean water, good for bathing, very good for sitting, popular but use regulated.

Plants From Kelly River Falls

Mosses and Liverworts

Polytrichum piliferum
Climacium americanum
Fissadens taxifolius
Tortella tortuosa
unknown

Vascular Plants

Carex torta
C. lurida
C. gynandra
Aster umbellatus
A. puniceus
A. lateriflorus
A. cordifolius
Eupatorium maculatum
E. perforatum
Panicum clandestinum
P. lanuginosum
Agrostis stolonifera
Onclea sensibilis
Alnus rugosa
Solidago graminea
Prunella vulgaris
Juncus articulatus
J. sp.
Eleocharis obtusa
E. acicularis
Hypericum boreale
H. perforatum
Salix bebbiana
S. rigida
S. sp.
Alisma plantago-aquatica
Fragaria virginiana
Plantago major

Report 24, Dogs Head Falls, Lamoille River, Johnson, Lamoille County, Vermont.

Site 357, surveyed 28 September 1983 by J.C. Jenkins.

A single small falls with overhanging ledges and two large pools.

Atlas map 46, USGS Hyde Park 15' quadrangle. Located one mile southeast of Johnson, accessible from a secondary road that parallels the south bank of the river.

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The area is surrounded by meadows and woods. There is a large gravel operation north of the falls, audible but not visible. A tracks of the St. Johnsbury & Lamoille County Railroad run along the south bank. The north bank of the river has hemlock-hardwoods forest, the south bank meadows and scattered trees.

The river here is a large lowland river, averaging over 75 feet in width. It receives treated waste and agricultural runoff and has some color, foam, and turbidity but is not heavily polluted.

The falls are created by two sloping rock dikes which narrow the river to about ten feet. It drops six feet in a chute to a rock pool 30 feet in diameter overhung by ledges about 15 feet high. From there it goes through another neck into a larger pool, then past a last dike into quiet water. The whole area is about 75 yards long.

The rocks are blue-grey schist (Cambrian Hazens Notch formation), tilted about 40 degrees to the horizontal, with long sloping faces. It is nicely carved into potholes and ripples.

The rock is acid and doesn't support many plants. No rarities were found. An interesting feature is that the flat ledge tops in the spray zone have many lichens; 60-80% of the rock surface is covered over large areas. The species are all common and the diversity is low, but the effect is attractive, we saw only a few waterfalls with good lichen cover.

The rocks within the channel have much algae on their surfaces.

The area seems to receive moderate use; there is a worn trail and a little litter. It looks to be a good swimming spot, and would be a fine one if the water was cleaner.

Altogether a very pretty place; a rural view - woods, fields, mountains - but no buildings, a wide pretty stretch of the river with wooded banks and islands above and below, a sudden constriction of the whole river into a chute, no major road, some

privacy, good places to sit and swim. One of the only places in the state where a large river goes over a falls without human disturbance. And the only site we visited where you could look upstream and downstream along a large river from a waterfall and not see any buildings.

Possibly threatened. If the gravel operation expands southwards it will become visible from the falls and spoil the view and peacefulness. Currently it is separated from the river by a thin band of woods, and it is very important that these trees be kept as a buffer.

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Summary: Rural setting, beautiful open view without people, nice rocks, average biology, some seclusion, some litter, polluted water, good for fishing and sitting, fair for swimming and would be good if the water was cleaner, one of the few undisturbed falls on any large river in the state.

RECOMMENDATIONS: State should make sure that the gravel miners do not expand southwards which would ruin the view and make the site a lot noisier.

Plants From Dogs Head Falls

Mosses

Hedwigia ciliata
Bryum sp.
Grimmia alpicola
Polytrichum piliferum

Lichens

Parmelia sulcata
Ramalina intermedia
Unidentified spp.

Vascular plants

Agrostis hyemalis	Athyrium filix-femina
Poa compressa	Juncus brevicaudatus
Solidago nemoralis	Trisetum spicatum
Aster puniceus	Eupatorium perfoliatum
Spiraea latifolia	Carex sp. (section ovales)
Iris ? pseudoacorus	Acer rubrum
Ulmus americana	Solidago gigantea
Phalaris arundinacea	Panicum clandestinum
Tsuga americana	Scirpus cyperinus
var. atrocinctus	

Report 25, Baldin Brook Falls, Baldin Brook, Wolcott, Lamoille County, Vermont.

Site CC, surveyed 28 September 1983 by J.C. Jenkins.

A small narrow wooded gorge and 50 foot waterfall on a mountain brook, the falls recently damaged by road construction for a small hydro project; also two small falls lower down on the brook.

Atlas map 47, USGS Hardwick 15' quadrangle. The brook crosses the North Wolcott road just south of North Wolcott; you can walk up it to the gorge and falls or try to find a new road that goes to a little hydrostation halfway up it.

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The area is in the woods, on a steep slope in spruce-hardwoods, adjacent to farm country. A small reservoir has recently been built above the falls which diverts a portion of the flow to a buried 12 inch pipe which goes to a small (about 15-30KW) private hydro plant below the gorge. A new road comes up from the south and goes to the reservoir and then down to the powerhouse. It was placed right next to the falls and in order to build it a lot of debris and fill was pushed into the falls, spoiling their beauty.

The stream is a mountain stream, mostly four to eight feet wide, with very clean water. Its headwaters are two small ponds just below the Green River Reservoir. It has a remarkably constant summer flow for its drainage area and the owner believes that it is fed by underground seepage from the reservoir; the soils are light and sandy, so this might be possible.

The section of the stream of interest lies below a 12 foot dam that was built three years ago. Immediately below the dam there is a sheer falls of 50 feet, which as mentioned has been largely spoiled by building a road too close to it and bulldozing fill and trees over the ledges. Below the falls is an abrupt gorge about 20 feet wide by 30 feet deep by 200 feet long, separated from the road and undisturbed, in hemlock-spruce woods. Below the gorge is the small powerhouse (about 15 feet by six feet) and about 50 yards below it two lower falls of ten to 15 feet each.

The rock is a blue quartz-mica schist (Cambrian Hoosic schist); in the gorge it is slightly sculptured, but by the large the gorge has developed by the removal of layers and chunks from the channel rather than by the carving of a smooth channel or the enlargement of potholes.

The gorge was biologically the most interesting area. It is dark and sheer; the only vascular plants were wood sorrel,

polypody, marginal fern and evergreen woodfern. Mosses and liverworts were abundant; the following 13 species were collected:

Plagiochila asplenioides	Bazzania trilobata
Atrichum undulatum	Coniocephalum conicum
*Bryhnia novae-angliae	Plagiothecium denticulatum
Cephalozia sp.	*Isoptyrigium distichaceum
Thuidium sp.	Mnium punctatum
Dicranium scoparium	Pogonatum alpinum
Hylocomnium splendens	

The two starred species have been rare elsewhere in the waterfall survey. The diversity is not great, but the rocks are acid and the site is dark and fairly uniform. The coverage is good and I consider this an above average bryophyte site because of the lush growth and the two scarce species.

The gorge receives no use. The owner says that even during the drought in July and August the stream flow was such that he could keep the turbine going at full power and still use no more than a third of the brook's flow. Certainly this was true when I visited in September. Hence, the diversion of part of the water does not seem to be a threat to the plants in the gorge.

The gorge is a small feature but it is abrupt and striking and quite pretty; we saw only a few comparable places in our survey, and so think of it as a small but nice feature. (Since mountain brooks are poorly known it is quite possible that there are a number of similar places that we have missed.) The falls must have been very pretty before they were messed up. Fifty-foot sheer falls are very rare in Vermont, either in big streams or small, and hence, these falls were of state significance, but since the damage can not be repaired, they are currently of lesser significance.

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Summary: Partially degraded site; mountain setting, nice rocks, exceptionally large falls on small stream, exemplary botany, moderate seclusion and wildness, clean site, very clean water currently used for hydropower.

Report 26, Woodbury Falls, tributary of Cooper Brook, Woodbury, Washington County, Vermont.

Site LL, surveyed 15 September 1983 by J.C. Jenkins.

A large cascade with a chain of small falls and rock exposures along a small, steep woodland stream.

Atlas map 39, USGS Plainfield 15' quadrangle. The stream crosses Route 14 2.5 miles south of the center of Hardwick.

* * *

After leaving Hardwick, Route 14 runs for about two miles in a narrow, largely unsettled valley between Woodbury Mountain and Round Knoll. The main falls are about one-half mile up Woodbury Mountain, north of the road, and completely surrounded by woods. A smaller falls is right next to the road. The stream crossing is not obvious and I recall no good landmarks.

The stream is a small mountain brook, mostly under five feet wide, with very clean water.

The upper cascade, about one-half mile from the road, is a series of small cascades, falls and pools about 100-200 yards long; there is a ravine about 30 feet deep with rocks to 15 feet high along the walls, and a sequence of small falls up to ten feet high and chutes and pools. It is one of those mossy, landsliding, trees-fallen-across places, very pretty and continuous, but on a small scale and without individual features of striking scale or design. An ordinary woodland stream in a hurry to get to the valley, but as pretty as they come.

The lower cascade is directly above the road and consists of a 30 foot drop over slanting ledges (about 45 degrees to the horizontal) to a small pool.

The rock is a platy schist that splits into layers easily: the geological map lists it as the Ordovician Moretown quartz granulite. The falls and ravine have been made by breaking the rock rather than carving it and there are no potholes or other carved features.

Granite is supposed to occur on the side of the mountain in or near the brook, and may be involved in parts of the falls.

The rock is acid and the flora correspondingly limited. The woods are commercial maple-yellow birch woods with some pine and spruce. All the vascular plants are common woodland species. The diversity is good for a place without lime. Mosses are abundant. Eleven species were recorded, all but one (Isopterygium distichaceum) fairly common or common species found in a wide variety of habitats. Again the diversity is not high but is about what would be expected for a fairly uniform

woodland habitat without lime. The biology is rated as average. It is a nice place but the flora is too simple and duplicated in too many other places to rate as excellent.

The lower falls may occasionally be used by bathers or fishermen. The upper falls are probably rarely visited.

A fine, pretty, mountain site, of a type that is probably not uncommon in the state, but certainly not found on every mountain stream.

Could easily be degraded by careless logging.

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Summary: Mountain setting, nice rocks and falls, average biology, moderate seclusion and wildness, clean site, very clean water, not used, potentially threatened by logging.

Plants From Woodbury Falls

Mosses & Liverworts

Pogonatum alpinum	Coniocephalum conicum
Plagiothecium laetum	Calyptogeia sp.
Isopterygium distichaceum	Lejunea cavifolia
Plagiochila asplenioides	Thuidium sp.
? Rhynchostegium serrulatum	Brachythecium spp.
Hypnum imponens	Eurynchium riparioides

Vascular Plants

Viburnum alnifolium	Athyrium filix-femina
Dryopteris intermedia	Aralia nudicaulis
Medeola virginiana	Matteuccia struthiopteris
Oxalis montana	Carex prasina, spp.
Clintonia borealis	Acer spicatum
Lycopodium lucidulum	Galium triflorum
Trientalis borealis	Tiarella cordifolia
Mitella diphylla	Brachyelytrum erectum
Maianthemum canadense	Cinna latifolia'
Gymnocarpon dryopteris	Thelypteris phegopteris
Laportea canadense	Thalictrum sp.
Aster acuminatus	Solidago flexicaulis
Solidago juncea	Chiogenes hispidula

Report 27, Terrill Gorge, Kenfield Brook, Morrystown, Lamoille County, Vermont.

Site 763, surveyed 2 October 1983 by P.F. Zika.

A long series of small cascades and falls in a ravine.

Atlas maps 38 and 46, Hyde Park 15' quadrangle. Take Route 15 west from Morrystown, fork left off it, cross the railroad, fork left again, then turn left and cross the river. Take the second right turn, about 0.2 miles beyond the river. This road parallels Terrill Gorge. The trail to the falls and swimming hole begins by a red barn with "PARK HERE" painted on it. To get to the head of the gorge continue on the road to a four-corners, turn right, and go one-half mile to where the bridge crosses Kenfield Brook.

* * *

The gorge is in the midst of farmland but has conifer forests along and within it, and so is quiet and isolated. There are houses and roads within 1,000 feet of the gorge, but they cannot be seen from within it.

Kenfield Brook is an alluvial valley stream, eight to ten feet wide above the gorge, with occasional wider places where it floods. The water is clean, with only small amounts of macroscopic algae.

The gorge is about a mile long and contains rapids, riffles, small potholes, water-smoothed ledges, tiny caves, cascades to ten feet high, waterfalls to six feet high, and interrupted segments of rock walls up to 100 feet long and 15 feet high. The largest and most attractive feature is a cascade-falls combination about 20 feet high with a deep pool below it and high rocks for diving.

The area is quite long, and was not completely explored.

The rock was mostly schist, from the Cambrian Hazens Notch formation. Small areas of either unbanded gneiss or quartzite from the same formation were seen. Erosional features were varied and common, although mostly small in scale.

No unusual vascular plants were found. Bryophytes were common to abundant for most of the length of the gorge.

The lower end of the gorge receives very heavy use from both locals and visitors. The trail from the shed to the swimming pools is heavily traveled. Other trails are discontinuous and more lightly used. Fishing is probably good at the lower end of the ravine. The middle and upper parts of the gorge probably receive much less use, due to their remoteness and the absence of



TERRILL GORGE

trails. One party spot near the extreme upper end of the gorge was messy and one rock had grafitti. No trash was seen in the river.

An attractive place, large, moderately secluded, wild, continuous, with many varied cascades and pools. Pretty views of the cascades are available from the walls of the gorge.

* * *

Summary: Woodland setting, fine rocks, average biology, parts very wild and private, some trash, clean water, great swimming; a good place to sit or to hike, gets moderate use by locals and visitors.

HIGH IMPORTANCE: Fine recreational site, one of a few large chains of pools and cascades in the state.

Vascular Plants of Terrill Gorge

Tsuga canadensis	Brachyeletrum erectum
Acer rubrum	Plantago major
Acer saccharum	Carex sp. (section ovales)
Betula alleghaniensis	Dennstaedtia punctilobula
Picea rubens	Dryopteris intermedia
Taraxacum officinale	Agrimonia sp.
Sagina procumbens	Prunella vulgaris
Polypodium virginianum	Aster puniceus
Spiraea alba	Galium sp.
Solidago canadensis	Ranunculus acris
Aster acuminatus	Houstonia caerulea
Spiraea tomentosa	

Report 28, Upper Green River Falls, Green River, Hyde Park,
Lamoille County, Vermont.

Site J, surveyed 13 October 1983 by P.F. Zika.

A short series of small, gently sloping cascades.

Atlas map 47, Hyde Park 15-minute quadrangle. The site is directly upriver of the culvert bearing the Green River in the ghost-village of Garfield. The best access is from the road leading north out of Garfield.

* * *

The stream is in a partially forested ravine. Several houses are on the main road about 75 yards to the west. Two roads have limited views of the cascades.

The Green River is a mountain stream with a channel under ten feet wide. The survey was done shortly after a rainstorm, hence, the water was slightly muddy or murky, and had a dirty taste. Mayfly larvae were seen. Some green and brown algal scums were on the rocks of the channel, indicating the water has some fertility.

The river drops in a series of one foot high cascades, losing perhaps 20 vertical feet before disappearing into the culvert. There is one small pool and a short 25 foot high ledge at one point on the west shore.

The rock is Stowe schist, of Ordovician age. It is not limy. There are a few partially formed potholes, less than one foot in diameter, but no sculptured or rippled rock and no large potholes.

The vascular plants are ordinary.

There is a path from an old concrete mill foundation or bridge abutment on the east to the shore of the stream. There is not enough water for swimming or fishing, and it is hardly a beauty spot or party place. Morrisville Water and Light Department proposes to construct a dam at the head of the cascade.

* * *

Summary: Woodland setting, poor rocks, average biology, not secluded or wild, clean site, clean or perhaps mildly polluted water, no swimming, limited local use as a hangout. Threatened by a dam proposal.



UPPER GREEN RIVER FALLS

Vascular Plants of the Upper Green River Falls

<i>Tsuga canadensis</i>	<i>Solidago nemoralis</i>
<i>Betula alleghaniensis</i>	<i>Solidago graminifolia</i>
<i>Betula papyrifera</i>	<i>Alnus rugosa</i>
<i>Acer spicatum</i>	<i>Aster umbellatus</i>
<i>Acer saccharum</i>	<i>Aster puniceus</i>
<i>Acer rubrum</i>	<i>Aster divaricatus</i>
<i>Populus tremuloides</i>	<i>Fragaria virginiana</i>
<i>Salix bebbiana</i>	<i>Clematis virginiana</i>
<i>Rubus idaeus</i>	<i>Plantago lanceolata</i>
<i>Spiraea alba</i>	<i>Prunella vulgaris</i>
<i>Polygonum cuspidatum</i>	<i>Taraxacum officinale</i>
<i>Poa pratensis</i>	<i>Carex crinita</i>
<i>Poa compressa</i>	<i>Thalictrum ploygamum</i>
<i>Solidago gigantea</i>	

Report 29, Lower Green River Falls, Green River, Hyde Park,
Lamoille County, Vermont.

Site K, surveyed 10 August 1983 by P.F. Zika.

Several small cascades.

Atlas map 47, Hyde Park 15-minute quadrangle. The Green River passes through the place maps call Garfield in a culvert. The site is about 500 feet downstream of the culvert. It is easy to miss.

* * *

The cascades are in a steep wooded ravine. The trees along the stream are mostly red spruce, hemlock, and yellow birch. Because of the dense woods the ravine seems isolated and private.

The Green River is a mountain stream, some 15 feet across and generally quite shallow. The water was cold, light brown, and tasted a bit dirty, perhaps because of a recent rain. There were masses of brown foam in the eddies. The rocks in the channel were covered with a thin layer of slippery algae. Mosses were common on emergent rocks in the channel. Thus the water is either fertile or mildly polluted. The latter is more likely since there is very little development in the watershed.

The rock is schist of the Stowe formation, dating back to the Ordovician. There is no striking exposure of ledge at the site. No potholes or prominent sculptured rock were seen. The bedrock is not very limy.

The plants were ordinary.

The falls receive very little use. P.F. Zika speculates that there may be other small cascades in the area that offer better swimming.

The site is a pretty wooded ravine but the rocks and water are unimpressive.

A hydroelectric project proposed by Morrisville Water and Light Department would place a dam some 500 feet upstream and divert water around Lower Green River Falls.

* * *

Summary: Woodland setting, average rocks, average biology, moderately wild and private, clean, no swimming, receives light local use for hiking, hunting, and perhaps fishing.



LOWER GREEN RIVER FALLS (SITE "K")

Plants of Lower Green River Falls

Bryophytes (in part)

Scapania nemorosa
Mnium sp.
Fissadens cristatus

Hypnum imponens
Brachythecium plumosum

Vascular Plants

Picea rubens
Tsuga canadensis
Betula alleghaniensis
Acer rubrum
Acer spicatum
Fagus grandifolia
Populus grandidentata
Eupatorium maculatum
Solidago caesia
Solidago rugosa
Aster puniceus
Taxus canadensis
Viburnum alnifolium
Thelypteris phegopteris

Habenaria fimbriata
Epipactis helleborine
Brachyelytrum erectum
Glyceria striata
Elymus sp.
Bromus ciliatus
Carex ssp.
Ranunculus abortivus
Fragaria virginiana
Arisaema triphyllum
Athyrium filix-femina
Dryopteris intermedia
Polypodium virginianum
Clintonia borealis

Report 30, Brewster River Gorge, Brewster River, Cambridge, Lamoille County, Vermont.

Site 256, surveyed on 12 July 1984 by P.F. Zika.

Atlas map 46, USGS Jeffersonville 7.5-minute quadrangle or Mt. Mansfield 15-minute quadrangle. Take Route 108 south from Jeffersonville. About one-half mile out of town, just past the Brewster River Gristmill and Country Store and a driveway, turn east at a fork. Turn right (south) just before the covered bridge. Drive south along the stream to the second parking lot. A trail leads south about 100 yards, fords the stream, and continues another 70 yards through the woods to the noisy base of the cascades in the gorge.

* * *

Aside from the nearby country store and highway, the gorge is remote, and after you leave the parking area there is no sign of habitation, utilities, or roads. The site is in a ravine above a floodplain. The entire area is forested with relatively open and untrampled hemlock woods. Hobblebush and wildflowers are common.

At the base of the gorge, the Brewster River is 20 to 30 feet wide and has one to six foot long boulders in its bed. Although the water is normally very clean, at the time of the visit it was the color of instant lemonade from a heavy load of sediment resulting from heavy rains the day before. The water had no smell, and there was no scum or slime. Aquatic insects were uncommon and no stonefly or mayfly larvae were found.

At the top of the gorge, the stream cascades over a low spine of rock, then turns north and runs through two deep potholes eight to ten feet wide. Below this the gorge deepens and widens, increasing to 50 feet deep and becoming 25-30 feet across at the rim. A footpath on the east rim gives a nice view north over the whole gorge and the forest beyond, with no sign of houses or people. The walls of the gorge are jagged and in places are nearly vertical. About half-way down the gorge becomes a jumble of huge boulders and cliffs, and the stream cascades down them in zig-zags, forming several nice pools. There are several small caves. The total vertical drop is between 50 and 75 feet and is abrupt. At the base of the gorge is a six foot cascade ending in a pool ten by 35 feet that is suitable for bathing.

The bedrock at the gorge is all Cambrian schist from the Hazens Notch or Underhill formations. It is a hard rock and is not very waterworn. There is very little sculpture: only a few potholes and a bit of ripple rock at the base of the site. The rock is not limy.

The plant life at Brewster River Gorge is ordinary. No inventory of the bryophytes was attempted. The vascular plants are listed at the end of this report.

Judging from the two large parking lots at the trailhead and the amount of trash along the first 100 yards of the path, the gorge receives a lot of summer visitors. A large percentage of the cars in the parking lot were from out of state. Sunbathers, photographers, fishermen, swimmers, and hikers were seen.

This site is important because of the long vertical drop, naturalness of the site, and heavy recreational use it receives. We recommend that a trash barrel be placed at the upper parking lot.

* * *

Summary: Woodland setting, nice rocks, average biology, moderately secluded, some trash, clean (?) water, fair swimming, popular recreational site, needs a trash barrel. One of Vermont's deepest gorges.

HIGH IMPORTANCE

Vascular Flora of Brewster River Gorge

Tsuga canadensis	Galium sp.
Betula alleghaniensis	Poa compressa
B. papyrifera	P. sp.
Prunus pensylvanica	Onoclea sensibilis
Picea rubens	Matteuccia struthiopteris
Populus tremuloides	Osmunda claytoniana
Acer spicatum	Chrysanthemum leucanthemum
A. rubrum	Centaurea jacea
Rubus americana	Festuca pratensis
Ulmus americana	Juncus sp.
Rubus idaeus	Polypodium virginianum
Carex torta	Dryopteris marginalis
Ranunculus acris	Hieraceum piloselloides
Taraxacum officinale	Danthonia compressa
Phleum pratense	Cystopteris fragilis
Agrimonia sp.	Maianthemum canadensis
Equisetum arvense	Achillea millefolium
Aster puniceus	Fragaria virginiana
A. cordifolius	Potentilla norvegica
Tussilago farfara	Agrostis sp.
Solidago rugosa	Thalictrum polygamum
Lysimachia nummularia	Panicum lanuginosum
Myosotis scorpioides	