Stream Characteristics Study of Macroinvertebrate Sampling Zones on Onondaga Creek, Ley Creek, and Harbor Brook, June-July 1999

Report Prepared for:

Onondaga County Department of
Drainage and Sanitation

By:

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1 INTRODUCTION

In June 1999, the County of Onondaga Department of Drainage and Sanitation (County) retained Acres International Corporation (Acres) to conduct the field component of a study to assess the macroinvertebrate communities in Onondaga Creek, Ley Creek and Harbor Brook, which are tributary to Onondaga Lake. This macroinvertebrate study was conducted as part of the County's Ambient Monitoring Program. A component of the macroinvertebrate study was to characterize the localized reach of the stream at each location where multi-plate substrate samplers were placed. The localized area included the reach that extended from 50 ft upstream to 50 ft downstream of the macroinvertebrate multi-plate sampler location.

For the macroinvertebrate study, multi-plate substrate samplers were placed at six sites along Onondaga Creek, four sites in Ley Creek and four sites in Harbor Brook. At each site, stream characteristics information was collected along three transects set perpendicular to the flow; one 50 ft upstream of the multi-plate sample location, one 50 ft downstream of the location, and one at the multi-plate sampler location.

2 METHODS

The following information was collected at each transect:

The stream width was measured (nearest 1.0 inch) by measuring tape;
The high water mark was determined at each bank, and the distance between high water marks and height above existing water surface was measured;
The maximum stream depth (nearest 0.1 ft) was determined by using a wading rod;
At regular intervals along the transect, stream velocity was determined (nearest 0.01 ft per second) using a Marsh-McBirney conductance current meter; in waters less than 3.0 ft, velocity was determined at 60 percent of total depth and at 20 percent and 80 percent of total depth where depths were 3.0 ft or greater;
The percent overhead cover (nearest 10 percent) was estimated;
The general size distribution of the dominant substrate types will be characterized based on a modified Wentworth scale; and
The existence and percentage (nearest 10 percent) of submerged aquatic vegetation was noted.

The following additional information was collected within each study reach:

The presence of any sediment odors, oils, and deposits including sludge deposition was noted;
The land use within the riparian corridor and adjacent areas that could impact water quality was noted;
The existence of any erosional patterns such as surface runoff, bank erosion, or depositional zones was recorded;
Any potential sources of non-point pollution were recorded;
The presence of any dams within or near the study reach was documented; and
The type and percent (nearest 10 percent) of canopy cover within the study reach were determined.

Photographs of each study reach were taken and are presented in Figures 1, 2, and 3. New York State Department of Environmental Conservation (NYSDEC) Bureau of Fisheries Watershed Survey forms were completed for each transect surveyed (Appendix A).

3 RESULTS

The stream characterization survey was completed between June 28 and July 6, 1999 at the following locations:

Waterbody	Site Designation	Description
Onondaga Creek	OCS1	Off Tully Farms Road
	OCS2	At Route 20 Bridge
	OCS3	At Dorwin Avenue
	OCS4	At Newell Street
	OCS5	At West Taylor Street
	OCS6	Near Outlet to Onondaga Lake
Ley Creek	LCS1	Upstream of Townline Road near Battery World
	LCS2	At Route 11 (Wolf Street) Bridge
	LCS3	Near Route 81 Bridge and Train Station
	LCS4	Near Outlet to Onondaga Lake
Harbor Brook	HBS1	At Valasko Road
	HBS2	Downstream of Flow Structure
	HBS3	At Hiawatha Boulevard
	HBS4	Near Outlet to Onondaga Lake

The following summarizes the physical characteristics of each of the multi-plate sampling sites.

3.1 Onondaga Creek Sites

OSC1, the most upstream site on Onondaga Creek, was located off Tully Farms Road. The study reach was characterized as a shallow pool that had moderate flow (Figure 1). A riffle existed just upstream of the study reach; a fast run existed below. The riparian corridor was a deciduous wetland forest, although much of the surrounding land was used for dairy cattle production and agriculture so some degree of non-point source pollution was likely. A number of small, possibly spring fed streams flow into Onondaga Creek near the study reach. The site was surveyed on June 28, 1999.

The stream width ranged from 17.4 ft to 21.2 ft and had a mean depth that ranged from 1.32 ft along the downstream transect to 2.06 ft upstream (Table 1). The maximum depth was 2.4 ft. Mean

velocity within the study reach ranged from 0.24 feet per second (fps) to 0.79 fps. The mean discharge on the date sampled was 15.2 cubic feet per second (cfs).

The substrate within the study reach varied from a gravel and sand mix upstream, to predominantly silt at the multi-plate sampler site, to a silt and clay mix downstream. No rooted aquatic vegetation was observed within the study reach. The incidence of canopy cover, which consisted of branches, ranged from 50 percent upstream to none downstream of the multi-plate sampler site. Downstream, fallen logs were partially and fully submerged in the creek. Oil and strong eutrophic odors were evident in the silty areas near the right bank (looking downstream). Water temperature was 15.6°C. The dissolved oxygen was 9.0 ppm, pH was 8.05, and the conductivity was 2.01 mmhos.

OCS2 was the next study reach downstream of OCS1 and was surveyed on June 30, 1999. The site was located just downstream of the Route 20 Bridge. The riparian corridor and nearby land consisted of a mixture of wet meadow and deciduous forested wetland. The Route 20 roadway may provide a non-point source, especially during the winter. The study reach is part of a rather large, slow-moving pool (Figure 1).

The stream width in OCS2 ranged from 32.0 ft to 39.0 ft. The mean depth ranged from 2.03 ft at the upstream transect to 4.43 ft downstream (Table 1). The maximum depth of 4.9 ft was measured at the downstream transect. Mean velocities were low at all transects and ranged from 0.12 fps at the multi-plate sample site to 0.16 fps upstream. The mean discharge on the survey date was 13.6 cfs.

The substrate at the multi-plate sampler site and upstream was a mix of gravel and sand. Downstream, the bottom was composed of clay (Table 2). Submerged aquatic vegetation was present along the upstream transect but absent at the multi-plate sample site and downstream. Tree branches provided overhead cover throughout the study reach. Organic odors were evident in the sediments collected at the multi-plate sampler location. The water temperature was 18.3°C. The dissolved oxygen was 7.4 ppm, the pH was 7.92, and the conductivity was 2.79 mmhos.

OCS3 was located just downstream of Dorwin Avenue. An open concrete conduit that was either a flood control structure or provided reaeration was located just upstream of the Dorwin Avenue Bridge. The stream characterization survey of this site took place on June 28, 1999. The study reach was within a moderately moving pool. A riffle area existed just downstream. The study reach was channelized with heavily vegetated, moderately sloped boulder rip-rap acting as the riparian corridor (Figure 1). Mowed grass with trees set back from the creek in a park-like setting lined the banks. Non-point source runoff from Dorwin Avenue was likely.

OCS3 was the widest reach surveyed on Onondaga Creek and ranged from 66.0 ft to 74.3 ft (Table 2). The mean depth ranged from 3.43 ft to 0.66 ft. A maximum depth of 3.7 ft was recorded along the upstream transect. Mean velocity measured ranged from 0.30 fps to 0.65 fps. Mean discharge was 47.3 cfs on the date sampled.

Gravel and sand were the dominant substrates at OCS3. Some filamentous algae, Cladophora sp., and bryozoans were present on the gravel (Table 2). No overhead cover existed. No odors or oils were detected at this site. The water temperature was 22.6°C. The dissolved oxygen was 8.6 ppm, the pH 8.25, and the conductivity of the water was 1.58 mmhos.

OCS4 was located in a heavily-urbanized area of Syracuse. A waste water treatment outfall emptied into Onondaga Creek at the upstream portion of this study reach. The study reach was contained within an open concrete culvert (Figure 1) and was highly disturbed habitat. The walls of the culvert were steep sided concrete. Urban non-point runoff from surrounding streets and parking lots can be expected. The use of this reach as a dumping ground was evidenced by old tires, shopping carts, discarded books, and other items. No true pool or deep run habitat was present in this section of Onondaga Creek, so the slowest moving portion of creek below the outfall was selected as the study reach. A long riffle, fast run complex existed downstream. The reach was surveyed on July 6, 1999.

The creek was uniform in width (29.4 ft to 31.2 ft) and mean depth (0.80 ft to 1.5 ft) (Table 1). The maximum depth recorded in this study reach was 1.6 ft. Measured mean velocity ranged from 0.94 ft/sec at the multi-plate site to 2.23 ft/sec downstream. The mean discharge on the date surveyed was 46.4 cfs. Within the concrete channel, the substrate was generally cobble and boulders overlain by silt (Table 2 and Figure 1). Some submerged aquatic vegetation was present. The only overhead cover was provided by a maple tree that shaded a portion of the upstream transect. Strong organic (ammonia like) odors were present. The water temperature was 20.4°C and the dissolved oxygen was 7.9 ppm. The pH was 7.85 and the conductivity was 1.21 mmhos.

OCS5 was also in a heavily-urbanized area and was near West Taylor Street. Low income housing existed adjacent to the right bank and light industrial facilities on the left. Similar to OCS4, the reach was channelized and contained within an open concrete culvert (Figure 1). Non–point source runoff from the surrounding streets and parking lots is likely. The reach was more pool-like than OCS4. The reach was surveyed on July 6, 1999.

The creek in the study reach was uniformly wide (24.8 ft to 25.8 ft) and deep (2.47 ft to 2.80 ft) (Figure 1). The maximum depth recorded was 3.1 ft. Mean velocities were also uniform and ranged from 0.84 fps to 0.89 fps. Mean discharge on the survey date was 57.5 cfs.

The substrate at OCS5 generally was a mix of silt and gravel over the concrete culvert (Table 2). Some submerged aquatic vegetation was present. Little overhead cover existed. No evidence of odors or oils was found. The water temperature was 25.0°C. The dissolved oxygen concentration was good, 8.6 ppm. The pH was 7.93 and the conductivity was 1.41 mmhos.

The lowermost site on Onondaga Creek was OCS6, which was located near the creek's outlet into Onondaga Lake (Figure 1). At times, Onondaga Lake waters back up into the study reach. The study reach is part of a large pool complex at the mouth of the creek. The reach is channelized, but the bottom and banks are comprised of natural substrates. The riparian corridor and surrounding areas are mowed lawn in a park. No non-point sources of pollution were evident, although floating debris (e.g., empty bottles, Styrofoam cups) were abundant. This study reach was surveyed on June 29, 1999.

The creek was fairly wide (54.5 ft to 62.3 ft) and deep (3.07 ft to 4.80 ft) (Table 1). The maximum depth recorded was 5.46 ft. Mean velocity ranged from 0.11 fps to 0.33 fps. The mean discharge on the survey date was 52.5 cfs.

The substrate was a mix of fines (silt and sand) and coarser material (gravel and cobble) (Table 2). Submerged aquatic vegetation was present throughout the study reach. No overhead cover was present. No odors or oils were evident. The water temperature was 20.4°C and the dissolved oxygen, 6.5 ppm. The pH of the water was 7.68 and the conductivity 4.23 mmhos.

3.2 Ley Creek Sites

LCS1, the most upstream site on Ley Creek, was located upstream of the Townline Road Bridge behind the Battery World Building. The study reach was within a slow moving, large, shallow pool in a channelized area. Extensive stands of bulrush (Phragmites) occupied the silty banks. A few deciduous trees also lined the banks (Figure 2). A small, probably intermittent stream provided a small amount of flow to the study reach. The nearby area was a combination of wet meadow and deciduous wetland forest with some nearby parking areas that could provide intermittent non-point runoff. This reach was surveyed on June 29, 1999.

The creek in the study reach was narrow compared to downstream locations and uniform in width (22.3 ft to 28.3 ft). The mean depths (1.03 ft to 1.1 ft) and velocities (0.21 fps to 0.26 fps) were also uniform within the study reach. The maximum depth sampled was 1.3 ft and the mean discharge on the survey date was 6.4 cfs (Table 3).

The substrate was composed entirely of silt throughout the study reach (Figure 4). Approximately 50 percent of the reach was covered by submerged aquatic vegetation. The little overhead cover was provided by bulrushes and a few trees. No odors or evidence of oil were found. The water temperature on the survey date was 22.4°C. Moderate dissolved oxygen was recorded (5.1 ppm). The pH was 7.64 and the conductivity 1.10 mmhos.

LCS2, located just upstream of the Wolf Street Bridge, had stream characteristics comparable to LCS1. The study reach was also part of a large, slow moving, shallow pool within a channelized reach. Although a large stand of bulrushes was present, the dominant vegetation on the banks was native grasses, purple loosestrife, and wetland shrubs (Figure 2). Residences and stores existed nearby. The study reach was surveyed on June 29, 1999.

The width of the study reach was wider than LCS1 but, comparable to the upstream site, was uniform (39.8 ft to 42.6 ft) (Table 3). The mean depth ranged from 1.50 ft to 1.67 ft. The maximum depth measured was 2.0 ft. Velocities were low and ranged from 0.08 fps to 0.10 fps. Mean discharge on the survey date was 5.5 cfs.

Silt dominated the substrate of LCS2, although some gravel and sand was also present (Table 4). Submerged aquatic vegetation covered about 50 percent of the bottom. Undercut banks and brush afforded a little overhead cover. Eutrophic odors were evident in the sediment, especially near the multi-plate sampling location. The water temperature on the survey date was 23.3°C. The dissolved oxygen in this reach was low (3.4 ppm). The pH was 7.47 and the conductivity 1.02 mmhos.

LCS3 was located in a heavily urbanized area of Syracuse just upstream of the Route 81 overpass. Railroad tracks on a steep embankment provided a source of non-point runoff. The study reach was a portion of large pool that existed below a weir present at a USGS gaging station. The site selected was below a wide, deep portion of the pool that was atypical of other reaches of Ley Creek. The study reach was more consistent with other multi-plate deployment areas. The vegetated stream banks were a mix of wetland vegetation (Figure 2). The banks were reinforced with boulders. A deciduous wetland forest occupied the area between the railroad embankment and the creek. A

marshy area vegetated with bulrush, purple loosestrife, cattail and wetland grasses dominated the other bank. The survey of this site took place on June 29, 1999.

The study reach was wider (52.3 ft to 59.3 ft) and deeper (3.20 ft to 3.78 ft) than the upstream sites (Table 3). The maximum depth measured was 4.9 ft. The velocity measured was low (0.03 fps to 0.10 fps). The mean discharge on the survey date was 14.4 cfs.

Comparable to the upstream sites, the substrate of LCS3 was predominantly silt (Table 4), although gravel was also present. Submerged aquatic vegetation was present, although it was not as abundant as in the upstream sites. Overhead cover (approximately 20 percent) was provided by deciduous trees. No odors or evidence of oils were noted. The water temperature on the survey date was 23.2°C. The dissolved oxygen was low (3.5 ppm) and comparable to LCS2. The pH was 7.46 and conductivity 1.44 mmhos.

The lowermost multi-plate sampling location on Ley Creek, LCS4, was located downstream of the Route 81 overpass. LCS4 was located in the same pool complex as LCS3 but below a large culvert that periodically empties a combined sewer overflow into the creek (Figure 2). The riparian corridor was a mix of wet meadow and deciduous wetland forest, however, the wet meadow vegetation was more prevalent than at LCS3. The banks were silt with no reinforcement or boulders. The railroad tracks were set back from the creek at this location. Non-point runoff from surrounding roadways was probable.

The stream width, depth, and velocities in LCS4 were comparable to LCS3 (Table 3). The maximum depth measured at LCS4 was 6.0 ft and the mean discharge measured was 23.6 cfs.

Silt was also the dominant substrate at this site. No submerged aquatic vegetation was present. No overhead cover was recorded. Eutrophic odors and the release of gasses were noted near shore within this study reach. The water temperature was 23.2°C on the survey date. The dissolved oxygen concentration (5.1 ppm) had recovered somewhat from the upstream sites. The pH was 7.51 and the conductivity 0.93 mmhos.

3.3 Harbor Creek Sites

HBS1, the most upstream site surveyed on Harbor Brook, was located near Valasko Road upstream of the reaeration/control weir. Harbor Brook at this location appeared to be a good quality stream with rather short pools within in riffle, run, pool complex. The riparian corridor was a mix of wet

meadow and scrub/shrub wetland species with some deciduous trees present away from the stream (Figure 3). A shopping mall that existed nearby may have provided non-point source runoff from its parking lots. A berm vegetated with mowed grass may mitigate some of the inflow from the parking lots at HBS1. This site was surveyed on July 6, 1999.

Harbor Brook at HBS1 was narrow (11.3 ft to 12.3 ft) and shallow (0.40 ft to 1.03 ft mean depth) (Table 5). The maximum depth recorded was 1.3 ft. The mean velocity across the transects sampled ranged from 0.15 fps at the multi-plate sampler site to 0.63 fps downstream of the multi-plate site. The mean discharge on the date surveyed was 2.3 cfs.

The substrate was a mix of fines and coarser substrates (Table 6). At the multi-plate sampler site, gravel was the dominant substrate with cobble, sand, and silt also present. Upstream, cobbles and gravel dominated with some boulder and sand present. Downstream gravel was dominant with some boulders and sand also present. Submerged aquatic vegetation including the water moss, Fontanalis spp. and watercress covered about 25 percent of the bottom. Overhead cover at the multi-plate sampler site was low with more cover from tree branches existing both upstream and downstream. No odors or oil were evident. The water temperature on the survey date was 21.6°C. The dissolved oxygen was high, 9.4 ppm. The pH was 7.63 and the conductivity 2.37 mmhos.

HBS2 was located below the reaeration/control weir and downstream of HBS1. The site was originally to be set further downstream (below the Harbor Brook retention basin), however, stream rechannelization work that would affect macroinvertebrate sampling results was underway. The site selected was a narrow and shallow run below a large stagnant pool (Figure 3). Runoff from the shopping mall mentioned above would likely provide periodic runoff into HBS2. The riparian corridor was a marsh extensively vegetated with bulrush and purple loosestrife. The channel itself was narrowed by emergent and floating vegetation.

The brook was wider (15.0 ft to 22.2 ft) than at HBS1 (Table 5). The mean depth was less than a foot, and the measured mean velocities ranged from 0.12 fps to 0.14 fps. The maximum depth recorded was 1.2 ft. The mean discharge on the date sampled was 2.1 cfs.

The substrate varied within the study reach (Table 6). Gravel was the substrate at the multi-plate sampler site while silt was the dominant substrate both upstream and downstream. Floating and submerged aquatic vegetation dominated the study reach. Between 60 and 80 percent of the bottom was covered with floating aquatic vegetation. Eutrophic odors were noted, especially downstream of the multi-plate sampler site. The water temperature on the survey date was 20.8°C and the

dissolved oxygen concentration was good (9.1 ppm). The pH was 7.59 and the conductivity was 2.42 mmhos.

HBS3 was located downstream of Hiawatha Boulevard. The brook at this location was channelized and rip-rapped with limestone block (Figure 3). The riparian corridor was dominated by sumac, scrub species, and deciduous trees. A steel weir existed just downstream of the study reach and acted to pool the water at this site. It also acted as a deposition structure as evidenced by the thick layer of unconsolidated fines in the study reach. There was no evidence of potential non-point source of pollution in the project reach, although upstream residences and commercial areas may provide a source of runoff. The reach was surveyed on July 6, 1999.

The stream was uniformly wide (12.9 ft to 14.7 ft) and deep (1.50 ft to 1.80 ft) (Table 5). The maximum depth measured was 2.8 ft. The mean measured velocity ranged from 0.15 fps to 0.28 fps. The mean discharge on the date surveyed was 4.8 cfs.

The substrate throughout the study reach was a relatively thick (greater than 1 ft) layer of unconsolidated silt over concrete (Table 6). Submerged aquatic vegetation covered 80 to 90 percent of the bottom. No overhead cover was present. Oil exuded from the substrate when it was disturbed. The water temperature on the survey date was 20.8°C. The dissolved oxygen was good, 8.9 ppm; the pH was 7.88 and the conductivity was 2.23 mmhos.

HBS4 was the most downstream study reach on Harbor Brook and was located near the brook's outlet to Onondaga Lake. The study reach was a portion of a large, slow flowing pool located just downstream of a culvert. The riparian corridor was a marsh dominated by bulrush and wetland shrubs (Figure 3). There were no non-point sources evident, although upstream the brook passed through a large disturbed area. This study reach was surveyed on June 29, 1999.

The study reach was wide (28.8 ft to 33.5 ft) compared to upstream sites (Table 5). Mean depths across the measured transects ranged from 1.50 ft to 2.30 ft. The maximum depth measured was 3.4 ft. The mean velocities ranged from 0.15 fps to 0.30 fps. The mean discharge on the survey date was 12.4 cfs.

The substrate in the study reach was silt mixed with varying amounts of cobble and gravel (Table 6). No submerged aquatic vegetation or overhead cover existed in the study reach. A strong petroleum odor was evident at the upstream transect. The water temperature on the survey date was 21.8°C.

The dissolved oxygen was much lower (3.7 ppm) than measured at the upstream sites. The pH was 8.41 and the conductivity was 0.88 mmhos.

4 SUMMARY

The stream characteristics survey presented in this report was conducted in association with a 1999 macroinvertebrate study of selected tributaries to Onondaga Lake. The gross selection of sites to deploy multi-plate samplers for the macroinvertebrate study was conducted by the County to provide data to compare areas potentially impacted by waste water discharges to upstream controls. Ideally, sample sites should be selected based on identical aquatic habitat. To the extent possible, each sample site should have similar flow characteristics (i.e., pool habitat); similar substrate; and similar cover. Unfortunately, this is not generally possible, especially when the impacted reaches are highly altered by channelization and habitat degradation while only free-flowing, more natural sites exist upstream. To the extent possible, selection of sites for this macroinvertebrate study was made to provide comparable habitat among the sampling sites within a waterbody. The characteristics of the selected study reaches are presented in Section 3. Following is a comparative summary of all multi-plate sampler sites within each tributary.

4.1 Onondaga Creek

Selection of comparable habitat areas along Onondaga Creek was more difficult than along the other tributaries. Upstream sites (OCS1 and OCS2) were in a natural setting while OCS3, OSC4, and OCS5 were grossly physically altered by channelization and urbanization. OCS6, while somewhat more natural than the other downstream sites, was probably periodically influenced by Onondaga Lake. Since only run habitat existed in OCS4 and OCS5, attempts were made to select shallow pools with some flow or runs in other reaches, if possible. Attempts were also made to select areas with little or no submerged aquatic vegetation or overhead cover. These criteria were generally satisfied. Finding areas of comparable substrate was more difficult on Onondaga Creek. Since the overlying substrate in the concrete channels of OCS4 and OCS5 was generally a mix of silt and coarser substrates, an attempt was made to find areas of comparable mixes. This was not realized in all cases, however (Table 1). In general, it was possible to select both upstream and downstream multi-plate sampler sites on Onondaga Creek that had relatively little overhead cover or submerged aquatic vegetation.

4.2 Ley Creek

More comparable habitat conditions were found along Ley Creek relative to Onondaga Creek. Pools were found at each of the four sampling sites, although the pools at upstream sites (LCS1 and LCS2) were much shallower than the two downstream sites. Silt substrate was found throughout, and

although gravel was found at the downstream sites, it was embedded in the silt so the silt functionally controlled the macroinvertebrate assemblages at these sites. Canopy cover was low at all of the sites. Submerged aquatic vegetation in the upper two sites was more abundant than downstream, however.

4.3 Harbor Brook

Selecting comparable habitat among the sites on Harbor Brook was more difficult than in Ley Creek. The upper two sites (HBS1 and HBS2) were in narrow, shallow portions of the brook. Selecting sampling sites that had comparable velocity was possible. HBS3 was highly channelized while the other three sites were more natural. In general, the substrate at the upper two sites were coarser than the two downstream sites. Canopy cover was generally low at all sites except at HBS2 where floating vegetation was prevalent. At this site, however, the multi-plate samplers were set in the open channel that was not directly influenced by the cover. Submerged aquatic vegetation was abundant at all sites except HBS1.

5 CONCLUSIONS

In conclusion, although ideally all sites selected for a macroinvertebrate sampling program should have comparable habitat characteristics, in general that goal is not attainable. Channel morphology, substrate type, flow characteristics, overhead cover, and the abundance of submerged aquatic vegetation are generally the most important habitat criteria relative to macroinvertebrate assemblages. Although, where possible, macroinvertebrate sampling sites that had comparable habitat characteristics were selected along each tributary, that was not always realized. When analyzing the results of the macroinvertebrate data, the descriptions of the stream characteristics of each sampling site provided in this report should be used to interpret the results. During future years, a reconnaissance of each study reach should be made to document whether important habitat characteristics have been altered and adjustments to where the multi-plate samplers are deployed should be made if necessary.

Table 1

Onondaga Lake Tributaries Stream Characteristics
1999 Macroinvertebrate Sampling Program, Onondaga Creek

Location	Transect	Stream Width (ft)	Channel Width (ft)	Mean Depth (ft)	Mean Velocity (fps)	Mean Discharge (cfs)
OCS1	Upstream	17.4	19.2	2.06	0.79	
	Sampled	19.8	23.7	1.85	0.29	
	Downstream	21.2	28.8	1.32	0.24	
	Mean					15.2
OCS2	Upstream	39.0	41.2	2.03	0.16	
	Sampled	33.3	35.8	2.75	0.12	
	Downstream	32.0	35.1	4.43	0.13	
	Mean					13.6
OCS3	Upstream	74.3	76.2	3.43	0.30	
	Sampled	73.4	74.9	1.38	0.37	
	Downstream	66.0	69.0	0.66	0.65	
	Mean					47.3
OCS4	Upstream	29.4	33.0	1.50	1.10	
	Sampled	31.2	33.2	1.23	0.94	
	Downstream	30.8	34.7	0.80	2.23	
	Mean					46.4
OCS5	Upstream	25.8	27.0	2.47	0.84	
	Sampled	24.8	27.4	2.65	0.89	
	Downstream	24.8	27.1	2.80	0.88	
	Mean					57.5
OCS6	Upstream	62.3	64.4	3.07	0.19	
	Sampled	61.0	62.2	3.50	0.11	
	Downstream	54.5	63.0	4.80	0.33	
	Mean					52.5

Table 2

Onondaga Lake Tributaries Substrate Composition
Canopy Cover and Channel Morphology
1999 Macroinvertebrate Sampling Program, Onondaga Creek

Location	Transect	Substrate[1]	Aquatic Vegetation	Channel Morphology	Canopy	Bank
OCS1	Upstream	Gr (50%), Sa (50%)	0%	pool	50%	trees/shrubs
	Sampled	Si (90%), Sa (10%)	0%	pool	25%	vegetation
	Downstream	Si (50%), Cl (50%)	0%	pool	0%	vegetation/snags
OCS2	Upstream	Gr (75%), Sa (25%)	30%	pool	10%	vegetation
	Sampled	Gr (50%), Sa (50%)	0%	pool	30%	vegetation
	Downstream	Cl (100%)	0%	pool	40%	vegetation
OCS3	Upstream	Sa (80%), Gr (20%)	50%	pool	0%	rip-rap/grass
	Sampled	Sa (50%), Gr (40%), Si (10%)	0%	pool	0%	rip-rap/grass
	Downstream	Sa (60%), Gr (30%), Co (10%)	0%	pool	0%	rip-rap
OCS4	Upstream	Si (40%), Co (30%), Gr (30%)	5%	run	20%	concrete
	Sampled	Si (40%), Bo (20%), Co (20%), Gr (20%)	5%	channelized run	0%	concrete
	Downstream	Co (60%), Bo (40%)	5%	riffle	0%	concrete
OCS5	Upstream	Si (100%) over concrete	0%	channelized run	0%	concrete
	Sampled	Si (50%), Gr (50%)	20%	channelized run	10%	concrete
	Downstream	Gr/Si (100%) over concrete	20%	channelized run	10%	concrete
OCS6	Upstream	Si (40%), Gr (30%), Sa (20%), Co (10%)	50%	pool/mouth	0%	grass
	Sampled	Gr (60%), Si (20%), Sa (20%)	15%	pool/mouth	0%	grass/silt
	Downstream	Si (80%), Gr (20%)	30%	pool/mouth	0%	grass

Bo = Boulder
Co = Cobble
Gr = Gravel
Sa = Sand
Si = Silt
Cl = Clay

Table 3

Onondaga Lake Tributaries Stream Characteristics
1999 Macroinvertebrate Sampling Program, Ley Creek

Location	Transect	Stream Width (ft)	Channel Width (ft)	Mean Depth (ft)	Mean Velocity (fps)	Mean Discharge (cfs)
LCS1	Upstream	25.7	26.3	1.08	0.25	
	Sampled	22.3	25.0	1.03	0.26	
	Downstream	28.3	31.2	1.10	0.21	
	Mean					6.4
LCS2	Upstream	41.0	42.5	1.60	0.08	
	Sampled	42.6	43.2	1.50	0.10	
	Downstream	39.8	41.5	1.67	0.10	
	Mean					5.5
LCS3	Upstream	52.3	54.5	3.20	0.09	
	Sampled	56.0	57.0	3.65	0.03	
	Downstream	59.3	60.3	3.78	0.10	
	Mean					14.4
LCS4	Upstream	49.6	50.6	4.46	0.10	
	Sampled	57.9	59.0	4.33	0.16	
	Downstream	57.3	66.3	3.13	0.05	
	Mean					23.6

Table 4

Onondaga Lake Tributaries Substrate Composition
Canopy Cover and Channel Morphology
1999 Macroinvertebrate Sampling Program, Ley Creek

Location	Transect	Substrate[1]	Aquatic Vegetation	Channel Morphology	Canopy	Bank
LCS1	Upstream	Si (100%)	50%	pool	5%	silt/muck
	Sampled	Si (100%)	50%	pool	5%	silt/vegetation
	Downstream	Si (100%)	50%	pool	5%	silt/vegetation
LCS2	Upstream	Si (80%), Gr (10%)	50%	pool	10%	silt/vegetation
	Sampled	Si (90%), Gr (10%)	50%	pool	10%	silt/vegetation
	Downstream	Si (90%), Sa (10%)	50%	pool	10%	silt/vegetation
LCS3	Upstream	Si (75%), Gr (25%)	30%	pool	20%	silt/boulder/vegetation
	Sampled	Si (60%), Gr (40%)	30%	pool	20%	boulder/vegetation
	Downstream	Si (60%), Gr (40%)	30%	pool	20%	vegetation/boulder/silt
LCS4	Upstream	Si (90%), Gr (10%)	0%	pool	0%	silt/vegetation
	Sampled	Si (100%)	0%	pool	0%	silt/vegetation
	Downstream	Si (100%)	0%	pool	0%	silt/vegetation

Bo = Boulder
Co = Cobble
Gr = Gravel
Sa = Sand
Si = Silt
Cl = Clay

Table 5

Onondaga Lake Tributaries Stream Characteristics
1999 Macroinvertebrate Sampling Program, Harbor Brook

Location	Transect	Stream Width (ft)	Channel Width (ft)	Mean Depth (ft)	Mean Velocity (fps)	Mean Discharge (cfs)
HBS1	Upstream	12.3	12.8	0.73	0.24	
	Sampled	12.2	13.3	1.03	0.15	
	Downstream	11.3	12.1	0.40	0.63	
	Mean					2.3
HBS2	Upstream	19.6	24.8	0.97	0.12	
	Sampled	15.0	18.3	0.93	0.12	
	Downstream	22.2	23.1	0.78	0.14	
	Mean					2.1
HBS3	Upstream	14.7	15.2	1.50	0.15	
	Sampled	13.1	14.8	1.80	0.22	
	Downstream	12.9	14.8	1.67	0.28	
	Mean					4.8
HBS4	Upstream	28.8	30.3	1.93	0.15	
	Sampled	31.1	33.1	2.30	0.19	
	Downstream	33.5	36.2	1.50	0.30	
	Mean					12.4

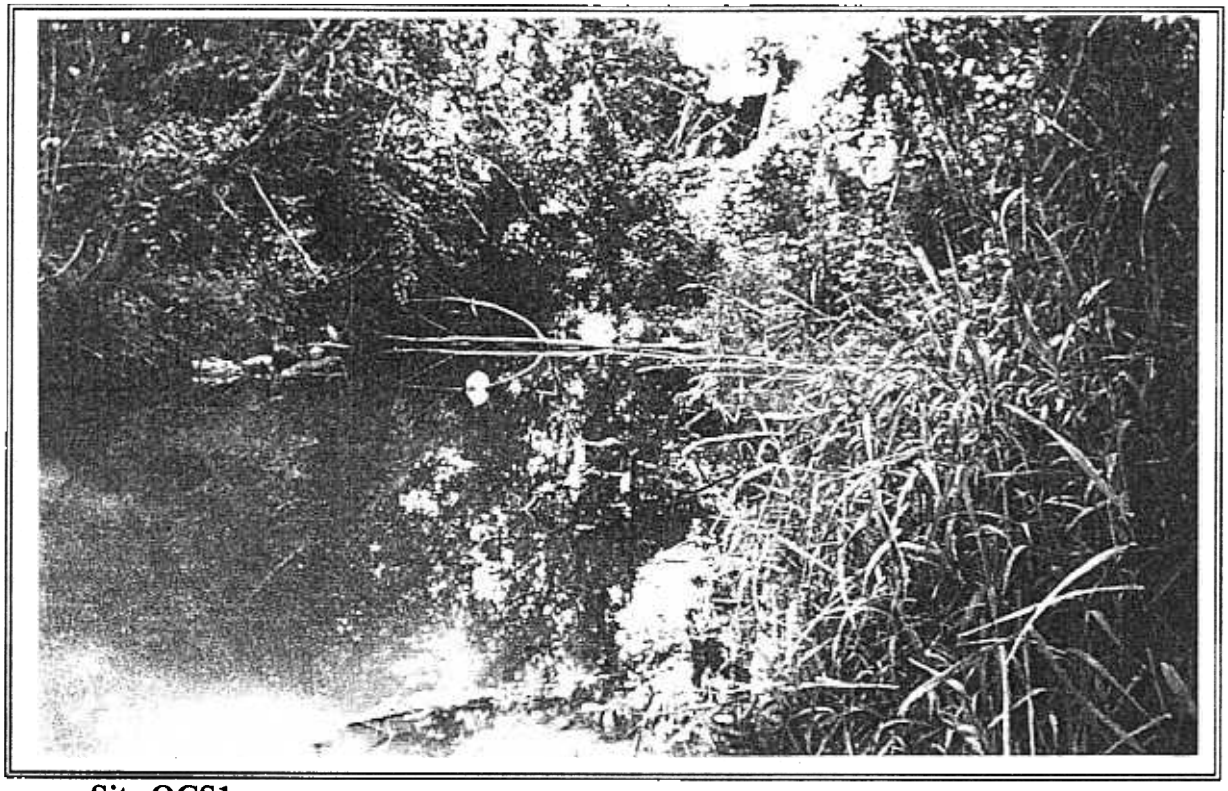
Table 6

Onondaga Lake Tributaries Substrate Composition
Canopy Cover and Channel Morphology
1999 Macroinvertebrate Sampling Program, Harbor Brook

Location	Transect	Substrate[1]	Aquatic Vegetation	Channel Morphology	Canopy	Bank
HBS1	Upstream	Co (30%), Gr (30%), Bo (20%), Sa (20%)	25%	pool	30%	vegetation/canopy
	Sampled	Gr (40%), Co (20%), Sa (20%), Si (20%)	25%	pool	5%	vegetation
	Downstream	Gr (70%), Bo (20%), Sa (10%)	25%	run	30%	vegetation/canopy
HBS2	Upstream	Si (100%)	80%	run/pool	70%	vegetation
	Sampled	Gr (100%)	60%	run	80%	vegetation
	Downstream	Si (80%), Gr (20%)	60%	run	70%	vegetation
HBS3	Upstream	Si (100%) over concrete	80%	pool	0%	rip-rap/channelized
	Sampled	Si (100%) over concrete	80%	pool	0%	rip-rap/vegetation/channelized
	Downstream	Si (100%) over concrete	90%	pool	0%	rip-rap/vegetation/channelized
HBS4	Upstream	Si (80%), Co (20%)	0%	pool	0%	vegetation/silt
	Sampled	Si (75%), Gr (25%)	0%	pool	0%	vegetation/silt
	Downstream	Gr (50%), Si (50%)	0%	pool	0%	vegetation/silt

Bo = Boulder
Co = Cobble
Gr = Gravel
Sa = Sand
Si = Silt
Cl = Clay

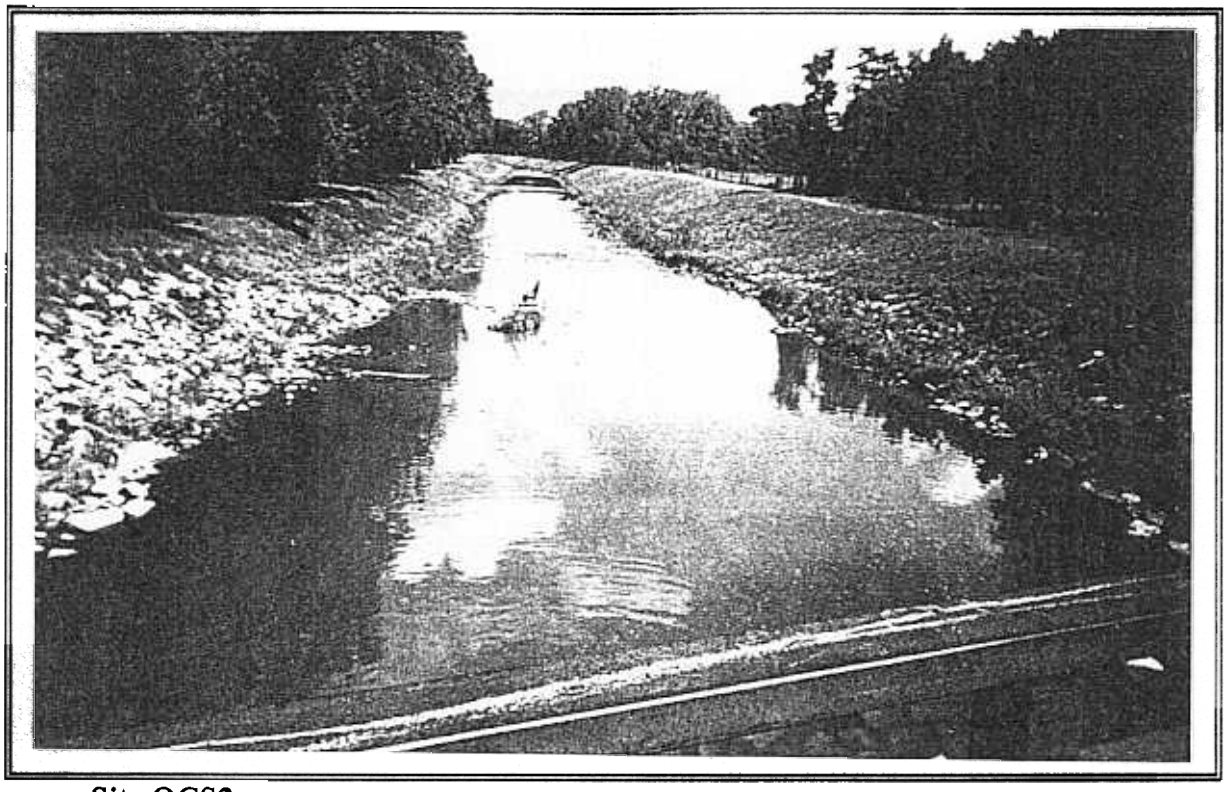
Figure 1. Photographs of Multiplate Macroinvertebrate Sampling Sites on Onondaga Creek: June - July, 1999.



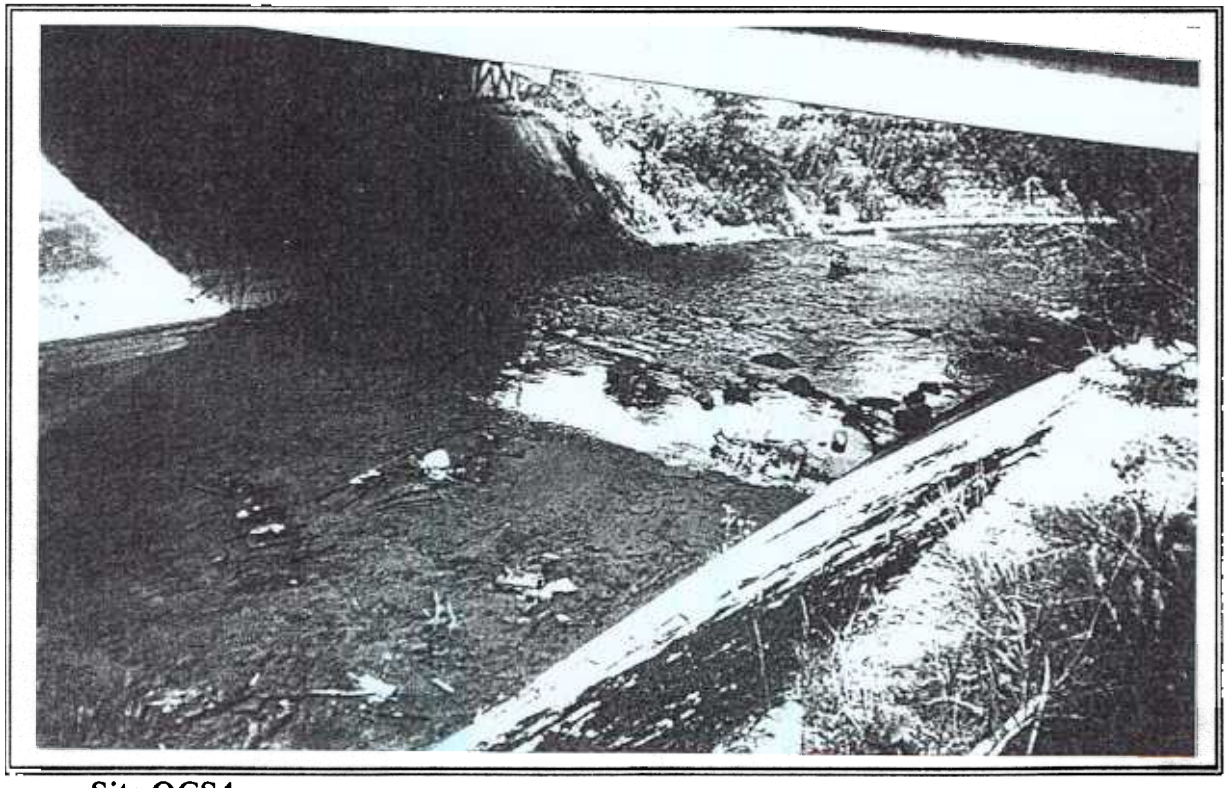
Site OCS1

Site OCS2

Figure 1. (Cont.) Photographs of Multiplate Macroinvertebrate Sampling Sites on Onondaga Creek: June - July, 1999.

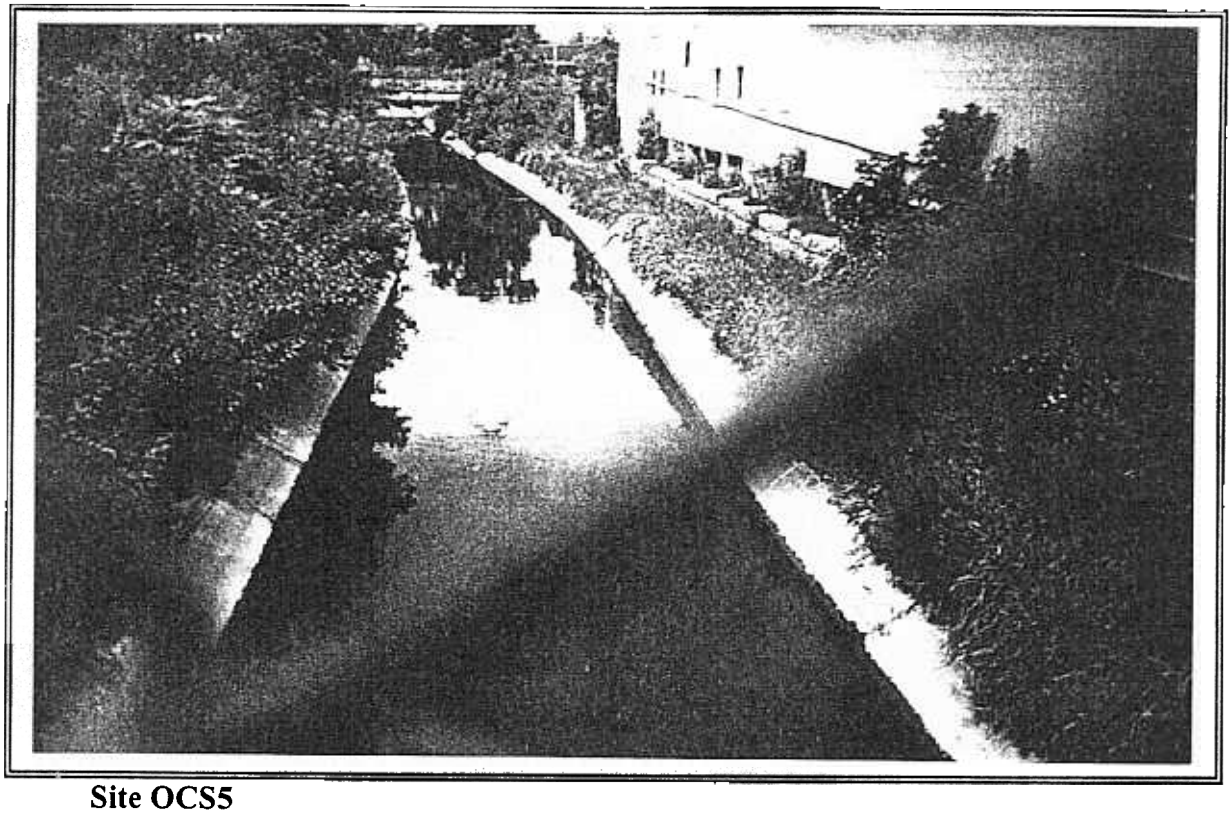


Site OCS3

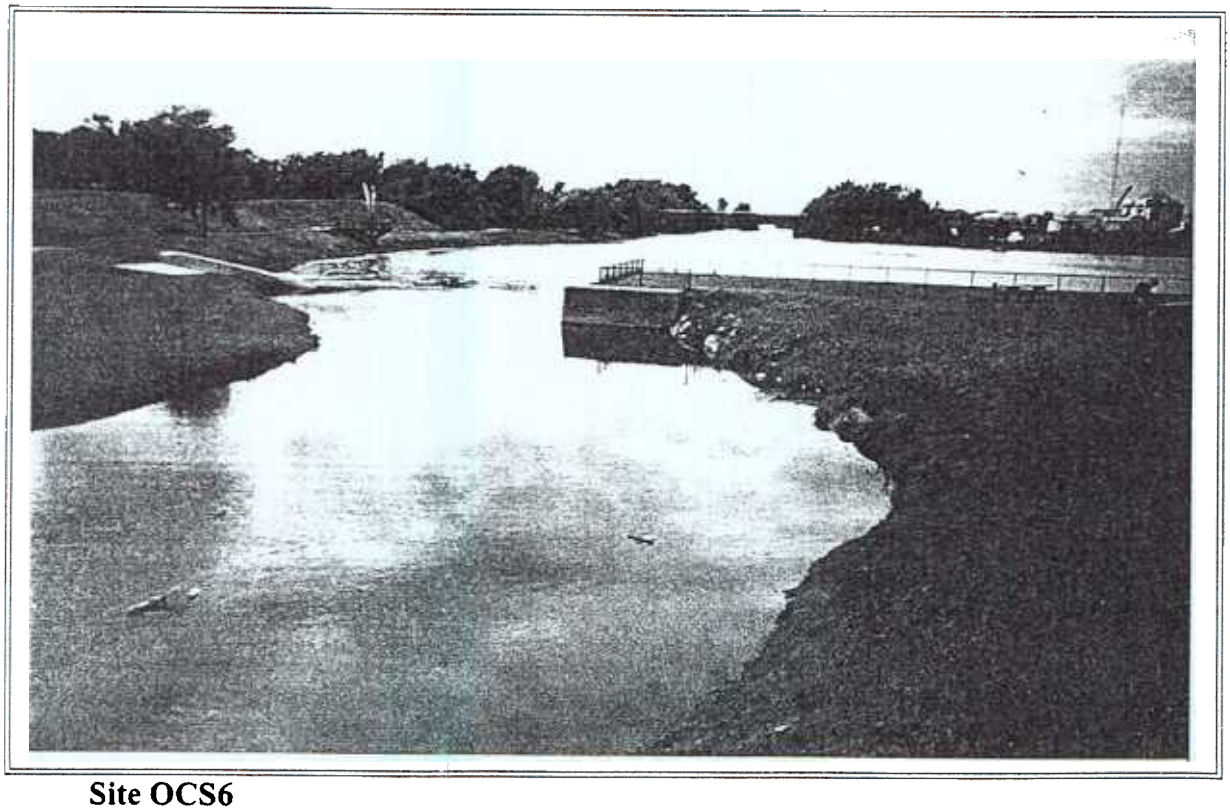


Site OCS4

Figure 1. (Cont.) Photographs of Multiplate Macroinvertebrate Sampling Sites on Onondaga Creek: June - July, 1999.



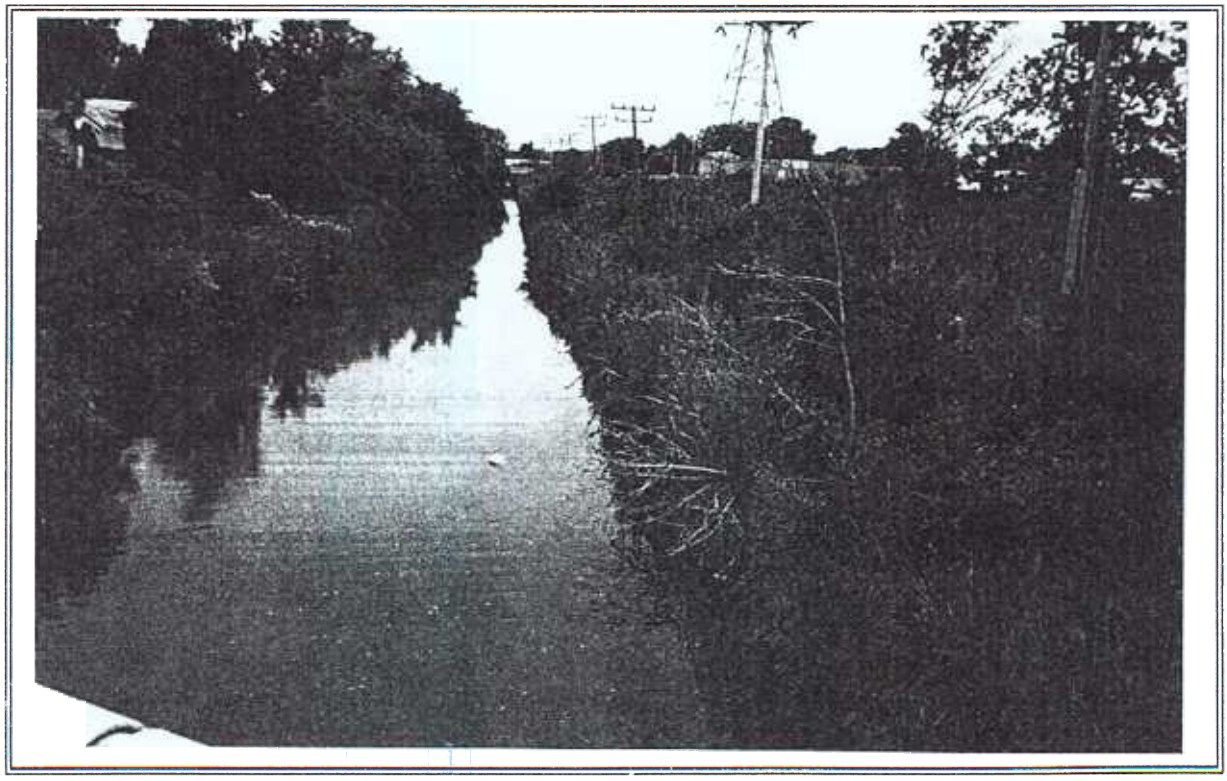
Site OCS5



Site OCS6

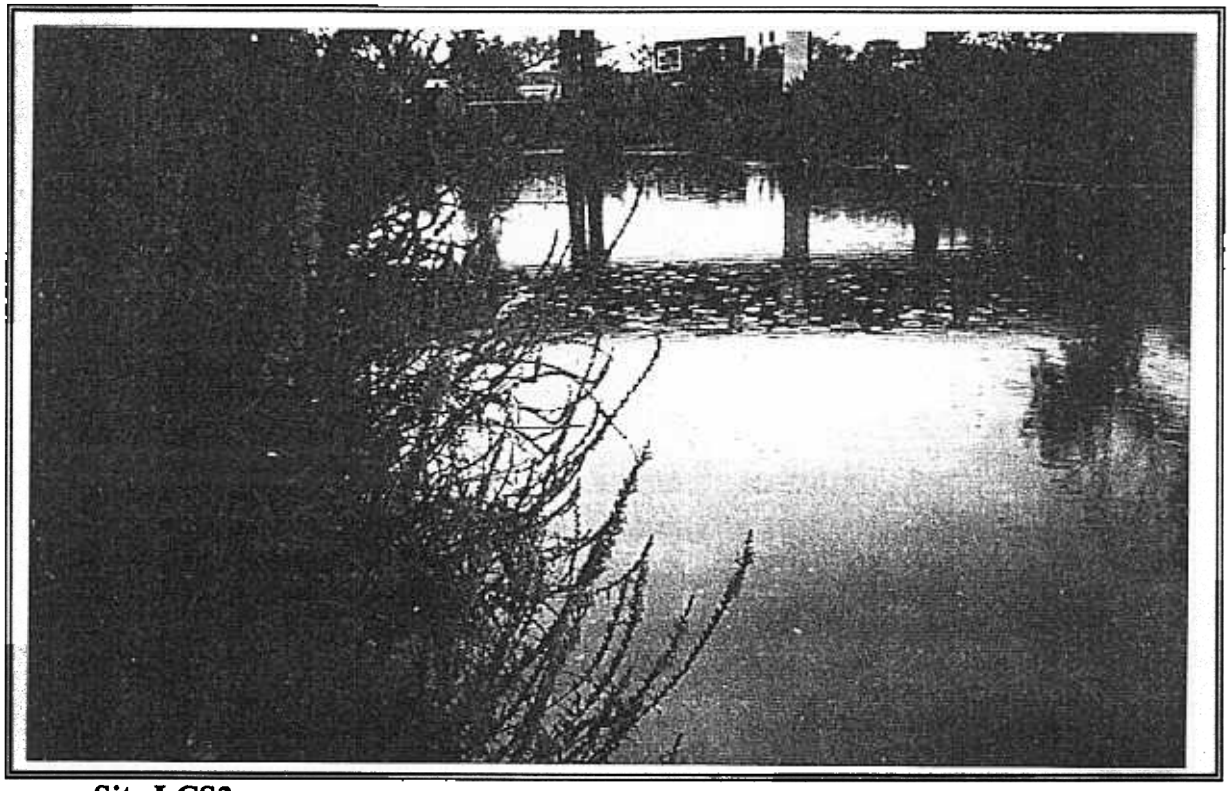
Figure 2. Photographs of Multiplate Macroinvertebrate Sampling Sites on Ley Creek: June - July, 1999.

Site LCS1

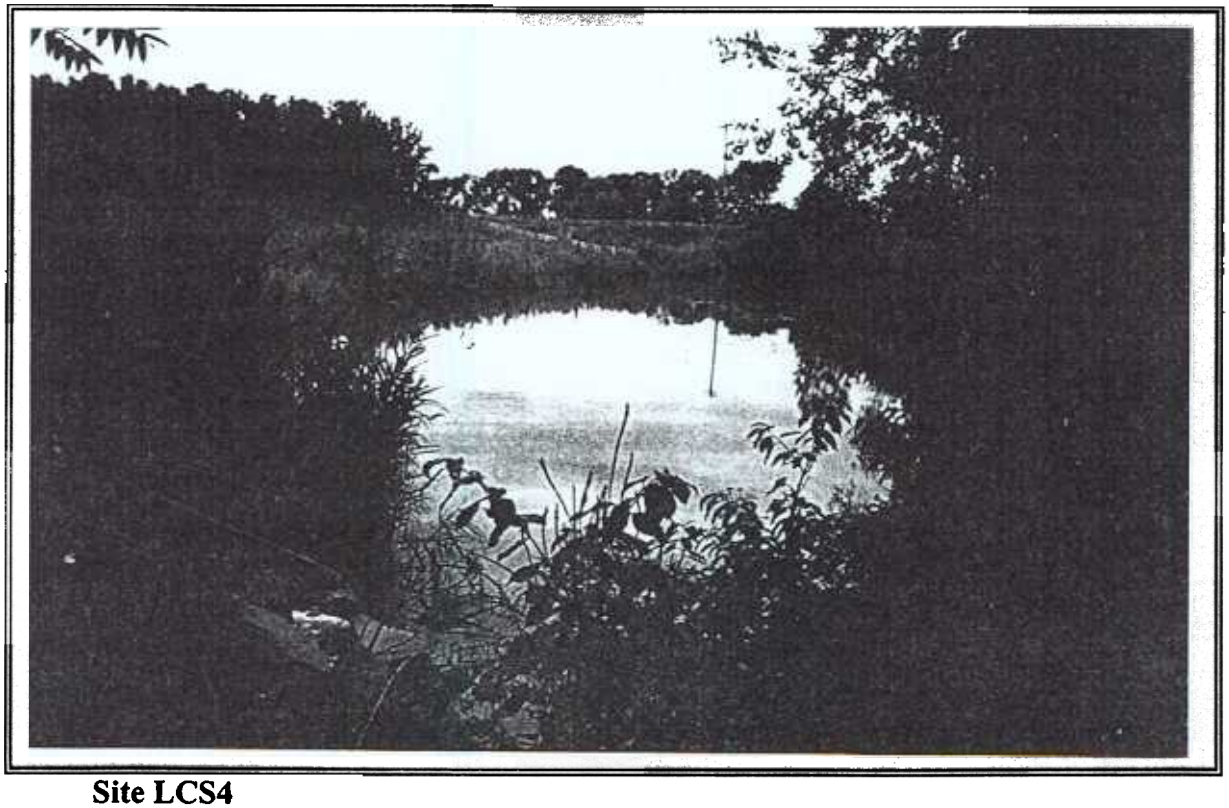


Site LCS2

Figure 2. (cont.) Photographs of Multiplate Macroinvertebrate Sampling Sites on Ley Creek: June - July, 1999.



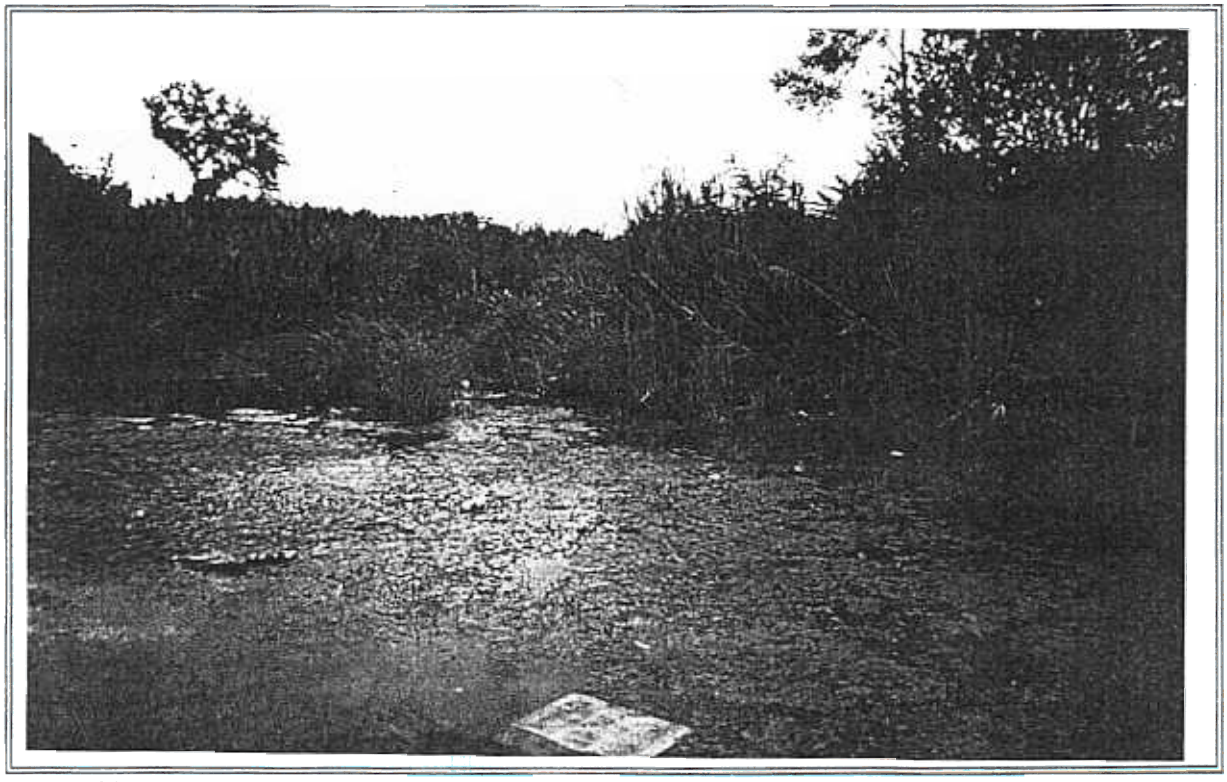
Site LCS3



Site LCS4

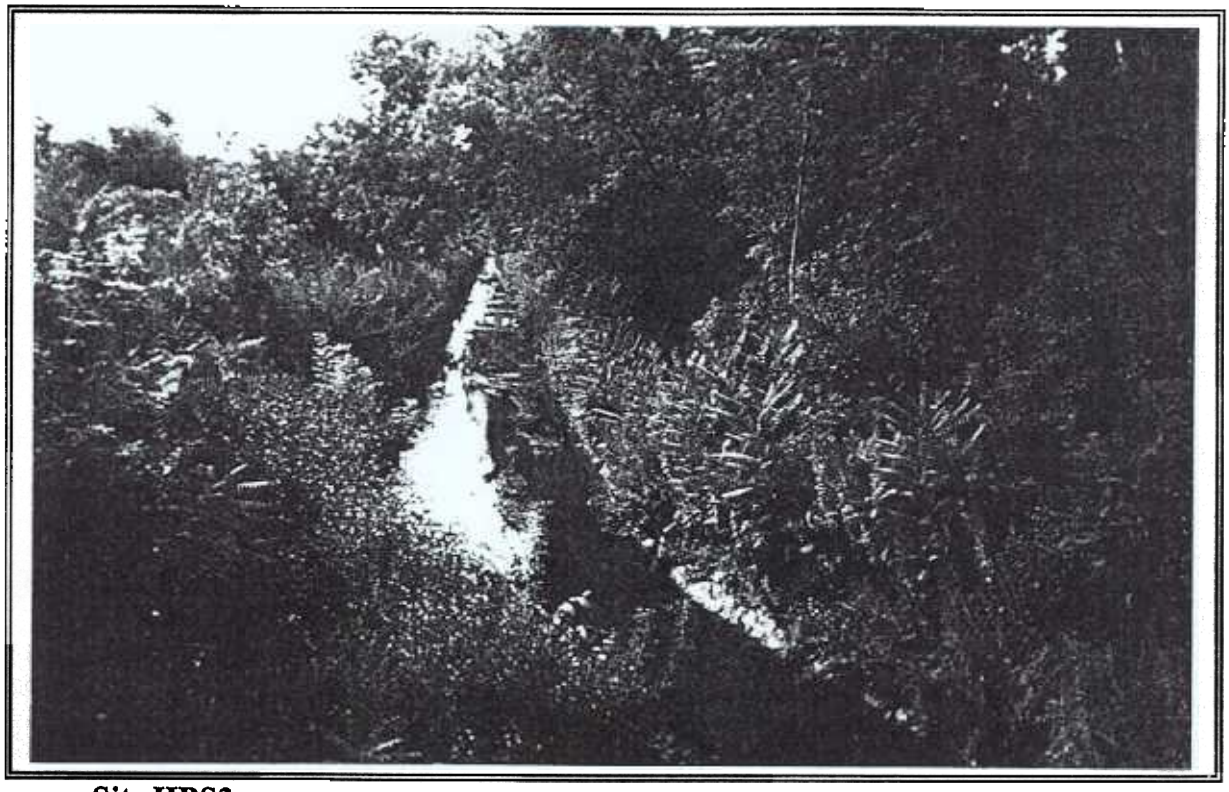
Figure 3. Photographs of Multiplate Macroinvertebrate Sampling Sites on Harbor Brook: June - July, 1999.

Site HBS1

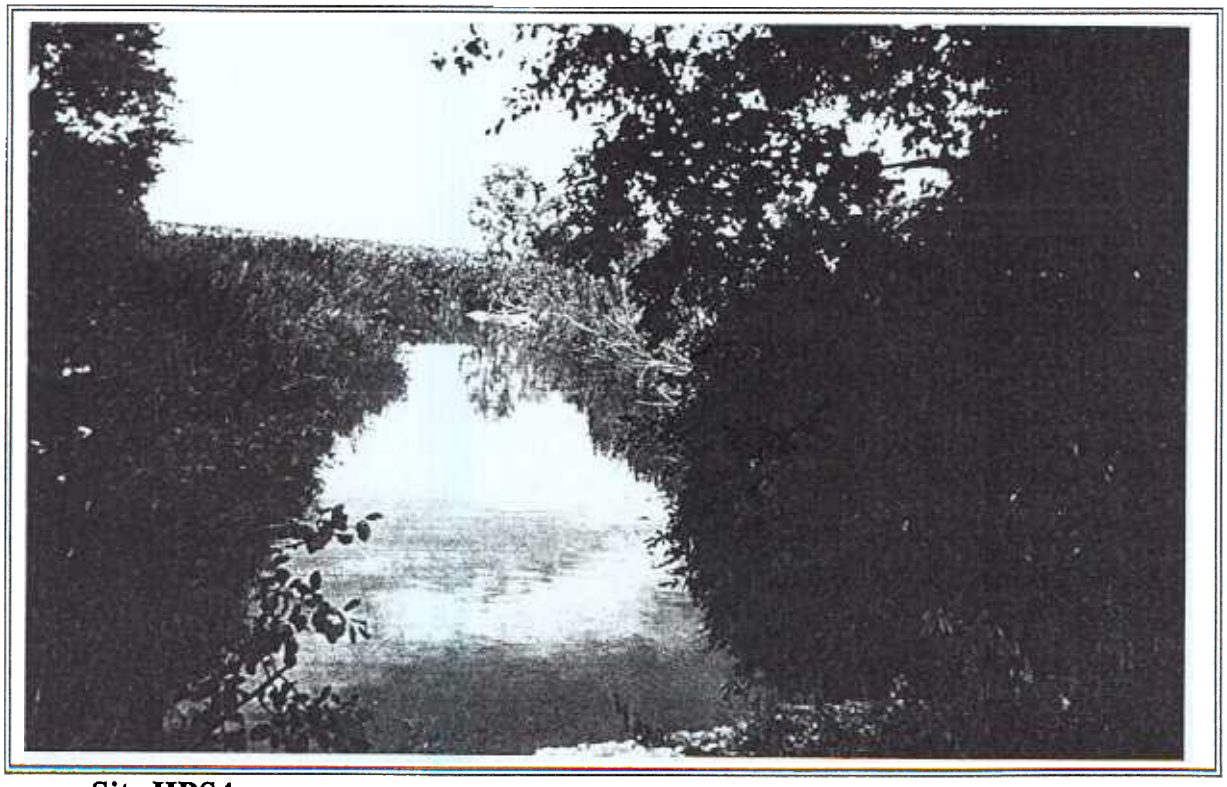


Site HBS2

Figure 3. (Cont.) Photographs of Multiplate Macroinvertebrate Sampling Sites on Harbor Brook: June - July, 1999.



Site HBS3



Site HBS4

APPENDIX A

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION BUREAU OF FISHERIES STREAM CHARACTERIZATION FORMS FOR ONONDAGA CREEK, LEY CREEK, AND HARBOR BROOK MACROINVERTEBRATE SAMPLING SITES, 1998

NYSDEC Bureau of Fisheries: Fisheries Data Base

Onondaga County 1999 Macroinvertebrate Program
STREAM CHARACTERISTICS

Sheet ___ of ___ Revision Date: 4/95 Coded

WATERSHED INDEX NUMBER Onondaga Creek Site 1 Upstream

SURVEY NUMBER	DATE (MM/DD/YY)	SITE #
0SC1	062899	UP

TIME	STREAM WIDTH	CHANNEL WIDTH	MAX DEPTH	MEAN DEPTH	METHOD	GRADIENT	COMMENTS
1550	17.5	19.2	2.3	2.1	3	XXXXX	X

SECTION LENGTH	VELOCITY	METHOD	DISCHARGE	METHOD	POOL LENGTH	QUALITY	WATER TEMP	AIR TEMP	TEMP UNITS
50	0.8	7	28.20	7	100	N	15.6	X.X	C

DISSOLVED OXYGEN	METHOD	pH	METHOD	TOTAL ALKALINITY	METHOD	CONDUCTIVITY	METHOD
9.0		8.05		X.X		2.01	

SHELTER GRADE	SHELTER DESCRIPTION
X	

COVER GRADE	COVER DESCRIPTION
2	OVERHANGING BRANCHES

VEGETATION ABUND.	VEGETATION DESCRIPTION
N	

SHELTER GRADE CODE - Percentage of the stream study section that provides instream shelter (rocks, boulders, undercut banks, etc.): 1 = 0 - 20%; 2 = 21 - 40%; 3 = >40%
COVER GRADE CODE - Percentage of the stream study section covered by overhanging objects (brush, tree branches, bridges, etc.): 1 = 0 - 25%; 2 = 26 - 50%; 3 = >50%
VEGETATION ABUNDANCE - N = None; 0 = 1 - 5%; 1 = 6 - 25%; 2 = 26 - 50%; 3 = 51 - 90%; 4 = >90%; Blank = not evaluated

CROTS VARIABLES

Enter Y for present or N for not present, if evaluated.

10 INSECT SPP?	SIMULIIDS & HYDROPSYCHIDS?	WATERCRESS COMPLEX?	INSECT FORAGE?	ALGAE ON ROCKS?	LEAVES PRESENT?	MINNOWS < 2.5"

Enter the proper code, if evaluated: H = High; M = Moderate; L = Low; N = None

WEATHER: RAIN

Clear - CLR
Cloudy - CLDY
Hazy - HAZY
Partly Cloudy - PCDY
Raining - RAIN
Snowing - SNOW

RAIN 48

STREAM CHARACTER CODES: MD

Dry - DY
Dry - Pools - DP
Fast - FA
Low - Flow - LF
Moderate - MD
Salty - SA
Slow - SL
Stagnant - SG
Swampy - SW
Tidal - TD
Torrent - TO

BANK DESCRIPTION CODES: DF

Agriculture - AG
Bog - BG
Coniferous - CF
Deciduous - DF
Industrial - IN
Pasture - PA
Meadow - MW
Mixed forest - MF
Marsh - MR
Lawn - LW
Road - RD
Scrub - SB
Stony - SN
Suburb - SU
Swamp - SW
Urban - UR

BOTTOM TYPE and ABUNDANCE CODES

Bottom 1	ABD 1	Bottom 2	ABD 2	Bottom 3	ABD 3
SD	2	GR	2		

Plant Debris - PD
Mud - MD
Silt - ST
Sand - SD
Gravel - GR
Cobble - CO
Boulder - BO
Bedrock - BR
Clay - CL
Concrete - CT
Marl - ML
Vegetated - VG
Unknown - UN

Abundance Codes (ABD)
N = None
0 = 1 - 5%
1 = 6 - 25%
2 = 26 - 50%
3 = 51 - 90%
4 = > 90%
Blank = not evaluated

NYSDEC Bureau of Fisheries: Fisheries Data Base

Sheet ___ of ___ Revision Date: 4/95 Coded

WATERSHED INDEX NUMBER ONONDAGA CREEK Site 1 SAMPLE Site

SURVEY NUMBER	DATE (MM/DD/YY)	SITE #
0SC1	062899	SS

TIME	STREAM WIDTH	CHANNEL WIDTH	MAX DEPTH	MEAN DEPTH	METHOD	GRADIENT	COMMENTS
1550	19.8	23.7	2.3	1.9	3	XXXXX	X

SECTION LENGTH	VELOCITY	METHOD	DISCHARGE	METHOD	POOL LENGTH	QUALITY	WATER TEMP	AIR TEMP	TEMP UNITS
50	0.3	7	10.64	7	100	N	15.6	X.X	C

DISSOLVED OXYGEN	METHOD	pH	METHOD	TOTAL ALKALINITY	METHOD	CONDUCTIVITY	METHOD
9.0		8.05		X.X		2.01	

SHELTER GRADE: X

SHELTER DESCRIPTION:

COVER GRADE: 1

COVER DESCRIPTION: OVER HANGING BRANCHES

VEGETATION ABUND.: N

VEGETATION DESCRIPTION:

SHELTER GRADE CODE - Percentage of the stream study section that provides instream shelter (rocks, boulders, undercut banks, etc.): 1 = 0 - 20%; 2 = 21 - 40%; 3 = >40%
COVER GRADE CODE - Percentage of the stream study section covered by overhanging objects (brush, tree branches, bridges, etc.): 1 = 0 - 25%; 2 = 26 - 50%; 3 = >50%
VEGETATION ABUNDANCE - N = None; 0 = 1 - 5%; 1 = 6 - 25%; 2 = 26 - 50%; 3 = 51 - 90%; 4 = >90%; Blank = not evaluated

CROTS VARIABLES

Enter Y for present or N for not present, if evaluated.

10 INSECT SPP?	SIMULIIDS & HYDROPSYCHIDS?	WATERCRESS COMPLEX?

Enter the proper code, if evaluated: H = High; M = Moderate; L = Low; N = None

INSECT FORAGE?	ALGAE ON ROCKS?	LEAVES PRESENT?	MINNOWS < 2.5"

WEATHER: RAIN

Clear - CLR
Cloudy - CLDY
Hazy - HAZY
Partly Cloudy - PCDY
Raining - RAIN
Snowing - SNOW

RAIN 48

STREAM CHARACTER CODES: MD

Dry - DY
Dry - Pools - DP
Fast - FA
Low - Flow - LF
Moderate - MD
Salty - SA
Slow - SL
Stagnant - SG
Swampy - SW
Tidal - TD
Torrent - TO

BANK DESCRIPTION CODES: DF

Agriculture - AG
Bog - BG
Coniferous - CF
Deciduous - DF
Industrial - IN
Pasture - PA
Meadow - MW
Mixed forest - MF
Marsh - MR
Lawn - LW
Road - RD
Scrub - SB
Stony - SN
Suburb - SU
Swamp - SW
Urban - UR

BOTTOM TYPE and ABUNDANCE CODES

Bottom 1	ABD 1	Bottom 2	ABD 2	Bottom 3	ABD 3
ST	3	SA	1		

Plant Debris - PD
Mud - MD
Silt - ST
Sand - SD
Gravel - GR
Cobble - CO
Boulder - BO
Bedrock - BR
Clay - CL
Concrete - CT
Marl - ML
Vegetated - VG
Unknown - UN

Abundance Codes (ABD)
N = None
0 = 1 - 5%
1 = 6 - 25%
2 = 26 - 50%
3 = 51 - 90%
4 = > 90%
Blank = not evaluated

TABLE 2-3

NYSDEC Bureau of Fisheries: Fisheries Data Base

WATERSHED INDEX NUMBER Onondaga Creek Site 1 Downstream

Sheet ___ of ___ Revision Date: 4/95 Coded

SURVEY NUMBER	DATE (MM/DD/YY)	SITE #
0SC1	062899	DN

TIME	STREAM WIDTH	CHANNEL WIDTH	MAX DEPTH	MEAN DEPTH	METHOD	GRADIENT	COMMENTS
1550	21.2	28.8	2.4	1.3	3	XXXXX	X

SECTION LENGTH	VELOCITY	METHOD	DISCHARGE	METHOD	POOL LENGTH	QUALITY	WATER TEMP	AIR TEMP	TEMP UNITS
50	0.2	7	6.76	7	100	N	15.6	X.X	C

DISSOLVED OXYGEN	METHOD	pH	METHOD	TOTAL ALKALINITY	METHOD	CONDUCTIVITY	METHOD
9.0		8.05		X.X		2.01	

SHELTER GRADE	SHELTER DESCRIPTION
X	

COVER GRADE	COVER DESCRIPTION
1	NONE

VEGETATION ABUND.	VEGETATION DESCRIPTION
N	

SHELTER GRADE CODE - Percentage of the stream study section that provides instream shelter (rocks, boulders, undercut banks, etc.): 1 = 0 - 20%; 2 = 21 - 40%; 3 = >40%
COVER GRADE CODE - Percentage of the stream study section covered by overhanging objects (brush, tree branches, bridges, etc.): 1 = 0 - 25%; 2 = 26 - 50%; 3 = >50%
VEGETATION ABUNDANCE - N = None; 0 = 1 - 5%; 1 = 6 - 25%; 2 = 26 - 50%; 3 = 51 - 90%; 4 = >90%; Blank = not evaluated

CROTS VARIABLES

Enter Y for present or N for not present, if evaluated.

10 INSECT SPP?	SIMULIIDS & HYDROPSYCHIDS?	WATERCRESS COMPLEX?	INSECT FORAGE?	ALGAE ON ROCKS?	LEAVES PRESENT?	MINNOWS < 2.5"

Enter the proper code, if evaluated: H = High; M = Moderate; L = Low; N = None

WEATHER: RAIN

Clear - CLR
Cloudy - CLDY
Hazy - HAZY
Partly Cloudy - PCDY
Raining - RAIN
Snowing - SNOW

RAIN 48

STREAM CHARACTER CODES: MD

Dry - DY
Dry - Pools - DP
Fast - FA
Low - Flow - LF
Moderate - MD
Sally - SA
Slow - SL
Stagnant - SG
Swampy - SW
Tidal - TD
Torrent - TO

BANK DESCRIPTION CODES

Agriculture - AG
Bog - BG
Coniferous - CF
Deciduous - DF
Industrial - IN
Pasture - PA
Meadow - MW
Mixed forest - MF
Marsh - MR
Lawn - LW
Road - RD
Scrub - SB
Stony - SN
Suburb - SU
Swamp - SW
Urban - UR

BOTTOM TYPE and ABUNDANCE CODES

Bottom 1	ABD 1	Bottom 2	ABD 2	Bottom 3	ABD 3
ST	2	CL	2		

Plant Debris - PD
Mud - MD
Silt - ST
Sand - SD
Gravel - GR
Cobble - CO
Boulder - BO
Bedrock - BR
Clay - CL
Concrete - CT
Marl - ML
Vegetated - VG
Unknown - UN

Abundance Codes (ABD)
N = None
0 = 1 - 5%
1 = 6 - 25%
2 = 26 - 50%
3 = 51 - 90%
4 = > 90%
Blank = not evaluated

NYSDEC Bureau of Fisheries: Fisheries Data Base

Sheet ___ of ___ Revision Date: 4/95 Coded

WATERSHED INDEX NUMBER: Onondaga Creek Site 2 Upstream

SURVEY NUMBER	DATE (MM/DD/YY)	SITE #
OSC2	06 30 99	UP

TIME	STREAM WIDTH	CHANNEL WIDTH	MAX DEPTH	MEAN DEPTH	METHOD	GRADIENT	COMMENTS
1030	39.0	41.2	3.2	2.0	3	XXXXX	X

SECTION LENGTH	VELOCITY	METHOD	DISCHARGE	METHOD	POOL LENGTH	QUALITY	WATER TEMP	AIR TEMP	TEMP UNITS
50	0.2	7	12.32	7	100	N	18.3	X.X	C

DISSOLVED OXYGEN	METHOD	pH	METHOD	TOTAL ALKALINITY	METHOD	CONDUCTIVITY	METHOD
7.4		7.92		X.X		2.79	

SHELTER GRADE	SHELTER DESCRIPTION
X	

COVER GRADE	COVER DESCRIPTION
1	VEGETATION

VEGETATION ABUND.	VEGETATION DESCRIPTION
2	SAV

SHELTER GRADE CODE - Percentage of the stream study section that provides instream shelter (rocks, boulders, undercut banks, etc.): 1 = 0 - 20%; 2 = 21 - 40%; 3 = >40%
COVER GRADE CODE - Percentage of the stream study section covered by overhanging objects (brush, tree branches, bridges, etc.): 1 = 0 - 25%; 2 = 26 - 50%; 3 = >50%
VEGETATION ABUNDANCE - N = None; 0 = 1 - 5%; 1 = 6 - 25%; 2 = 26 - 50%; 3 = 51 - 90%; 4 = >90%; Blank = not evaluated

CROTS VARIABLES

Enter Y for present or N for not present, if evaluated.

Enter the proper code, if evaluated: H = High; M = Moderate; L = Low; N = None

10 INSECT SPP?	SIMULIIDS & HYDROPSYCHIDS?	WATERCRESS COMPLEX?	INSECT FORAGE?	ALGAE ON ROCKS?	LEAVES PRESENT?	MINNOWS < 2.5"

WEATHER: C

Clear - CLR; Cloudy - CLDY; Hazy - HAZY; Partly Cloudy - PCDY; Raining - RAIN; Snowing - SNOW

RAIN 48

STREAM CHARACTER CODES: SL

Dry - DY; Dry - Pools - DP; Fast - FA; Low - Flow - LF; Moderate - MD; Salty - SA; Slow - SL; Stagnant - SG; Swampy - SW; Tidal - TD; Torrent - TO

BANK DESCRIPTION CODES: MW MR DF

Agriculture - AG; Bog - BG; Coniferous - CF; Deciduous - DF; Industrial - IN; Pasture - PA; Meadow - MW; Mixed forest - MF; Marsh - MR; Lawn - LW; Road - RD; Scrub - SB; Stony - SN; Suburb - SU; Swamp - SW; Urban - UR

BOTTOM TYPE and ABUNDANCE CODES

Bottom 1	ABD 1	Bottom 2	ABD 2	Bottom 3	ABD 3
GR	3	SD	1		

Plant Debris - PD; Mud - MD; Silt - ST; Sand - SD; Gravel - GR; Cobble - CO; Boulder - BO; Bedrock - BR; Clay - CL; Concrete - CT; Marl - ML; Vegetated - VG; Unknown - UN

Abundance Codes (ABD): N = None; 0 = 1 - 5%; 1 = 6 - 25%; 2 = 26 - 50%; 3 = 51 - 90%; 4 = > 90%; Blank = not evaluated

NYSDEC Bureau of Fisheries: Fisheries Data Base

WATERSHED INDEX NUMBER ONONDAGA CREEK Site 2 SAMPLE SITE

Sheet ___ of ___ Revision Date: 4/95 Coded

SURVEY NUMBER	DATE (MM/DD/YY)	SITE #
0SC2	063099	SS

TIME	STREAM WIDTH	CHANNEL WIDTH	MAX DEPTH	MEAN DEPTH	METHOD	GRADIENT	COMMENTS
1030	33.3	35.8	3.2	2.8	3	XXXXX	X

SECTION LENGTH	VELOCITY	METHOD	DISCHARGE	METHOD	POOL LENGTH	QUALITY	WATER TEMP	AIR TEMP	TEMP UNITS
50	0.2	7	10.88	7	100	N	18.3	X.X	C

DISSOLVED OXYGEN	METHOD	pH	METHOD	TOTAL ALKALINITY	METHOD	CONDUCTIVITY	METHOD
7.4		7.92		X.X		2.79	

SHELTER GRADE	SHELTER DESCRIPTION
X	

COVER GRADE	COVER DESCRIPTION
2	TREES/VEGETATION

VEGETATION ABUND.	VEGETATION DESCRIPTION
N	

SHELTER GRADE CODE - Percentage of the stream study section that provides instream shelter (rocks, boulders, undercut banks, etc.): 1 = 0 - 20%; 2 = 21 - 40%; 3 = >40%
COVER GRADE CODE - Percentage of the stream study section covered by overhanging objects (brush, tree branches, bridges, etc.): 1 = 0 - 25%; 2 = 26 - 50%; 3 = >50%
VEGETATION ABUNDANCE - N = None; 0 = 1 - 5%; 1 = 6 - 25%; 2 = 26 - 50%; 3 = 51 - 90%; 4 = >90%; Blank = not evaluated

CROTS VARIABLES

Enter Y for present or N for not present, if evaluated.

10 INSECT SPP?	SIMULIIDS & HYDROPSYCHIDS?	WATERCRESS COMPLEX?

Enter the proper code, if evaluated: H = High; M = Moderate; L = Low; N = None

INSECT FORAGE?	ALGAE ON ROCKS?	LEAVES PRESENT?	MINNOWS < 2.5"

WEATHER: CLR

Clear - CLR
Cloudy - CLDY
Hazy - HAZY
Partly Cloudy - PCDY
Raining - RAIN
Snowing - SNOW
RAIN 48

STREAM CHARACTER CODES: SL

Dry - DY
Dry - Pools - DP
Fast - FA
Low - Flow - LF
Moderate - MD
Salty - SA
Slow - SL
Stagnant - SG
Swampy - SW
Tidal - TD
Torrent - TO

BANK DESCRIPTION CODES: DF MW

Agriculture - AG
Bog - BG
Coniferous - CF
Deciduous - DF
Industrial - IN
Pasture - PA
Meadow - MW
Mixed forest - MF
Marsh - MR
Lawn - LW
Road - RD
Scrub - SB
Stony - SN
Suburb - SU
Swamp - SW
Urban - UR

BOTTOM TYPE and ABUNDANCE CODES

Bottom 1	ABD 1	Bottom 2	ABD 2	Bottom 3	ABD 3
GR	2	SD	2		

Plant Debris - PD
Mud - MD
Silt - ST
Sand - SD
Gravel - GR
Cobble - CO
Boulder - BO
Bedrock - BR
Clay - CL
Concrete - CT
Marl - ML
Vegetated - VG
Unknown - UN

Abundance Codes (ABD)
N = None
0 = 1 - 5%
1 = 6 - 25%
2 = 26 - 50%
3 = 51 - 90%
4 = > 90%
Blank = not evaluated

NYSDEC Bureau of Fisheries: Fisheries Data Base

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WATERSHED INDEX NUMBER ONONDAGA Creek Site 2 Downstream

SURVEY NUMBER	DATE (MM/DD/YY)	SITE #
05C3	06 30 99	DN

TIME	STREAM WIDTH	CHANNEL WIDTH	MAX DEPTH	MEAN DEPTH	METHOD	GRADIENT	COMMENTS
1030	32.0	35.1	4.9	4.4	3	XXXXX	

SECTION LENGTH	VELOCITY	METHOD	DISCHARGE	METHOD	POOL LENGTH	QUALITY	WATER TEMP	AIR TEMP	TEMP UNITS
50	0.1	7	17.72	7	100	N	18.3	X.X	C

DISSOLVED OXYGEN	METHOD	pH	METHOD	TOTAL ALKALINITY	METHOD	CONDUCTIVITY	METHOD
7.4		7.92		X.X		2.79	

SHELTER GRADE	SHELTER DESCRIPTION
X	

COVER GRADE	COVER DESCRIPTION
2	TREES/VEGETATION

VEGETATION ABUND.	VEGETATION DESCRIPTION
N	

SHELTER GRADE CODE - Percentage of the stream study section that provides instream shelter (rocks, boulders, undercut banks, etc.): 1 = 0 - 20%; 2 = 21 - 40%; 3 = >40%
COVER GRADE CODE - Percentage of the stream study section covered by overhanging objects (brush, tree branches, bridges, etc.): 1 = 0 - 25%; 2 = 26 - 50%; 3 = >50%
VEGETATION ABUNDANCE - N = None; 0 = 1 - 5%; 1 = 6 - 25%; 2 = 26 - 50%; 3 = 51 - 90%; 4 = >90%; Blank = not evaluated

CROTS VARIABLES

Enter Y for present or N for not present, if evaluated.

Enter the proper code, if evaluated: H = High; M = Moderate; L = Low; N = None

10 INSECT SPP?	SIMULIIDS & HYDROPSYCHIDS?	WATERCRESS COMPLEX?	INSECT FORAGE?	ALGAE ON ROCKS?	LEAVES PRESENT?	MINNOWS < 2.5"

WEATHER

CLR

Clear - CLR
Cloudy - CLDY
Hazy - HAZY
Partly Cloudy - PCDY
Raining - RAIN
Snowing - SNOW

RAIN 48

STREAM CHARACTER CODES

SL

Dry - DY
Dry - Pools - DP
Fast - FA
Low - Flow - LF
Moderate - MD
Salty - SA
Slow - SL
Stagnant - SG
Swampy - SW
Tidal - TD
Torrent - TO

BANK DESCRIPTION CODES

DF MW

Agriculture - AG
Bog - BG
Coniferous - CF
Deciduous - DF
Industrial - IN
Pasture - PA
Meadow - MW
Mixed forest - MF
Marsh - MR
Lawn - LW
Road - RD
Scrub - SB
Stony - SN
Suburb - SU
Swamp - SW
Urban - UR

BOTTOM TYPE and ABUNDANCE CODES

Bottom 1	ABD 1	Bottom 2	ABD 2	Bottom 3	ABD 3
CL	4				

Plant Debris - PD
Mud - MD
Silt - ST
Sand - SD
Gravel - GR
Cobble - CO
Boulder - BO
Bedrock - BR
Clay - CL
Concrete - CT
Marl - ML
Vegetated - VG
Unknown - UN

Abundance Codes (ABD)

N = None
0 = 1 - 5%
1 = 6 - 25%
2 = 26 - 50%
3 = 51 - 90%
4 = > 90%
Blank = not evaluated

NYSDEC Bureau of Fisheries: Fisheries Data Base

WATERSHED INDEX NUMBER ONONDAGA CREEK Site 3 UPSTREAM

Sheet ___ of ___ Revision Date: 4/95 Coded

SURVEY NUMBER	DATE (MM/DD/YY)	SITE #
OSC3	06 28 99	UP

TIME	STREAM WIDTH	CHANNEL WIDTH	MAX DEPTH	MEAN DEPTH	METHOD	GRADIENT	COMMENTS
1700	74.3	76.2	3.7	3.4	3	XXXXX	

SECTION LENGTH	VELOCITY	METHOD	DISCHARGE	METHOD	POOL LENGTH	QUALITY	WATER TEMP	AIR TEMP	TEMP UNITS
50	0.3	7	76.49	7	100	N	22.6	X.X	C

DISSOLVED OXYGEN	METHOD	pH	METHOD	TOTAL ALKALINITY	METHOD	CONDUCTIVITY	METHOD
8.6		8.25		X.X		1.58	

SHELTER GRADE	SHELTER DESCRIPTION
X	

COVER GRADE	COVER DESCRIPTION
1	NONE

VEGETATION ABUND.	VEGETATION DESCRIPTION
N	

SHELTER GRADE CODE - Percentage of the stream study section that provides instream shelter (rocks, boulders, undercut banks, etc.): 1 = 0 - 20%; 2 = 21 - 40%; 3 = >40%
COVER GRADE CODE - Percentage of the stream study section covered by overhanging objects (brush, tree branches, bridges, etc.): 1 = 0 - 25%; 2 = 26 - 50%; 3 = >50%
VEGETATION ABUNDANCE - N = None; 0 = 1 - 5%; 1 = 6 - 25%; 2 = 26 - 50%; 3 = 51 - 90%; 4 = >90%; Blank = not evaluated

CROTS VARIABLES

Enter Y for present or N for not present, if evaluated.

Enter the proper code, if evaluated: H = High; M = Moderate; L = Low; N = None

10 INSECT SPP?	SIMULIIDS & HYDROPSYCHIDS?	WATERCRESS COMPLEX?	INSECT FORAGE?	ALGAE ON ROCKS?	LEAVES PRESENT?	MINNOWS < 2.5"

WEATHER

CLDY

Clear - CLR
Cloudy - CLDY
Hazy - HAZY
Partly Cloudy - PCDY
Raining - RAIN
Snowing - SNOW

RAIN 48

STREAM CHARACTER CODES

MD

Dry - DY
Dry - Pools - DP
Fast - FA
Low - Flow - LF
Moderate - MD
Salty - SA
Slow - SL
Stagnant - SG
Swampy - SW
Tidal - TD
Torrent - TO

Rip-Rap
BANK DESCRIPTION CODES

MW ST

Agriculture - AG
Bog - BG
Coniferous - CF
Deciduous - DF
Industrial - IN
Pasture - PA
Meadow - MW
Mixed forest - MF
Marsh - MR
Lawn - LW
Road - RD
Scrub - SB
Stony - SN
Suburb - SU
Swamp - SW
Urban - UR

BOTTOM TYPE and ABUNDANCE CODES

Bottom 1	ABD 1	Bottom 2	ABD 2	Bottom 3	ABD 3
SD	3	GR	1		

Plant Debris - PD
Mud - MD
Silt - ST
Sand - SD
Gravel - GR
Cobble - CO
Boulder - BO
Bedrock - BR
Clay - CL
Concrete - CT
Marl - ML
Vegetated - VG
Unknown - UN

Abundance Codes (ABD)
N = None
0 = 1 - 5%
1 = 6 - 25%
2 = 26 - 50%
3 = 51 - 90%
4 = > 90%
Blank = not evaluated

NYSDEC Bureau of Fisheries: Fisheries Data Base

WATERSHED INDEX NUMBER Onondaga Creek Site 3 Sample Site

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SURVEY NUMBER	DATE (MM/DD/YY)	SITE #
0SC3	06 28 99	55

TIME	STREAM WIDTH	CHANNEL WIDTH	MAX DEPTH	MEAN DEPTH	METHOD	GRADIENT	COMMENTS
1700	73.4	74.9	2.6	1.4	3	XXXXX	X

SECTION LENGTH	VELOCITY	METHOD	DISCHARGE	METHOD	POOL LENGTH	QUALITY	WATER TEMP	AIR TEMP	TEMP UNITS
50	0.4	7	37.06	7	100	N	22.6	X.X	C

DISSOLVED OXYGEN	METHOD	pH	METHOD	TOTAL ALKALINITY	METHOD	CONDUCTIVITY	METHOD
8.6		8.25		X.X		1.58	

SHELTER GRADE	SHELTER DESCRIPTION
X	

COVER GRADE	COVER DESCRIPTION
1	NONE

VEGETATION ABUND.	VEGETATION DESCRIPTION
N	

SHELTER GRADE CODE - Percentage of the stream study section that provides instream shelter (rocks, boulders, undercut banks, etc.): 1 = 0 - 20%; 2 = 21 - 40%; 3 = >40%
COVER GRADE CODE - Percentage of the stream study section covered by overhanging objects (brush, tree branches, bridges, etc.): 1 = 0 - 25%; 2 = 26 - 50%; 3 = >50%
VEGETATION ABUNDANCE - N = None; 0 = 1 - 5%; 1 = 6 - 25%; 2 = 26 - 50%; 3 = 51 - 90%; 4 = >90%; Blank = not evaluated

CROTS VARIABLES

Enter Y for present or N for not present, if evaluated.

10 INSECT SPP?	SIMULIIDS & HYDROPSYCHIDS?	WATERCRESS COMPLEX?	INSECT FORAGE?	ALGAE ON ROCKS?	LEAVES PRESENT?	MINNOWS < 2.5"

Enter the proper code, if evaluated: H = High; M = Moderate; L = Low; N = None

WEATHER

CLDY

Clear - CLR
Cloudy - CLDY
Hazy - HAZY
Partly Cloudy - PCDY
Raining - RAIN
Snowing - SNOW

RAIN 48

STREAM CHARACTER CODES

MD

Dry - DY
Dry - Pools - DP
Fast - FA
Low - Flow - LF
Moderate - MD
Salty - SA
Slow - SL
Stagnant - SG
Swampy - SW
Tidal - TD
Torrent - TO

BANK DESCRIPTION CODES

Rip Rap

MW ST

Agriculture - AG
Bog - BG
Coniferous - CF
Deciduous - DF
Industrial - IN
Pasture - PA
Meadow - MW
Mixed forest - MF
Marsh - MR
Lawn - LW
Road - RD
Scrub - SB
Stony - SN
Suburb - SU
Swamp - SW
Urban - UR

BOTTOM TYPE and ABUNDANCE CODES

Bottom 1	ABD 1	Bottom 2	ABD 2	Bottom 3	ABD 3
SD	2	GR	2	ST	1

Plant Debris - PD
Mud - MD
Silt - ST
Sand - SD
Gravel - GR
Cobble - CO
Boulder - BO
Bedrock - BR
Clay - CL
Concrete - CT
Marl - ML
Vegetated - VG
Unknown - UN

Abundance Codes (ABD)

N = None
0 = 1 - 5%
1 = 6 - 25%
2 = 26 - 50%
3 = 51 - 90%
4 = > 90%
Blank = not evaluated

NYSDEC Bureau of Fisheries: Fisheries Data Base

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WATERSHED INDEX NUMBER ONONDAGA CREEK SITE 3 DOWNSTREAM

SURVEY NUMBER	DATE (MM/DD/YY)	SITE #
0C53	062891	DN

TIME	STREAM WIDTH	CHANNEL WIDTH	MAX DEPTH	MEAN DEPTH	METHOD	GRADIENT	COMMENTS
1700	66.0	69.0	1.2	0.7	3	XXXXX	X

SECTION LENGTH	VELOCITY	METHOD	DISCHARGE	METHOD	POOL LENGTH	QUALITY	WATER TEMP	AIR TEMP	TEMP UNITS
50	0.7	7	28.31	7	100	N	22.6	X.X	C

DISSOLVED OXYGEN	METHOD	pH	METHOD	TOTAL ALKALINITY	METHOD	CONDUCTIVITY	METHOD
8.6		8.25		X.X		1.58	

SHELTER GRADE	SHELTER DESCRIPTION
X	

COVER GRADE	COVER DESCRIPTION
1	NONE

VEGETATION ABUND.	VEGETATION DESCRIPTION
N	

SHELTER GRADE CODE - Percentage of the stream study section that provides instream shelter (rocks, boulders, undercut banks, etc.): 1 = 0 - 20%; 2 = 21 - 40%; 3 = >40%
COVER GRADE CODE - Percentage of the stream study section covered by overhanging objects (brush, tree branches, bridges, etc.): 1 = 0 - 25%; 2 = 26 - 50%; 3 = >50%
VEGETATION ABUNDANCE - N = None; 0 = 1 - 5%; 1 = 6 - 25%; 2 = 26 - 50%; 3 = 51 - 90%; 4 = >90%; Blank = not evaluated

CROTS VARIABLES

Enter Y for present or N for not present, if evaluated.

10 INSECT SPP?	SIMULIIDS & HYDROPSYCHIDS?	WATERCRESS COMPLEX?

Enter the proper code, if evaluated: H = High; M = Moderate; L = Low; N = None

INSECT FORAGE?	ALGAE ON ROCKS?	LEAVES PRESENT?	MINNOWS < 2.5"

WEATHER

CLDY

Clear - CLR
Cloudy - CLDY
Hazy - HAZY
Partly Cloudy - PCDY
Raining - RAIN
Snowing - SNOW

RAIN 48

STREAM CHARACTER CODES

MD

Dry	- DY	Slow	- SL
Dry - Pools	- DP	Stagnant	- SG
Fast	- FA	Swampy	- SW
Low - Flow	- LF	Tidal	- TD
Moderate	- MD	Torrent	- TO
Salty	- SA		

BANK DESCRIPTION CODES RIP RAP

MW ST

Agriculture	- AG	Marsh	- MR
Bog	- BG	Lawn	- LW
Coniferous	- CF	Road	- RD
Deciduous	- DF	Scrub	- SD
Industrial	- IN	Stony	- SN
Pasture	- PA	Suburb	- SU
Meadow	- MW	Swamp	- SW
Mixed forest	- MF	Urban	- UR

BOTTOM TYPE and ABUNDANCE CODES

Bottom 1	ABD 1	Bottom 2	ABD 2	Bottom 3	ABD 3
SD	3	GR	2	CO	1

Plant Debris	- PD	Cobble	- CO	Marl	ML
Mud	- MD	Boulder	- BO	Vegetated	VG
Silt	- ST	Bedrock	- BR	Unknown	UN
Sand	- SD	Clay	- CL		
Gravel	- GR	Concrete	- CT		

Abundance Codes (ABD)

N = None
0 = 1 - 5%
1 = 6 - 25%
2 = 26 - 50%
3 = 51 - 90%
4 = > 90%
Blank = not evaluated

NYSDEC Bureau of Fisheries: Fisheries Data Base

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WATERSHED INDEX NUMBER Onondaga Creek Site 4 - Upstream

SURVEY NUMBER	DATE (MM/DD/YY)	SITE #
OCS4	07 06 99	UP

TIME	STREAM WIDTH	CHANNEL WIDTH	MAX DEPTH	MEAN DEPTH	METHOD	GRADIENT	COMMENTS
2015	29.4	33.0	1.6	1.5	3	XXXXX	X

SECTION LENGTH	VELOCITY	METHOD	DISCHARGE	METHOD	POOL LENGTH	QUALITY	WATER TEMP	AIR TEMP	TEMP UNITS
50	1.1	7	48.58	7	RUN	N	20.4	23.2	C

DISSOLVED OXYGEN	METHOD	pH	METHOD	TOTAL ALKALINITY	METHOD	CONDUCTIVITY	METHOD
7.9		7.85		X.X		1.21	

SHELTER GRADE	SHELTER DESCRIPTION
X	

COVER GRADE	COVER DESCRIPTION
1	MAPLES

VEGETATION ABUND.	VEGETATION DESCRIPTION
N	

SHELTER GRADE CODE - Percentage of the stream study section that provides instream shelter (rocks, boulders, undercut banks, etc.): 1 = 0 - 20%; 2 = 21 - 40%; 3 = >40%
COVER GRADE CODE - Percentage of the stream study section covered by overhanging objects (brush, tree branches, bridges, etc.): 1 = 0 - 25%; 2 = 26 - 50%; 3 = >50%
VEGETATION ABUNDANCE - N = None; 0 = 1 - 5%; 1 = 6 - 25%; 2 = 26 - 50%; 3 = 51 - 90%; 4 = >90%; Blank = not evaluated

CROTS VARIABLES

Enter Y for present or N for not present, if evaluated.

Enter the proper code, if evaluated: H = High; M = Moderate; L = Low; N = None

10 INSECT SPP?	SIMULIIDS & HYDROPSYCHIDS?	WATERCRESS COMPLEX?	INSECT FORAGE?	ALGAE ON ROCKS?	LEAVES PRESENT?	MINNOWS < 2.5"

WEATHER

PCDY

Clear - CLR
Cloudy - CLDY
Hazy - HAZY
Partly Cloudy - PCDY
Raining - RAIN
Snowing - SNOW

RAIN 48 [ ]

STREAM CHARACTER CODES

MD

Dry - DY
Dry - Pools - DP
Fast - FA
Low - Flow - LF
Moderate - MD
Salty - SA
Slow - SL
Stagnant - SG
Swampy - SW
Tidal - TD
Torrent - TO

BANK DESCRIPTION CODES (Concrete Channel)

UR

Agriculture - AG
Bog - BG
Coniferous - CF
Deciduous - DF
Industrial - IN
Pasture - PA
Meadow - MW
Mixed forest - MF
Marsh - MR
Lawn - LW
Road - RD
Scrub - SB
Stony - SN
Suburb - SU
Swamp - SW
Urban - UR

BOTTOM TYPE and ABUNDANCE CODES

Bottom 1	ABD 1	Bottom 2	ABD 2	Bottom 3	ABD 3
ST	2	GR	2	CO	2

Plant Debris - PD
Mud - MD
Silt - ST
Sand - SD
Gravel - GR
Cobble - CO
Boulder - BO
Bedrock - BR
Clay - CL
Concrete - CT
Marl - ML
Vegetated - VG
Unknown - UN

Abundance Codes (ABD)
N = None
0 = 1 - 5%
1 = 6 - 25%
2 = 26 - 50%
3 = 51 - 90%
4 = > 90%
Blank = not evaluated

NYSDEC Bureau of Fisheries: Fisheries Data Base

WATERSHED INDEX NUMBER: ONONDAGA Creek Site 4 Sample Site

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SURVEY NUMBER	DATE (MM/DD/YY)	SITE #
OCS4	07 06 99	55

TIME	STREAM WIDTH	CHANNEL WIDTH	MAX DEPTH	MEAN DEPTH	METHOD	GRADIENT	COMMENTS
2015	31.2	33.2	1.6	1.2	3		

SECTION LENGTH	VELOCITY	METHOD	DISCHARGE	METHOD	POOL LENGTH	QUALITY	WATER TEMP	AIR TEMP	TEMP UNITS
50	0.9	7	35.88	7	RUN	N	20.4	23.2	C

DISSOLVED OXYGEN	METHOD	pH	METHOD	TOTAL ALKALINITY	METHOD	CONDUCTIVITY	METHOD
7.9		7.85		.		1.21	

SHELTER GRADE: ___ SHELTER DESCRIPTION: ___

COVER GRADE: 1 COVER DESCRIPTION: ___

VEGETATION ABUND.: 0 VEGETATION DESCRIPTION: GRASSES IN WATER

SHELTER GRADE CODE - Percentage of the stream study section that provides instream shelter (rocks, boulders, undercut banks, etc.): 1 = 0 - 20%; 2 = 21 - 40%; 3 = >40%
COVER GRADE CODE - Percentage of the stream study section covered by overhanging objects (brush, tree branches, bridges, etc.): 1 = 0 - 25%; 2 = 26 - 50%; 3 = >50%
VEGETATION ABUNDANCE - N = None; 0 = 1 - 5%; 1 = 6 - 25%; 2 = 26 - 50%; 3 = 51 - 90%; 4 = >90%; Blank = not evaluated

CROTS VARIABLES

Enter Y for present or N for not present, if evaluated.

10 INSECT SPP?	SIMULIIDS & HYDROPSYCHIDS?	WATERCRESS COMPLEX?	INSECT FORAGE?	ALGAE ON ROCKS?	LEAVES PRESENT?	MINNOWS < 2.5"

Enter the proper code, if evaluated: H = High; M = Moderate; L = Low; N = None

WEATHER: PCDY

Clear - CLR
Cloudy - CLDY
Hazy - HAZY
Partly Cloudy - PCDY
Raining - RAIN
Snowing - SNOW

RAIN 48: ___

STREAM CHARACTER CODES: MD

Dry - DY
Dry - Pools - DP
Fast - FA
Low - Flow - LF
Moderate - MD
Salty - SA
Slow - SL
Stagnant - SG
Swampy - SW
Tidal - TD
Torrent - TO

CONCRETE CHANNEL
BANK DESCRIPTION CODES: UR

Agriculture - AG
Bog - BG
Coniferous - CF
Deciduous - DF
Industrial - IN
Pasture - PA
Meadow - MW
Mixed forest - MF
Marsh - MR
Lawn - LW
Road - RD
Scrub - SB
Stony - SN
Suburb - SU
Swamp - SW
Urban - UR

BOTTOM TYPE and ABUNDANCE CODES

Bottom 1	ABD 1	Bottom 2	ABD 2	Bottom 3	ABD 3
ST	2	GR	1	CO	1

Plant Debris - PD
Mud - MD
Silt - ST
Sand - SD
Gravel - GR
Cobble - CO
Boulder - BO
Bedrock - BR
Clay - CL
Concrete - CT
Marl - ML
Vegetated - VG
Unknown - UN

Abundance Codes (ABD)
N = None
0 = 1 - 5%
1 = 6 - 25%
2 = 26 - 50%
3 = 51 - 90%
4 = > 90%
Blank = not evaluated

NYSDEC Bureau of Fisheries: Fisheries Data Base

WATERSHED INDEX NUMBER Onondaga Creek site 4 D

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SURVEY NUMBER: DCS 4

DATE (MM/DD/YY): 07 06 99

TIME	STREAM WIDTH	CHANNEL WIDTH	MAX DEPTH	MEAN DEPTH	METHOD	GRADIENT	COMMENTS
2015	30.8	34.7	1.1	0.8	3	XXXXX	X

SECTION LENGTH	VELOCITY	METHOD	DISCHARGE	METHOD	POOL LENGTH	QUALITY	WATER TEMP	AIR TEMP	TEMP UNITS
50	2.2	7	54.86	7	RUN	N	20.4	23.2	C

DISSOLVED OXYGEN	METHOD	pH	METHOD	TOTAL ALKALINITY	METHOD	CONDUCTIVITY	METHOD
7.9		7.85		X.X		1.21	

SHELTER GRADE: X

SHELTER DESCRIPTION:

COVER GRADE: 1

COVER DESCRIPTION: NONE

VEGETATION ABUND.: 0

VEGETATION DESCRIPTION: GRASSES IN WATER

SHELTER GRADE CODE - Percentage of the stream study section that provides instream shelter (rocks, boulders, undercut banks, etc.): 1 = 0 - 20%; 2 = 21 - 40%; 3 = >40%

COVER GRADE CODE - Percentage of the stream study section covered by overhanging objects (brush, tree branches, bridges, etc.): 1 = 0 - 25%; 2 = 26 - 50%; 3 = >50%

VEGETATION ABUNDANCE - N = None; 0 = 1 - 5%; 1 = 6 - 25%; 2 = 26 - 50%; 3 = 51 - 90%; 4 = >90%; Blank = not evaluated

CROTS VARIABLES

Enter Y for present or N for not present, if evaluated.

Enter the proper code, if evaluated: H = High; M = Moderate; L = Low; N = None

10 INSECT SPP?	SIMULIIDS & HYDROPSYCHIDS?	WATERCRESS COMPLEX?	INSECT FORAGE?	ALGAE ON ROCKS?	LEAVES PRESENT?	MINNOWS < 2.5"

WEATHER: PCDY

Clear - CLR
Cloudy - CLDY
Hazy - HAZY
Partly Cloudy - PCDY
Raining - RAIN
Snowing - SNOW

RAIN 48:

STREAM CHARACTER CODES: MD

Dry	DY	Slow	SL
Dry - Pools	DP	Stagnant	SG
Fast	FA	Swampy	SW
Low - Flow	LF	Tidal	TD
Moderate	MD	Torrent	TO
Sally	SA		

BANK DESCRIPTION CODES: UR (Concrete Channel)

Agriculture	AG	Marsh	MR
Bog	BG	Lawn	LW
Coniferous	CF	Road	RD
Deciduous	DF	Scrub	SB
Industrial	IN	Stony	ST
Pasture	PA	Suburb	SU
Meadow	MW	Swamp	SW
Mixed forest	MF	Urban	UR

BOTTOM TYPE and ABUNDANCE CODES

Bottom 1	ABD 1	Bottom 2	ABD 2	Bottom 3	ABD 3
CO	3	BO	2		

Plant Debris	PD	Cobble	CO	Marl	ML
Mud	MD	Boulder	BO	Vegetated	VG
Silt	ST	Bedrock	BR	Unknown	UN
Sand	SD	Clay	CL		
Gravel	GR	Concrete	CT		

Abundance Codes (ABD)

N = None
0 = 1 - 5%
1 = 6 - 25%
2 = 26 - 50%
3 = 51 - 90%
4 = > 90%
Blank = not evaluated

CHANNEL WIDTH: 27.6

GRADIENT: XXXXX

COMMENTS: X

SECTION LENGTH	VELOCITY	METHOD	DISCHARGE	METHOD	POOL LENGTH	QUALITY	WATER TEMP	AIR TEMP	TEMP UNITS
50	0.8	7	53.43	7	RUN	N	25.0	23.5	C

DISSOLVED OXYGEN	METHOD	pH	METHOD	TOTAL ALKALINITY	METHOD	CONDUCTIVITY	METHOD
8.6		7.93		XX.X		1.41	

SHELTER GRADE: X

SHELTER DESCRIPTION:

COVER GRADE: 1

COVER DESCRIPTION: N

VEGETATION ABUND.: N

VEGETATION DESCRIPTION:

SHELTER GRADE CODE - Percentage of the stream study section that provides instream shelter (rocks, boulders, undercut banks, etc. 1 = 0 - 20%; 2 = 21 - 40%; 3 = >40%
COVER GRADE CODE - Percentage of the stream study section covered by overhanging objects (brush, tree branches, bridges, etc. 1 = 0 - 25%; 2 = 26 - 50%; 3 = >50%
VEGETATION ABUNDANCE - N = None; 0 = 1 - 5%; 1 = 6 - 25%; 2 = 26 - 50%; 3 = 51 - 90%; 4 = >90%; Blank = not evaluated

CROTS VARIABLES

Enter Y for present or N for not present, if evaluated.

Enter the proper code, if evaluated: H = High; M = Moderate; L = Low; N = None

10 INSECT SPP?	SIMULIIDS & HYDROPSYCHIDS?	WATERCRESS COMPLEX?	INSECT FORAGE?	ALGAE ON ROCKS?	LEAVES PRESENT?	MINNOWS < 2.5"

WEATHER

PCDY

Clear - CLR
Cloudy - CLDY
Hazy - HAZY
Partly Cloudy - PCDY
Raining - RAIN
Snowing - SNOW

RAIN 48

STREAM CHARACTER CODES

MD

Dry - DY
Dry - Pools - DP
Fast - FA
Low - Flow - LF
Moderate - MD
Salty - SA
Slow - SL
Stagnant - SG
Swampy - SW
Tidal - TD
Torrent - TO

BANK DESCRIPTION CODES

CONCRETE CHANNEL

UR

Agriculture - AG
Bog - BG
Coniferous - CF
Deciduous - DF
Industrial - IN
Pasture - PA
Meadow - MW
Mixed forest - MF
Marsh - MR
Lawn - LW
Road - RD
Scrub - SB
Stony - SN
Suburb - SU
Swamp - SW
Urban - UR

BOTTOM TYPE and ABUNDANCE CODES

Bottom 1	ABD 1	Bottom 2	ABD 2	Bottom 3	ABD 3
CT	4	ST	1		

Plant Debris - PD
Mud - MD
Silt - ST
Sand - SD
Gravel - GR
Cobble - CO
Boulder - BO
Bedrock - BR
Clay - CL
Concrete - CT
Marl - ML
Vegetated - VG
Unknown - UN

Abundance Codes (ABD)

N = None
0 = 1 - 5%
1 = 6 - 25%
2 = 26 - 50%
3 = 51 - 90%
4 = > 90%
Blank = not evaluated

NYSDEC Bureau of Fisheries: Fisheries Data Base

WATERSHED INDEX NUMBER ONONDAGA CREEK Site 5 SAMPLE SITE

Sheet ___ of ___ Revision Date: 4/95 Coded

SURVEY NUMBER	DATE (MM/DD/YY)	SITE #
0C55	07 06 99	

TIME	STREAM WIDTH	CHANNEL WIDTH	MAX DEPTH	MEAN DEPTH	METHOD	GRADIENT	COMMENTS
1910	24.8	27.4	3.0	2.7	3	XXXXX	X

SECTION LENGTH	VELOCITY	METHOD	DISCHARGE	METHOD	POOL LENGTH	QUALITY	WATER TEMP	AIR TEMP	TEMP UNITS
50	0.9	7	58.24		RUN	N	25.0	23.5	C

DISSOLVED OXYGEN	METHOD	pH	METHOD	TOTAL ALKALINITY	METHOD	CONDUCTIVITY	METHOD
8.6		7.93		X.X		1.41	

SHELTER GRADE	SHELTER DESCRIPTION
X	

COVER GRADE	COVER DESCRIPTION
1	TREES.

VEGETATION ABUND.	VEGETATION DESCRIPTION
1	GRASSES, W WATER

SHELTER GRADE CODE - Percentage of the stream study section that provides instream shelter (rocks, boulders, undercut banks, etc.): 1 = 0 - 20%; 2 = 21 - 40%; 3 = >40%
COVER GRADE CODE - Percentage of the stream study section covered by overhanging objects (brush, tree branches, bridges, etc.): 1 = 0 - 25%; 2 = 26 - 50%; 3 = >50%
VEGETATION ABUNDANCE - N = None; 0 = 1 - 5%; 1 = 6 - 25%; 2 = 26 - 50%; 3 = 51 - 90%; 4 = >90%; Blank = not evaluated

CROTS VARIABLES

Enter Y for present or N for not present, if evaluated.

10 INSECT SPP?	SIMULIIDS & HYDROPSYCHIDS?	WATERCRESS COMPLEX?

Enter the proper code, if evaluated: H = High; M = Moderate; L = Low; N = None

INSECT FORAGE?	ALGAE ON ROCKS?	LEAVES PRESENT?

WEATHER

P	C	D	Y

Clear - CLR
Cloudy - CLDY
Hazy - HAZY
Partly Cloudy - PCDY
Raining - RAIN
Snowing - SNOW

RAIN 48

STREAM CHARACTER CODES

M	D				

Dry - DY
Dry - Pools - DP
Fast - FA
Low - Flow - LF
Moderate - MD
Sally - SA
Slow - SL
Stagnant - SG
Swampy - SW
Tidal - TD
Torrent - TO

BANK DESCRIPTION CODES

U	R				

Agriculture - AG
Bog - BG
Coniferous - CF
Deciduous - DF
Industrial - IN
Pasture - PA
Meadow - MW
Mixed forest - MF
Marsh - MR
Lawn - LW
Road - RD
Scrub - SB
Stony - SN
Suburb - SU
Swamp - SW
Urban - UR

ML
VG
UN

Abundance Codes (ABD)
N = None
0 = 1 - 5%
1 = 6 - 25%
2 = 26 - 50%
3 = 51 - 90%
4 = > 90%
Blank = not evaluated

NYSDEC Bureau of Fisheries: Fisheries Data Base

WATERSHED INDEX NUMBER ONONDAGA CREEK SITE 5 DOWNSTREAM

Sheet ___ of ___ Revision Date: 4/95 Coded

SURVEY NUMBER	DATE (MM/DD/YY)	SITE #
0C5	07 06 99	D

TIME	STREAM WIDTH	CHANNEL WIDTH	MAX DEPTH	MEAN DEPTH	METHOD	GRADIENT	COMMENTS
1910	24.8	27.1	3.1	2.8	3	XXXXX	K

SECTION LENGTH	VELOCITY	METHOD	DISCHARGE	METHOD	POOL LENGTH	QUALITY	WATER TEMP	AIR TEMP	TEMP UNITS
50	0.9	7	60.85	7	RUN	N	25.0	23.5	C

DISSOLVED OXYGEN	METHOD	pH	METHOD	TOTAL ALKALINITY	METHOD	CONDUCTIVITY	METHOD
8.6		7.93		X.X		1.41	

SHELTER GRADE: X

SHELTER DESCRIPTION:

COVER GRADE: 1

COVER DESCRIPTION: TREES

VEGETATION ABUND.: 1

VEGETATION DESCRIPTION: GRASSES IN WATER

SHELTER GRADE CODE - Percentage of the stream study section that provides instream shelter (rocks, boulders, undercut banks, etc.): 1 = 0 - 20%; 2 = 21 - 40%; 3 = >40%
COVER GRADE CODE - Percentage of the stream study section covered by overhanging objects (brush, tree branches, bridges, etc.): 1 = 0 - 25%; 2 = 26 - 50%; 3 = >50%
VEGETATION ABUNDANCE - N = None; 0 = 1 - 5%; 1 = 6 - 25%; 2 = 26 - 50%; 3 = 51 - 90%; 4 = >90%; Blank = not evaluated

CROTS VARIABLES

Enter Y for present or N for not present, if evaluated.

Enter the proper code, if evaluated: H = High; M = Moderate; L = Low; N = None

10 INSECT SPP?	SIMULIIDS & HYDROPSYCHIDS?	WATERCRESS COMPLEX?	INSECT FORAGE?	ALGAE ON ROCKS?	LEAVES PRESENT?	MINNOWS < 2.5"

WEATHER: PCDY

Clear - CLR
Cloudy - CLDY
Hazy - HAZY
Partly Cloudy - PCDY
Raining - RAIN
Snowing - SNOW

RAIN 48

STREAM CHARACTER CODES: MD

Dry - DY
Dry - Pools - DP
Fast - FA
Low - Flow - LF
Moderate - MD
Salty - SA
Slow - SL
Stagnant - SG
Swampy - SW
Tidal - TD
Torrent - TO

BANK DESCRIPTION CODES (Concrete channel): UR

Agriculture - AG
Bog - BG
Coniferous - CF
Deciduous - DF
Industrial - IN
Pasture - PA
Meadow - MW
Mixed forest - MF
Marsh - MR
Lawn - LW
Road - RD
Scrub - SB
Stony - SN
Suburb - SU
Swamp - SW
Urban - UR

BOTTOM TYPE and ABUNDANCE CODES

Bottom 1	ABD 1	Bottom 2	ABD 2	Bottom 3	ABD 3
CT	2	GR	1	ST	1

Plant Debris - PD
Mud - MD
Silt - ST
Sand - SD
Gravel - GR
Cobble - CO
Boulder - BO
Bedrock - BR
Clay - CL
Concrete - CT
Marl - ML
Vegetated - VG
Unknown - UN

Abundance Codes (ABD)
N = None
0 = 1 - 5%
1 = 6 - 25%
2 = 26 - 50%
3 = 51 - 90%
4 = > 90%
Blank = not evaluated

NYSDEC Bureau of Fisheries: Fisheries Data Base

WATERSHED INDEX NUMBER Onondaga Creek Site 6 Upstream

Sheet ___ of ___ Revision Date: 4/95 Coded

SURVEY NUMBER	DATE (MM/DD/YY)	SITE #
0CS6	062999	UP

TIME	STREAM WIDTH	CHANNEL WIDTH	MAX DEPTH	MEAN DEPTH	METHOD	GRADIENT	COMMENTS
1905	62.3	64.4	5.0	3.1	3	XXXXX	X

SECTION LENGTH	VELOCITY	METHOD	DISCHARGE	METHOD	POOL LENGTH	QUALITY	WATER TEMP	AIR TEMP	TEMP UNITS
50	0.2	7	36.88	7	100	N	20.4	X.X	C

DISSOLVED OXYGEN	METHOD	pH	METHOD	TOTAL ALKALINITY	METHOD	CONDUCTIVITY	METHOD
6.5		7.68		X.X		4.23	

SHELTER GRADE	SHELTER DESCRIPTION
X	

COVER GRADE	COVER DESCRIPTION
1	NONE

VEGETATION ABUND.	VEGETATION DESCRIPTION
2	SAV

SHELTER GRADE CODE - Percentage of the stream study section that provides instream shelter (rocks, boulders, undercut banks, etc.): 1 = 0 - 20%; 2 = 21 - 40%; 3 = >40%
COVER GRADE CODE - Percentage of the stream study section covered by overhanging objects (brush, tree branches, bridges, etc.): 1 = 0 - 25%; 2 = 26 - 50%; 3 = >50%
VEGETATION ABUNDANCE - N = None; 0 = 1 - 5%; 1 = 6 - 25%; 2 = 26 - 50%; 3 = 51 - 90%; 4 = >90%; Blank = not evaluated

CROTS VARIABLES

Enter Y for present or N for not present, if evaluated.

10 INSECT SPP?	SIMULIIDS & HYDROPSYCHIDS?	WATERCRESS COMPLEX?

Enter the proper code, if evaluated: H = High; M = Moderate; L = Low; N = None

INSECT FORAGE?	ALGAE ON ROCKS?	LEAVES PRESENT?	MINNOWS < 2.8"

WEATHER

CLR

Clear - CLR
Cloudy - CLDY
Hazy - HAZY
Partly Cloudy - PCDY
Raining - RAIN
Snowing - SNOW

RAIN 48

STREAM CHARACTER CODES

SL

Dry	- DY	Slow	- SL
Dry - Pools	- DP	Stagnant	- SG
Fast	- FA	Swampy	- SW
Low - Flow	- LF	Tidal	- TD
Moderate	- MD	Torrent	- TO
Salty	- SA		

BANK DESCRIPTION CODES

LW

Agriculture	- AG	Marsh	- MR
Bog	- BG	Lawn	- LW
Coniferous	- CF	Road	- RD
Deciduous	- DF	Scrub	- SB
Industrial	- IN	Stony	- SN
Pasture	- PA	Suburb	- SU
Meadow	- MW	Swamp	- SW
Mixed forest	- MF	Urban	- UR

BOTTOM TYPE and ABUNDANCE CODES

Bottom 1	ABD 1	Bottom 2	ABD 2	Bottom 3	ABD 3
ST	2	GR	2	SD	1

Plant Debris	- PD	Cobble	- CO	Marl	ML
Mud	- MD	Boulder	- BO	Vegetated	VG
Silt	- ST	Bedrock	- BR	Unknown	UN
Sand	- SD	Clay	- CL		
Gravel	- GR	Concrete	- CT		

Abundance Codes (ABD)

N = None
0 = 1 - 5%
1 = 6 - 25%
2 = 26 - 50%
3 = 51 - 90%
4 = > 90%
Blank = not evaluated

NYSDEC Bureau of Fisheries: Fisheries Data Base

WATERSHED INDEX NUMBER ONONDAGA CREEK Site 6 SAMPLE Site

Sheet ___ of ___ Revision Date: 4/95 Coded

SURVEY NUMBER	DATE (MM/DD/YY)	SITE #
0C56	062999	SS

TIME	STREAM WIDTH	CHANNEL WIDTH	MAX DEPTH	MEAN DEPTH	METHOD	GRADIENT	COMMENTS
1905	61.0	62.2	5.2	3.5	3	XXXXX	X

SECTION LENGTH	VELOCITY	METHOD	DISCHARGE	METHOD	POOL LENGTH	QUALITY	WATER TEMP	AIR TEMP	TEMP UNITS
50	0.1	7	23.06	7	100	N	20.4	X.X	C

DISSOLVED OXYGEN	METHOD	pH	METHOD	TOTAL ALKALINITY	METHOD	CONDUCTIVITY	METHOD
6.5		7.68		X.X		4.23	

SHELTER GRADE	SHELTER DESCRIPTION
X	

COVER GRADE	COVER DESCRIPTION
1	NONE

VEGETATION ABUND.	VEGETATION DESCRIPTION
1	SAV

SHELTER GRADE CODE - Percentage of the stream study section that provides instream shelter (rocks, boulders, undercut banks, etc.): 1 = 0 - 20%; 2 = 21 - 40%; 3 = >40%
COVER GRADE CODE - Percentage of the stream study section covered by overhanging objects (brush, tree branches, bridges, etc.): 1 = 0 - 25%; 2 = 26 - 50%; 3 = >50%
VEGETATION ABUNDANCE - N = None; 0 = 1 - 5%; 1 = 6 - 25%; 2 = 26 - 50%; 3 = 51 - 90%; 4 = >90%; Blank = not evaluated

CROTS VARIABLES

Enter Y for present or N for not present, if evaluated.

10 INSECT SPP?	SIMULIIDS & HYDROPSYCHIDS?	WATERCRESS COMPLEX?

Enter the proper code, if evaluated: H = High; M = Moderate; L = Low; N = None

INSECT FORAGE?	ALGAE ON ROCKS?	LEAVES PRESENT?	MINNOWS < 2.5"

WEATHER

CLR

Clear - CLR
Cloudy - CLDY
Hazy - HAZY
Partly Cloudy - PCDY
Raining - RAIN
Snowing - SNOW

RAIN 48

STREAM CHARACTER CODES

SL

Dry - DY
Dry - Pools - DP
Fast - FA
Low - Flow - LF
Moderate - MD
Sally - SA
Slow - SL
Stagnant - SG
Swampy - SW
Tidal - TD
Torrent - TO

BANK DESCRIPTION CODES

LW

Agriculture - AG
Bog - BG
Coniferous - CF
Deciduous - DF
Industrial - IN
Pasture - PA
Meadow - MW
Mixed forest - MF
Marsh - MR
Lawn - LW
Road - RD
Scrub - SB
Stony - SN
Suburb - SU
Swamp - SW
Urban - UR

BOTTOM TYPE and ABUNDANCE CODES

Bottom 1	ABD 1	Bottom 2	ABD 2	Bottom 3	ABD 3
GR	3	SD	1	ST	1

Plant Debris - PD
Mud - MD
Silt - ST
Sand - SD
Gravel - GR
Cobble - CO
Boulder - BO
Bedrock - BR
Clay - CL
Concrete - CT
Marl - ML
Vegetated - VG
Unknown - UN

Abundance Codes (ABD)
N = None
0 = 1 - 5%
1 = 6 - 25%
2 = 26 - 50%
3 = 51 - 90%
4 = > 90%
Blank = not evaluated

NYSDEC Bureau of Fisheries: Fisheries Data Base

Sheet ___ of ___ Revision Date: 4/95 Coded

WATERSHED INDEX NUMBER ONONDAGA CREEK Site 6 DOWNSTREAM

SURVEY NUMBER	DATE (MM/DD/YY)	SITE #
0C56	06 29 99	DW

TIME	STREAM WIDTH	CHANNEL WIDTH	MAX DEPTH	MEAN DEPTH	METHOD	GRADIENT	COMMENTS
1905	54.5	63.0	5.5	4.8	3	XXXXX	X

SECTION LENGTH	VELOCITY	METHOD	DISCHARGE	METHOD	POOL LENGTH	QUALITY	WATER TEMP	AIR TEMP	TEMP UNITS
50	0.3	7	97.60	7	100	N	20.4	X.X	C

DISSOLVED OXYGEN	METHOD	pH	METHOD	TOTAL ALKALINITY	METHOD	CONDUCTIVITY	METHOD
6.5		7.68		X.X		4.23	

SHELTER GRADE	SHELTER DESCRIPTION
X	

COVER GRADE	COVER DESCRIPTION
1	NONE

VEGETATION ABUND.	VEGETATION DESCRIPTION
2	SAV

SHELTER GRADE CODE - Percentage of the stream study section that provides instream shelter (rocks, boulders, undercut banks, etc.): 1 = 0 - 20%; 2 = 21 - 40%; 3 = >40%
COVER GRADE CODE - Percentage of the stream study section covered by overhanging objects (brush, tree branches, bridges, etc.): 1 = 0 - 25%; 2 = 26 - 50%; 3 = >50%
VEGETATION ABUNDANCE - N = None; 0 = 1 - 5%; 1 = 6 - 25%; 2 = 26 - 50%; 3 = 51 - 90%; 4 = >90%; Blank = not evaluated

CROTS VARIABLES

Enter Y for present or N for not present, if evaluated.

10 INSECT SPP?	SIMULIIDS & HYDROPSYCHIDS?	WATERCRESS COMPLEX?	INSECT FORAGE?	ALGAE ON ROCKS?	LEAVES PRESENT?	MINNOWS < 2.5"

Enter the proper code, if evaluated: H = High; M = Moderate; L = Low; N = None

WEATHER: PCDY

Clear - CLR
Cloudy - CLDY
Hazy - HAZY
Partly Cloudy - PCDY
Raining - RAIN
Snowing - SNOW

RAIN 48

STREAM CHARACTER CODES: SL

Dry - DY
Dry - Pools - DP
Fast - FA
Low - Flow - LF
Moderate - MD
Salty - SA
Slow - SL
Stagnant - SG
Swampy - SW
Tidal - TD
Torrent - TO

BANK DESCRIPTION CODES: LW

Agriculture - AG
Bog - BG
Coniferous - CF
Deciduous - DF
Industrial - IN
Pasture - PA
Meadow - MW
Mixed forest - MF
Marsh - MR
Lawn - LW
Road - RD
Scrub - SB
Stony - SN
Suburb - SU
Swamp - SW
Urban - UR

BOTTOM TYPE and ABUNDANCE CODES

Bottom 1	ABD 1	Bottom 2	ABD 2	Bottom 3	ABD 3
ST	3	GR	1		

Plant Debris - PD
Mud - MD
Silt - ST
Sand - SD
Gravel - GR
Cobble - CO
Boulder - BO
Bedrock - BR
Clay - CL
Concrete - CT
Marl - ML
Vegetated - VG
Unknown - UN

Abundance Codes (ABD)
N = None
0 = 1 - 5%
1 = 6 - 25%
2 = 26 - 50%
3 = 51 - 90%
4 = > 90%
Blank = not evaluated

TABLE C-4

NYSDEC Bureau of Fisheries: Fisheries Data Base

WATERSHED INDEX NUMBER: LEY Creek Site 1 Upstream

Sheet ___ of ___ Revision Date: 4/95 Coded

SURVEY NUMBER	DATE (MM/DD/YY)	SITE #
LCS1	06 29 99	UP

TIME	STREAM WIDTH	CHANNEL WIDTH	MAX DEPTH	MEAN DEPTH	METHOD	GRADIENT	COMMENTS
0840	25.7	26.3	1.3	1.1	3	XXXXX	X

SECTION LENGTH	VELOCITY	METHOD	DISCHARGE	METHOD	POOL LENGTH	QUALITY	WATER TEMP	AIR TEMP	TEMP UNITS
50	0.2	7	6.82	7	100	N	22.4	23.5	C

DISSOLVED OXYGEN	METHOD	pH	METHOD	TOTAL ALKALINITY	METHOD	CONDUCTIVITY	METHOD
5.1		7.64		X.X		1.10	

SHELTER GRADE	SHELTER DESCRIPTION
X	

COVER GRADE	COVER DESCRIPTION
1	FEW TREES

VEGETATION ABUND.	VEGETATION DESCRIPTION
2	SAV

SHELTER GRADE CODE - Percentage of the stream study section that provides instream shelter (rocks, boulders, undercut banks, etc.): 1 = 0 - 20%; 2 = 21 - 40%; 3 = >40%
COVER GRADE CODE - Percentage of the stream study section covered by overhanging objects (brush, tree branches, bridges, etc.): 1 = 0 - 25%; 2 = 26 - 50%; 3 = >50%
VEGETATION ABUNDANCE - N = None; 0 = 1 - 5%; 1 = 6 - 25%; 2 = 26 - 50%; 3 = 51 - 90%; 4 = >90%; Blank = not evaluated

CROTS VARIABLES

Enter Y for present or N for not present, if evaluated.

10 INSECT SPP?	SIMULIIDS & HYDROPSYCHIDS?	WATERCRESS COMPLEX?

Enter the proper code, if evaluated: H = High; M = Moderate; L = Low; N = None

INSECT FORAGE?	ALGAE ON ROCKS?	LEAVES PRESENT?	MINNOWS < 2.5"

WEATHER: RAIN

Clear - CLR
Cloudy - CLDY
Hazy - HAZY
Partly Cloudy - PCDY
Raining - RAIN
Snowing - SNOW

RAIN 48

STREAM CHARACTER CODES: SL

Dry - DY
Dry - Pools - DP
Fast - FA
Low - Flow - LF
Moderate - MD
Salty - SA
Slow - SL
Stagnant - SG
Swampy - SW
Tidal - TD
Torrent - TO

BANK DESCRIPTION CODES: MR

Agriculture - AG
Bog - BG
Coniferous - CF
Deciduous - DF
Industrial - IN
Pasture - PA
Meadow - MW
Mixed forest - MF
Marsh - MR
Lawn - LW
Road - RD
Scrub - SB
Stony - SN
Suburb - SU
Swamp - SW
Urban - UR

BOTTOM TYPE and ABUNDANCE CODES

Bottom 1	ABD 1	Bottom 2	ABD 2	Bottom 3	ABD 3
ST	4				

Plant Debris - PD
Mud - MD
Silt - ST
Sand - SD
Gravel - GR
Cobble - CO
Boulder - BO
Bedrock - BR
Clay - CL
Concrete - CT
Marl - ML
Vegetated - VG
Unknown - UN

Abundance Codes (ABD)
N = None
0 = 1 - 5%
1 = 6 - 25%
2 = 26 - 50%
3 = 51 - 90%
4 = > 90%
Blank = not evaluated

TABLE 4.5

NYSDEC Bureau of Fisheries: Fisheries Data Base

WATERSHED INDEX NUMBER Ley Creek Site 1 Sample Site

Sheet ___ of ___ Revision Date: 4/95 Coded

SURVEY NUMBER	DATE (MM/DD/YY)	SITE #
LCS1	06 29 99	55

TIME	STREAM WIDTH	CHANNEL WIDTH	MAX DEPTH	MEAN DEPTH	METHOD	GRADIENT	COMMENTS
0840	22.3	25.0	1.1	1.0	3	XXXXX	X

SECTION LENGTH	VELOCITY	METHOD	DISCHARGE	METHOD	POOL LENGTH	QUALITY	WATER TEMP	AIR TEMP	TEMP UNITS
50	0.3	7	5.98	7	100	N	22.4	23.5	C

DISSOLVED OXYGEN	METHOD	pH	METHOD	TOTAL ALKALINITY	METHOD	CONDUCTIVITY	METHOD
5.1		7.64		X.X		1.10	

SHELTER GRADE	SHELTER DESCRIPTION
X	

COVER GRADE	COVER DESCRIPTION
1	FEW BRANCHES

VEGETATION ABUND.	VEGETATION DESCRIPTION
2	SAV

SHELTER GRADE CODE - Percentage of the stream study section that provides instream shelter (rocks, boulders, undercut banks, etc.): 1 = 0 - 20%; 2 = 21 - 40%; 3 = >40%
COVER GRADE CODE - Percentage of the stream study section covered by overhanging objects (brush, tree branches, bridges, etc.): 1 = 0 - 25%; 2 = 26 - 50%; 3 = >50%
VEGETATION ABUNDANCE - N = None; 0 = 1 - 5%; 1 = 6 - 25%; 2 = 26 - 50%; 3 = 51 - 90%; 4 = >90%; Blank = not evaluated

CROTS VARIABLES

Enter Y for present or N for not present, if evaluated.

10 INSECT SPP?	SIMULIIDS & HYDROPSYCHIDS?	WATERCRESS COMPLEX?

Enter the proper code, if evaluated: H = High; M = Moderate; L = Low; N = None

INSECT FORAGE?	ALGAE ON ROCKS?	LEAVES PRESENT?	MINNOWS < 2.5"

WEATHER

RAIN

Clear - CLR
Cloudy - CLDY
Hazy - HAZY
Partly Cloudy - PCDY
Raining - RAIN
Snowing - SNOW

RAIN 48

STREAM CHARACTER CODES

SL

Dry - DY
Dry - Pools - DP
Fast - FA
Low - Flow - LF
Moderate - MD
Salty - SA
Slow - SL
Stagnant - SG
Swampy - SW
Tidal - TD
Torrent - TO

BANK DESCRIPTION CODES

MR

Agriculture - AG
Bog - BG
Coniferous - CF
Deciduous - DF
Industrial - IN
Pasture - PA
Meadow - MW
Mixed forest - MF
Marsh - MR
Lawn - LW
Road - RD
Scrub - SB
Stony - SN
Suburb - SU
Swamp - SW
Urban - UR

BOTTOM TYPE and ABUNDANCE CODES

Bottom 1	ABD 1	Bottom 2	ABD 2	Bottom 3	ABD 3
ST	4				

Plant Debris - PD
Mud - MD
Silt - ST
Sand - SD
Gravel - GR
Cobble - CO
Boulder - BO
Bedrock - BR
Clay - CL
Concrete - CT
Marl - ML
Vegetated - VG
Unknown - UN

Abundance Codes (ABD)

N = None
0 = 1 - 5%
1 = 6 - 25%
2 = 26 - 50%
3 = 51 - 90%
4 = > 90%
Blank = not evaluated

NYSDEC Bureau of Fisheries: Fisheries Data Base

Sheet ___ of ___ Revision Date: 4/95 Coded

WATERSHED INDEX NUMBER: LEY Creek Site 1 Downstream

SURVEY NUMBER	DATE (MM/DD/YY)	SITE #
LCS1	06 29 99	DN

TIME	STREAM WIDTH	CHANNEL WIDTH	MAX DEPTH	MEAN DEPTH	METHOD	GRADIENT	COMMENTS
0840	28.3	31.2	1.2	1.1	3	XXXXX	X

SECTION LENGTH	VELOCITY	METHOD	DISCHARGE	METHOD	POOL LENGTH	QUALITY	WATER TEMP	AIR TEMP	TEMP UNITS
50	0.2	7	6.40	7	100	W	22.4	23.5	C

DISSOLVED OXYGEN	METHOD	pH	METHOD	TOTAL ALKALINITY	METHOD	CONDUCTIVITY	METHOD
5.1		7.64		X.X		1.10	

SHELTER GRADE	SHELTER DESCRIPTION
X	

COVER GRADE	COVER DESCRIPTION
1	FEW TREES

VEGETATION ABUND.	VEGETATION DESCRIPTION
2	SAV

SHELTER GRADE CODE - Percentage of the stream study section that provides instream shelter (rocks, boulders, undercut banks, etc.): 1 = 0 - 20%; 2 = 21 - 40%; 3 = >40%
COVER GRADE CODE - Percentage of the stream study section covered by overhanging objects (brush, tree branches, bridges, etc.): 1 = 0 - 25%; 2 = 26 - 50%; 3 = >50%
VEGETATION ABUNDANCE - N = None; 0 = 1 - 5%; 1 = 6 - 25%; 2 = 26 - 50%; 3 = 51 - 90%; 4 = >90%; Blank = not evaluated

CROTS VARIABLES

Enter Y for present or N for not present, if evaluated. Enter the proper code, if evaluated: H = High; M = Moderate; L = Low; N = None

10 INSECT SPP?	SIMULIIDS & HYDROPSYCHIDS?	WATERCRESS COMPLEX?	INSECT FORAGE?	ALGAE ON ROCKS?	LEAVES PRESENT?	MINNOWS < 2.5"

WEATHER: RAIN

Clear - CLR
Cloudy - CLDY
Hazy - HAZY
Partly Cloudy - PCDY
Raining - RAIN
Snowing - SNOW

RAIN 48

STREAM CHARACTER CODES: SL

Dry - DY
Dry - Pools - DP
Fast - FA
Low - Flow - LF
Moderate - MD
Salty - SA
Slow - SL
Stagnant - SG
Swampy - SW
Tidal - TD
Torrent - TO

BANK DESCRIPTION CODES: MR

Agriculture - AG
Bog - BG
Coniferous - CF
Deciduous - DF
Industrial - IN
Pasture - PA
Meadow - MW
Mixed forest - MF
Marsh - MR
Lawn - LW
Road - RD
Scrub - SB
Stony - SN
Suburb - SU
Swamp - SW
Urban - UR

BOTTOM TYPE and ABUNDANCE CODES

Bottom 1	ABD 1	Bottom 2	ABD 2	Bottom 3	ABD 3
ST	4				

Plant Debris - PD
Mud - MD
Silt - ST
Sand - SD
Gravel - GR
Cobble - CO
Boulder - BO
Bedrock - BR
Clay - CL
Concrete - CT
Marl - ML
Vegetated - VG
Unknown - UN

Abundance Codes (ABD)
N = None
0 = 1 - 5%
1 = 6 - 25%
2 = 26 - 50%
3 = 51 - 90%
4 = > 90%
Blank = not evaluated

NYSDEC Bureau of Fisheries: Fisheries Data Base

WATERSHED INDEX NUMBER: LEY Creek Site 2 UPSTREAM

Sheet ___ of ___ Revision Date: 4/95 Coded

SURVEY NUMBER	DATE (MM/DD/YY)	SITE #
LCS2	06 29 99	UP

TIME	STREAM WIDTH	CHANNEL WIDTH	MAX DEPTH	MEAN DEPTH	METHOD	GRADIENT	COMMENTS
1010	41.0	42.5	2.0	1.6	3	XXXXX	X

SECTION LENGTH	VELOCITY	METHOD	DISCHARGE	METHOD	POOL LENGTH	QUALITY	WATER TEMP	AIR TEMP	TEMP UNITS
50	0.1	7	5.41	7	100	N	23.3	X.X	C

DISSOLVED OXYGEN	METHOD	pH	METHOD	TOTAL ALKALINITY	METHOD	CONDUCTIVITY	METHOD
3.4		7.47		X.X		1.02	

SHELTER GRADE	SHELTER DESCRIPTION
X	

COVER GRADE	COVER DESCRIPTION
1	UNDERCUT BANKS

VEGETATION ABUND.	VEGETATION DESCRIPTION
2	SAV

SHELTER GRADE CODE - Percentage of the stream study section that provides instream shelter (rocks, boulders, undercut banks, etc.): 1 = 0 - 20%; 2 = 21 - 40%; 3 = >40%
COVER GRADE CODE - Percentage of the stream study section covered by overhanging objects (brush, tree branches, bridges, etc.): 1 = 0 - 25%; 2 = 26 - 50%; 3 = >50%
VEGETATION ABUNDANCE - N = None; 0 = 1 - 5%; 1 = 6 - 25%; 2 = 26 - 50%; 3 = 51 - 90%; 4 = >90%; Blank = not evaluated

CROTS VARIABLES

Enter Y for present or N for not present, if evaluated.

10 INSECT SPP?	SIMULIIDS & HYDROPSYCHIDS?	WATERCRESS COMPLEX?

Enter the proper code, if evaluated: H = High; M = Moderate; L = Low; N = None

INSECT FORAGE?	ALGAE ON ROCKS?	LEAVES PRESENT?	MINNOWS < 2.5"

WEATHER

CLDY

Clear - CLR
Cloudy - CLDY
Hazy - HAZY
Partly Cloudy - PCDY
Raining - RAIN
Snowing - SNOW

RAIN 48

STREAM CHARACTER CODES

SL

Dry	- DY	Slow	- SL
Dry - Pools	- DP	Stagnant	- SG
Fast	- FA	Swampy	- SW
Low - Flow	- LF	Tidal	- TD
Moderate	- MD	Torrent	- TO
Salty	- SA		

BANK DESCRIPTION CODES

MW

Agriculture	- AG	Marsh	- MR
Bog	- BG	Lawn	- LW
Coniferous	- CF	Road	- RD
Deciduous	- DF	Scrub	- SD
Industrial	- IN	Stony	- SN
Pasture	- PA	Suburb	- SU
Meadow	- MW	Swamp	- SW
Mixed forest	- MF	Urban	- UR

BOTTOM TYPE and ABUNDANCE CODES

Bottom 1	ABD 1	Bottom 2	ABD 2	Bottom 3	ABD 3
ST	4				

Plant Debris	- PD	Cobble	- CO	Marl	- ML
Mud	- MD	Boulder	- BO	Vegetated	- VG
Silt	- ST	Bedrock	- BR	Unknown	- UN
Sand	- SD	Clay	- CL		
Gravel	- GR	Concrete	- CT		

Abundance Codes (ABD)

N = None
0 = 1 - 5%
1 = 6 - 25%
2 = 26 - 50%
3 = 51 - 90%
4 = > 90%
Blank = not evaluated

NYSDEC Bureau of Fisheries: Fisheries Data Base

WATERSHED INDEX NUMBER Ley Creek Site 2 Sample Site

Sheet ___ of ___ Revision Date: 4/95 Coded

SURVEY NUMBER	DATE (MM/DD/YY)	SITE #
LCS2	06 29 99	SS

TIME	STREAM WIDTH	CHANNEL WIDTH	MAX DEPTH	MEAN DEPTH	METHOD	GRADIENT	COMMENTS
1010	42.6	43.2	1.8	1.5	3	XXXXX	X

SECTION LENGTH	VELOCITY	METHOD	DISCHARGE	METHOD	POOL LENGTH	QUALITY	WATER TEMP	AIR TEMP	TEMP UNITS
50	0.1	7	6.39	7	100		23.3	X.X	C

DISSOLVED OXYGEN	METHOD	pH	METHOD	TOTAL ALKALINITY	METHOD	CONDUCTIVITY	METHOD
3.4		7.47		X.X		1.02	

SHELTER GRADE	SHELTER DESCRIPTION
X	

COVER GRADE	COVER DESCRIPTION
1	BRUSH.

VEGETATION ABUND.	VEGETATION DESCRIPTION
2	SAV

SHELTER GRADE CODE - Percentage of the stream study section that provides instream shelter (rocks, boulders, undercut banks, etc.): 1 = 0 - 20%; 2 = 21 - 40%; 3 = >40%
COVER GRADE CODE - Percentage of the stream study section covered by overhanging objects (brush, tree branches, bridges, etc.): 1 = 0 - 25%; 2 = 26 - 50%; 3 = >50%
VEGETATION ABUNDANCE - N = None; 0 = 1 - 5%; 1 = 6 - 25%; 2 = 26 - 50%; 3 = 51 - 90%; 4 = >90%; Blank = not evaluated

CROTS VARIABLES

Enter Y for present or N for not present, if evaluated.

10 INSECT SPP?	SIMULIIDS & HYDROPSYCHIDS?	WATERCRESS COMPLEX?	INSECT FORAGE?	ALGAE ON ROCKS?	LEAVES PRESENT?	MINNOWS < 2.5"

Enter the proper code, if evaluated: H = High; M = Moderate; L = Low; N = None

WEATHER: RAIN

Clear - CLR; Cloudy - CLDY; Hazy - HAZY; Partly Cloudy - PCDY; Raining - RAIN; Snowing - SNOW

RAIN 48

STREAM CHARACTER CODES: SL

Dry - DY; Dry - Pools - DP; Fast - FA; Low - Flow - LF; Moderate - MD; Salty - SA; Slow - SL; Stagnant - SG; Swampy - SW; Tidal - TD; Torrent - TO

BANK DESCRIPTION CODES: MW

Agriculture - AG; Bog - BG; Coniferous - CF; Deciduous - DF; Industrial - IN; Pasture - PA; Meadow - MW; Mixed forest - MF; Marsh - MR; Lawn - LW; Road - RD; Scrub - SB; Stony - SN; Suburb - SU; Swamp - SW; Urban - UR

BOTTOM TYPE and ABUNDANCE CODES

Bottom 1	ABD 1	Bottom 2	ABD 2	Bottom 3	ABD 3
ST	3	GR	1		

Plant Debris - PD; Mud - MD; Silt - ST; Sand - SD; Gravel - GR; Cobble - CO; Boulder - BO; Bedrock - BR; Clay - CL; Concrete - CT; Marl - ML; Vegetated - VG; Unknown - UN

Abundance Codes (ABD): N = None; 0 = 1 - 5%; 1 = 6 - 25%; 2 = 26 - 50%; 3 = 51 - 90%; 4 = > 90%; Blank = not evaluated

NYSDEC Bureau of Fisheries: Fisheries Data Base

WATERSHED INDEX NUMBER LEY CREEK Site 2 DOWNSTREAM

Sheet ___ of ___ Revision Date: 4/95 Coded

SURVEY NUMBER	DATE (MM/DD/YY)	SITE #
LCS2	06 29 99	DN

TIME	STREAM WIDTH	CHANNEL WIDTH	MAX DEPTH	MEAN DEPTH	METHOD	GRADIENT	COMMENTS
1010	39.8	41.6	1.3	1.2	3		

SECTION LENGTH	VELOCITY	METHOD	DISCHARGE	METHOD	POOL LENGTH	QUALITY	WATER TEMP	AIR TEMP	TEMP UNITS
50	0.1	3	4.77	7	100	U	23.3	X.X	C

DISSOLVED OXYGEN	METHOD	pH	METHOD	TOTAL ALKALINITY	METHOD	CONDUCTIVITY	METHOD
3.4		7.47		X.X		1.02	

SHELTER GRADE	SHELTER DESCRIPTION
Y	

COVER GRADE	COVER DESCRIPTION
1	UNDERCUT BANKS

VEGETATION ABUND.	VEGETATION DESCRIPTION
2	SAV

SHELTER GRADE CODE - Percentage of the stream study section that provides instream shelter (rocks, boulders, undercut banks, etc.): 1 = 0 - 20%; 2 = 21 - 40%; 3 = >40%
COVER GRADE CODE - Percentage of the stream study section covered by overhanging objects (brush, tree branches, bridges, etc.): 1 = 0 - 25%; 2 = 26 - 50%; 3 = >50%
VEGETATION ABUNDANCE - N = None; 0 = 1 - 5%; 1 = 6 - 25%; 2 = 26 - 50%; 3 = 51 - 90%; 4 = >90%; Blank = not evaluated

CROTS VARIABLES

Enter Y for present or N for not present, if evaluated.

10 INSECT SPP?	SIMULIIDS & HYDROPSYCHIDS?	WATERCRESS COMPLEX?

Enter the proper code, if evaluated: H = High; M = Moderate; L = Low; N = None

INSECT FORAGE?	ALGAE ON ROCKS?	LEAVES PRESENT?	MINNOWS < 2.5"

WEATHER

CLDY

Clear - CLR
Cloudy - CLDY
Hazy - HAZY
Partly Cloudy - PCDY
Raining - RAIN
Snowing - SNOW

RAIN 48

STREAM CHARACTER CODES

SL

Dry - DY
Dry - Pools - DP
Fast - FA
Low - Flow - LF
Moderate - MD
Sally - SA
Slow - SL
Stagnant - SG
Swampy - SW
Tidal - TD
Torrent - TO

BANK DESCRIPTION CODES

MW

Agriculture - AG
Bog - BG
Coniferous - CF
Deciduous - DF
Industrial - IN
Pasture - PA
Meadow - MW
Mixed forest - MF
Marsh - MR
Lawn - LW
Road - RD
Scrub - SB
Stony - SN
Suburb - SU
Swamp - SW
Urban - UR

BOTTOM TYPE and ABUNDANCE CODES

Bottom 1	ABD 1	Bottom 2	ABD 2	Bottom 3	ABD 3
ST	3	SD	1		

Plant Debris - PD
Mud - MD
Silt - ST
Sand - SD
Gravel - GR
Cobble - CO
Boulder - BO
Bedrock - BR
Clay - CL
Concrete - CT
Marl - ML
Vegetated - VG
Unknown - UN

Abundance Codes (ABD)
N = None
0 = 1 - 5%
1 = 6 - 25%
2 = 26 - 50%
3 = 51 - 90%
4 = > 90%
Blank = not evaluated

TABLE 2-53

NYSDEC Bureau of Fisheries: Fisheries Data Base

WATERSHED INDEX NUMBER LEY Creek Site 3 Upstream

SURVEY NUMBER L C S 3

(MM/DD/YY)

SITE # P

Sheet _ of _ Revision Date: 4/95 Codod i

TIME	STREAM WIDTH	CHANNEL WIDTH	MAX DEPTH	MEAN DEPTH	METHOD	GRADIENT	COMMENTS
1200	52.3	54.6	3.5	3.2	3	XXXXX	X

SECTION LENGTH	VELOCITY	METHOD	POOL LENGTH	QUALITY	WATER TEMP	AIR TEMP	TEMP UNITS
50	0.1	7	100	N	23.2	X.X	C

DISSOLVED OXYGEN	METHOD	TOTAL ALKALINITY	METHOD	CONDUCTIVITY	METHOD
3.5		X.X		1.44	

ER GRADE SHELTER DESCRIPTION

X

R GRADE COVER DESCRIPTION

1 RIEIE BIRIA NICIHIEIS

TION ABUND. VEGETATION DESCRIPTION

NYSDEC Bureau of Fisheries: Fisheries Data Base

Sheet ___ of ___ Revision Date: 4/95 Coded

WATERSHED INDEX NUMBER LEY Creek Site 3 Sample Site

SURVEY NUMBER	DATE (MM/DD/YY)	SITE #
LCS3	06 29 99	55

TIME	STREAM WIDTH	CHANNEL WIDTH	MAX DEPTH	MEAN DEPTH	METHOD	GRADIENT	COMMENTS
1200	56.0	57.0	4.5	3.6	3	XXXXX	X

SECTION LENGTH	VELOCITY	METHOD	DISCHARGE	METHOD	POOL LENGTH	QUALITY	WATER TEMP	AIR TEMP	TEMP UNITS
50	0.0	7	6.34	7	100	0	23.2	X.X	X

DISSOLVED OXYGEN	METHOD	pH	METHOD	TOTAL ALKALINITY	METHOD	CONDUCTIVITY	METHOD
3.5		7.46		X.X		1.44	

SHELTER GRADE	SHELTER DESCRIPTION
X	

COVER GRADE	COVER DESCRIPTION
1	BRANCHES

VEGETATION ABUND.	VEGETATION DESCRIPTION
2	SAV

SHELTER GRADE CODE - Percentage of the stream study section that provides instream shelter (rocks, boulders, undercut banks, etc.): 1 = 0 - 20%; 2 = 21 - 40%; 3 = >40%
COVER GRADE CODE - Percentage of the stream study section covered by overhanging objects (brush, tree branches, bridges, etc.): 1 = 0 - 25%; 2 = 26 - 50%; 3 = >50%
VEGETATION ABUNDANCE - N = None; 0 = 1 - 5%; 1 = 6 - 25%; 2 = 26 - 50%; 3 = 51 - 90%; 4 = >90%; Blank = not evaluated

CROTS VARIABLES

Enter Y for present or N for not present, if evaluated.

10 INSECT SPP?	SIMULIIDS & HYDROPSYCHIDS?	WATERCRESS COMPLEX?

Enter the proper code, if evaluated: H = High; M = Moderate; L = Low; N = None

INSECT FORAGE?	ALGAE ON ROCKS?	LEAVES PRESENT?	MINNOWS < 2.5"

WEATHER

CLDY

Clear - CLR
Cloudy - CLDY
Hazy - HAZY
Partly Cloudy - PCDY
Raining - RAIN
Snowing - SNOW

RAIN 48

STREAM CHARACTER CODES

SL

Dry - DY
Dry - Pools - DP
Fast - FA
Low - Flow - LF
Moderate - MD
Salty - SA
Slow - SL
Stagnant - SG
Swampy - SW
Tidal - TD
Torrent - TO

BANK DESCRIPTION CODES

DF MW UR

Agriculture - AG
Bog - BG
Coniferous - CF
Deciduous - DF
Industrial - IN
Pasture - PA
Meadow - MW
Mixed forest - MF
Marsh - MR
Lawn - LW
Road - RD
Scrub - SB
Stony - SN
Suburb - SU
Swamp - SW
Urban - UR

BOTTOM TYPE and ABUNDANCE CODES

Bottom 1	ABD 1	Bottom 2	ABD 2	Bottom 3	ABD 3
ST	3	GR	2		

Plant Debris - PD
Mud - MD
Silt - ST
Sand - SD
Gravel - GR
Cobble - CO
Boulder - BO
Bedrock - BR
Clay - CL
Concrete - CT
Marl - ML
Vegetated - VG
Unknown - UN

Abundance Codes (ABD)
N = None
0 = 1 - 5%
1 = 6 - 25%
2 = 26 - 50%
3 = 51 - 90%
4 = > 90%
Blank = not evaluated

TABLE 5.3

NYSDEC Bureau of Fisheries: Fisheries Data Base

Sheet ___ of ___ Revision Date: 4/95 Coded

WATERSHED INDEX NUMBER Ley Creek Site 3 Downstream

SURVEY NUMBER	DATE (MM/DD/YY)	SITE #
LCS3	06 29 99	DN

STREAM WIDTH	CHANNEL WIDTH	MAX DEPTH	MEAN DEPTH	METHOD	GRADIENT	COMMENTS
59.3	60.3	4.9	3.8	3	XXXXX	X

SECTION LENGTH	VELOCITY	METHOD	DISCHARGE	METHOD	POOL LENGTH	QUALITY	WATER TEMP	AIR TEMP	TEMP UNITS
50	0.1	7	21.25	7	100	W	23.2	X.X	C

DISSOLVED OXYGEN	METHOD	pH	METHOD	TOTAL ALKALINITY	METHOD	CONDUCTIVITY	METHOD
3.5		7.46		X.X		1.44	

SHELTER DESCRIPTION

COVER DESCRIPTION

R

2 EMERGENT/SAV

CROTS VARIABLES

Enter Y for present or N for not present, if evaluated.

Enter the proper code, if evaluated: H = High; M = Moderate; L = Low; N = None

10 INSECT SPP?	SIMULIIDS & HYDROPSYCHIDS?	WATERCRESS COMPLEX?	INSECT FORAGE?	ALGAE ON ROCKS?	LEAVES PRESENT?	MINNOWS < 2.5"

WEATHER

CLDY

Clear - CLR
Cloudy - CLDY
Hazy - HAZY
Partly Cloudy - PCDY
Raining - RAIN
Snowing - SNOW

RAIN 48

STREAM CHARACTER CODES

SL

Dry - DY
Dry - Pools - DP
Fast - FA
Low - Flow - LF
Moderate - MD
Salty - SA
Slow - SL
Stagnant - SG
Swampy - SW
Tidal - TD
Torrent - TO

BANK DESCRIPTION CODES

DF MW UR

Agriculture - AG
Bog - BG
Coniferous - CF
Deciduous - DF
Industrial - IN
Pasture - PA
Meadow - MW
Mixed forest - MF
Marsh - MR
Lawn - LW
Road - RD
Scrub - SB
Stony - SN
Suburb - SU
Swamp - SW
Urban - UR

BOTTOM TYPE and ABUNDANCE CODES

Bottom 1	ABD 1	Bottom 2	ABD 2	Bottom 3	ABD 3
ST	3	GR	2		

Plant Debris - PD
Mud - MD
Silt - ST
Sand - SD
Gravel - GR
Cobble - CO
Boulder - BO
Bedrock - BR
Clay - CL
Concrete - CT
Marl - ML
Vegetated - VG
Unknown - UN

Abundance Codes (ABD)

N = None
0 = 1 - 5%
1 = 6 - 25%
2 = 26 - 50%
3 = 51 - 90%
4 = > 90%
Blank = not evaluated

NYSDEC Bureau of Fisheries: Fisheries Data Base

Sheet ___ of ___ Revision Date: 4/95 Coded

WATERSHED INDEX NUMBER: Ley Creek Site 4 Upstream

SURVEY NUMBER	DATE (MM/DD/YY)	SITE #
LCS4	06 29 99	UP

TIME	STREAM WIDTH	CHANNEL WIDTH	MAX DEPTH	MEAN DEPTH	METHOD	GRADIENT	COMMENTS
1505	49.6	50.6	5.0	4.5	3	XXXXX	X

SECTION LENGTH	VELOCITY	METHOD	DISCHARGE	METHOD	POOL LENGTH	QUALITY	WATER TEMP	AIR TEMP	TEMP UNITS
50	0.1	7	22.78	7	100	N	23.2	X.X	C

DISSOLVED OXYGEN	METHOD	pH	METHOD	TOTAL ALKALINITY	METHOD	CONDUCTIVITY	METHOD
5.1		7.51		X.X		0.93	

SHELTER GRADE	SHELTER DESCRIPTION
X	

COVER GRADE	COVER DESCRIPTION
1	NONE

VEGETATION ABUND.	VEGETATION DESCRIPTION
N	

SHELTER GRADE CODE - Percentage of the stream study section that provides instream shelter (rocks, boulders, undercut banks, etc.): 1 = 0 - 20%; 2 = 21 - 40%; 3 = >40%
COVER GRADE CODE - Percentage of the stream study section covered by overhanging objects (brush, tree branches, bridges, etc.): 1 = 0 - 25%; 2 = 26 - 50%; 3 = >50%
VEGETATION ABUNDANCE - N = None; 0 = 1 - 5%; 1 = 6 - 25%; 2 = 26 - 50%; 3 = 51 - 90%; 4 = >90%; Blank = not evaluated

CROTS VARIABLES

Enter Y for present or N for not present, if evaluated.

10 INSECT SPP?	SIMULIIDS & HYDROPSYCHIDS?	WATERCRESS COMPLEX?

Enter the proper code, if evaluated: H = High; M = Moderate; L = Low; N = None

INSECT FORAGE?	ALGAE ON ROCKS?	LEAVES PRESENT?	MINNOWS < 2.5"

WEATHER: RAIN

- Clear - CLR
- Cloudy - CLDY
- Hazy - HAZY
- Partly Cloudy - PCDY
- Raining - RAIN
- Snowing - SNOW

RAIN 48

STREAM CHARACTER CODES: SL

- Dry - DY
- Dry - Pools - DP
- Fast - FA
- Low - Flow - LF
- Moderate - MD
- Salty - SA
- Slow - SL
- Stagnant - SG
- Swampy - SW
- Tidal - TD
- Torrent - TO

BANK DESCRIPTION CODES: MR, MW

- Agriculture - AG
- Bog - BG
- Coniferous - CF
- Deciduous - DF
- Industrial - IN
- Pasture - PA
- Meadow - MW
- Mixed forest - MF
- Marsh - MR
- Lawn - LW
- Road - RD
- Scrub - SB
- Stony - SN
- Suburb - SU
- Swamp - SW
- Urban - UR

BOTTOM TYPE and ABUNDANCE CODES

Bottom 1	ABD 1	Bottom 2	ABD 2	Bottom 3	ABD 3
ST	3	GR	1		

- Plant Debris - PD
- Mud - MD
- Silt - ST
- Sand - SD
- Gravel - GR
- Cobble - CO
- Boulder - BO
- Bedrock - BR
- Clay - CL
- Concrete - CT
- Marl - ML
- Vegetated - VG
- Unknown - UN

Abundance Codes (ABD)

- N = None
- 0 = 1 - 5%
- 1 = 6 - 25%
- 2 = 26 - 50%
- 3 = 51 - 90%
- 4 = > 90%
- Blank = not evaluated

NYSDEC Bureau of Fisheries: Fisheries Data Base

Sheet ___ of ___ Revision Date: 4/95 Coded

WATERSHED INDEX NUMBER Ley Creek Site 4 Sample Site

SURVEY NUMBER	DATE (MM/DD/YY)	SITE #
LCS4	06 29 99	SS

TIME	STREAM WIDTH	CHANNEL WIDTH	MAX DEPTH	MEAN DEPTH	METHOD	GRADIENT	COMMENTS
1505	57.9	59.0	6.0	4.3	3	xxxxx	x

SECTION LENGTH	VELOCITY	METHOD	DISCHARGE	METHOD	POOL LENGTH	QUALITY	WATER TEMP	AIR TEMP	TEMP UNITS
50	0.2	7	39.83	7	100	d	23.2	x.x	C

DISSOLVED OXYGEN	METHOD	pH	METHOD	TOTAL ALKALINITY	METHOD	CONDUCTIVITY	METHOD
5.1		7.51		x.x		0.93	

SHELTER GRADE	SHELTER DESCRIPTION
x	

COVER GRADE	COVER DESCRIPTION
1	NONE

VEGETATION ABUND.	VEGETATION DESCRIPTION
N	

SHELTER GRADE CODE - Percentage of the stream study section that provides instream shelter (rocks, boulders, undercut banks, etc.): 1 = 0 - 20%; 2 = 21 - 40%; 3 = >40%
COVER GRADE CODE - Percentage of the stream study section covered by overhanging objects (brush, tree branches, bridges, etc.): 1 = 0 - 25%; 2 = 26 - 50%; 3 = >50%
VEGETATION ABUNDANCE - N = None; 0 = 1 - 5%; 1 = 6 - 25%; 2 = 26 - 50%; 3 = 51 - 90%; 4 = >90%; Blank = not evaluated

CROTS VARIABLES

Enter Y for present or N for not present, if evaluated.

10 INSECT SPP?	SIMULIIDS & HYDROPSYCHIDS?	WATERCRESS COMPLEX?	INSECT FORAGE?	ALGAE ON ROCKS?	LEAVES PRESENT?	MINNOWS < 2.5"

Enter the proper code, if evaluated: H = High; M = Moderate; L = Low; N = None

RAIN	STREAM CHARACTER CODES	BANK DESCRIPTION CODES	BOTTOM TYPE and ABUNDANCE CODES: Bottom 1	ABD 1	Bottom 2	ABD 2	Bottom 3	ABD 3
RAIN	SL	MR MW	ST	4				

Clear - CLR; Cloudy - CLDY; Hazy - HAZY; Partly Cloudy - PCDY; Raining - RAIN; Snowing - SNOW

RAIN 48

Dry - DY; Dry - Pools - DP; Fast - FA; Low - Flow - LF; Moderate - MD; Salty - SA; Slow - SL; Stagnant - SG; Swampy - SW; Tidal - TD; Torrent - TO

Agriculture - AG; Bog - BG; Coniferous - CF; Deciduous - DF; Industrial - IN; Pasture - PA; Meadow - MW; Mixed forest - MF; Marsh - MR; Lawn - LW; Road - RD; Scrub - SB; Stony - SN; Suburb - SU; Swamp - SW; Urban - UR

Plant Debris - PD; Mud - MD; Silt - ST; Sand - SD; Gravel - GR; Cobble - CO; Boulder - BO; Bedrock - BR; Clay - CL; Concrete - CT; Marl - ML; Vegetated - VG; Unknown - UN

Abundance Codes (ABD): N = None; 0 = 1 - 5%; 1 = 6 - 25%; 2 = 26 - 50%; 3 = 51 - 90%; 4 = > 90%; Blank = not evaluated

TABLE 2.5a

NYSDEC Bureau of Fisheries: Fisheries Data Base

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WATERSHED INDEX NUMBER LEY Creek Site 4 DOWNSTREAM

SURVEY NUMBER	DATE (MM/DD/YY)	SITE #
LCS4	06 29 99	DN

TIME	STREAM WIDTH	CHANNEL WIDTH	MAX DEPTH	MEAN DEPTH	METHOD	GRADIENT	COMMENTS
1505	57.3	66.3	4.5	3.1	3	XXXXX	X

SECTION LENGTH	VELOCITY	METHOD	DISCHARGE	METHOD	POOL LENGTH	QUALITY	WATER TEMP	AIR TEMP	TEMP UNITS
50	0.0	7	8.25	7	100	N	23.2	X.X	C

DISSOLVED OXYGEN	METHOD	pH	METHOD	TOTAL ALKALINITY	METHOD	CONDUCTIVITY	METHOD
5.1		7.51		X.X		0.93	

SHELTER GRADE	SHELTER DESCRIPTION
X	

COVER GRADE	COVER DESCRIPTION
1	NONE

VEGETATION ABUND.	VEGETATION DESCRIPTION
N	

SHELTER GRADE CODE - Percentage of the stream study section that provides instream shelter (rocks, boulders, undercut banks, etc.): 1 = 0 - 20%; 2 = 21 - 40%; 3 = >40%
COVER GRADE CODE - Percentage of the stream study section covered by overhanging objects (brush, tree branches, bridges, etc.): 1 = 0 - 25%; 2 = 26 - 50%; 3 = >50%
VEGETATION ABUNDANCE - N = None; 0 = 1 - 5%; 1 = 6 - 25%; 2 = 26 - 50%; 3 = 51 - 90%; 4 = >90%; Blank = not evaluated

CROTS VARIABLES

Enter Y for present or N for not present, if evaluated. Enter the proper code, if evaluated: H = High; M = Moderate; L = Low; N = None

10 INSECT SPP?	SIMULIIDS & HYDROPSYCHIDS?	WATERCRESS COMPLEX?	INSECT FORAGE?	ALGAE ON ROCKS?	LEAVES PRESENT?	MINNOWS < 2.5"

WEATHER: RAIN

Clear - CLR
Cloudy - CLDY
Hazy - HAZY
Partly Cloudy - PCDY
Raining - RAIN
Snowing - SNOW

RAIN 48

STREAM CHARACTER CODES: SL

Dry - DY
Dry - Pools - DP
Fast - FA
Low - Flow - LF
Moderate - MD
Salty - SA
Slow - SL
Stagnant - SG
Swampy - SW
Tidal - TD
Torrent - TO

BANK DESCRIPTION CODES: MR MW

Agriculture - AG
Bog - BG
Coniferous - CF
Deciduous - DF
Industrial - IN
Pasture - PA
Meadow - MW
Mixed forest - MF
Marsh - MR
Lawn - LW
Road - RD
Scrub - SB
Stony - SN
Suburb - SU
Swamp - SW
Urban - UR

BOTTOM TYPE and ABUNDANCE CODES

Bottom 1	ABD 1	Bottom 2	ABD 2	Bottom 3	ABD 3
ST	4				

Plant Debris - PD
Mud - MD
Silt - ST
Sand - SD
Gravel - GR
Cobble - CO
Boulder - BO
Bedrock - BR
Clay - CL
Concrete - CT
Marl - ML
Vegetated - VG
Unknown - UN

Abundance Codes (ABD)
N = None
0 = 1 - 5%
1 = 6 - 25%
2 = 26 - 50%
3 = 51 - 90%
4 = > 90%
Blank = not evaluated

TABLE 2-5

NYSDEC Bureau of Fisheries: Fisheries Data Base

WATERSHED INDEX NUMBER HARBOR Brook Site 1 Upstream

Sheet ___ of ___ Revision Date: 4/95 Coded

SURVEY NUMBER	DATE (MM/DD/YY)	SITE #
HBS1	07 06 99	UP

TIME	STREAM WIDTH	CHANNEL WIDTH	MAX DEPTH	MEAN DEPTH	METHOD	GRADIENT	COMMENTS
1500	12.3	12.8	0.8	0.7	3	XXXXX	X

SECTION LENGTH	VELOCITY	METHOD	DISCHARGE	METHOD	POOL LENGTH	QUALITY	WATER TEMP	AIR TEMP	TEMP UNITS
50	0.2	7	2.16	7	100	Y	21.6	X.X	C

DISSOLVED OXYGEN	METHOD	pH	METHOD	TOTAL ALKALINITY	METHOD	CONDUCTIVITY	METHOD
9.4		7.63		X.X		2.37	

SHELTER GRADE	SHELTER DESCRIPTION
X	

COVER GRADE	COVER DESCRIPTION
2	DOGWOODS

VEGETATION ABUND.	VEGETATION DESCRIPTION
1	FONTANALIS

SHELTER GRADE CODE - Percentage of the stream study section that provides instream shelter (rocks, boulders, undercut banks, etc. 1 = 0 - 20%; 2 = 21 - 40%; 3 = >40%

COVER GRADE CODE - Percentage of the stream study section covered by overhanging objects (brush, tree branches, bridges, etc. 1 = 0 - 25%; 2 = 26 - 50%; 3 = >50%

VEGETATION ABUNDANCE - N = None; 0 = 1 - 5%; 1 = 6 - 25%; 2 = 26 - 50%; 3 = 51 - 90%; 4 = >90%; Blank = not evaluated

CROTS VARIABLES

Enter Y for present or N for not present, if evaluated.

Enter the proper code, if evaluated: H = High; M = Moderate; L = Low; N = None

10 INSECT SPP?	SIMULIIDS & HYDROPSYCHIDS?	WATERCRESS COMPLEX?	INSECT FORAGE?	ALGAE ON ROCKS?	LEAVES PRESENT?	MINNOWS < 2.5"

WEATHER

PCDY

Clear - CLR
Cloudy - CLDY
Hazy - HAZY
Partly Cloudy - PCDY
Raining - RAIN
Snowing - SNOW

RAIN 48

STREAM CHARACTER CODES

SL

Dry - DY
Dry - Pools - DP
Fast - FA
Low - Flow - LF
Moderate - MD
Sally - SA
Slow - SL
Stagnant - SG
Swampy - SW
Tidal - TD
Torrent - TO

BANK DESCRIPTION CODES

SB

Agriculture - AG
Bog - BG
Coniferous - CF
Deciduous - DF
Industrial - IN
Pasture - PA
Meadow - MW
Mixed forest - MF
Marsh - MR
Lawn - LW
Road - RD
Scrub - SB
Stony - SN
Suburb - SU
Swamp - SW
Urban - UR

BOTTOM TYPE and ABUNDANCE CODES

Bottom 1	ABD 1	Bottom 2	ABD 2	Bottom 3	ABD 3
GR	2	CO	2	SD	1

Plant Debris - PD
Mud - MD
Silt - ST
Sand - SD
Gravel - GR
Cobble - CO
Boulder - BO
Bedrock - BR
Clay - CL
Concrete - CT
Marl - ML
Vegetated - VG
Unknown - UN

Abundance Codes (ABD)

N = None
0 = 1 - 5%
1 = 6 - 25%
2 = 26 - 50%
3 = 51 - 90%
4 = > 90%
Blank = not evaluated

NYSDEC Bureau of Fisheries: Fisheries Data Base

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WATERSHED INDEX NUMBER HARBOR Brook Site 1 SAMPLE Site

SURVEY NUMBER	DATE (MM/DD/YY)	SITE #
HBS1	07069 9	SS

TIME	STREAM WIDTH	CHANNEL WIDTH	MAX DEPTH	MEAN DEPTH	METHOD	GRADIENT	COMMENTS
1500	12.2	13.3	1.3	1.0	3	XXXXX	X

SECTION LENGTH	VELOCITY	METHOD	DISCHARGE	METHOD	POOL LENGTH	QUALITY	WATER TEMP	AIR TEMP	TEMP UNITS
50	0.2	7	1.90	7	100	Y	21.6	X.X	C

DISSOLVED OXYGEN	METHOD	pH	METHOD	TOTAL ALKALINITY	METHOD	CONDUCTIVITY	METHOD
9.4		7.63		X.X		2.37	

SHELTER GRADE	SHELTER DESCRIPTION
X	

COVER GRADE	COVER DESCRIPTION
1	DOGWOOD

VEGETATION ABUND.	VEGETATION DESCRIPTION
2	WATERCRESS/FONTANALIS

SHELTER GRADE CODE - Percentage of the stream study section that provides instream shelter (rocks, boulders, undercut banks, etc.): 1 = 0 - 20%; 2 = 21 - 40%; 3 = >40%
COVER GRADE CODE - Percentage of the stream study section covered by overhanging objects (brush, tree branches, bridges, etc.): 1 = 0 - 25%; 2 = 26 - 50%; 3 = >50%
VEGETATION ABUNDANCE - N = None; 0 = 1 - 5%; 1 = 6 - 25%; 2 = 26 - 50%; 3 = 51 - 90%; 4 = >90%; Blank = not evaluated

CROTS VARIABLES

Enter Y for present or N for not present, if evaluated.

10 INSECT SPP?	SIMULIIDS & HYDROPSYCHIDS?	WATERCRESS COMPLEX?

Enter the proper code, if evaluated: H = High; M = Moderate; L = Low; N = None

INSECT FORAGE?	ALGAE ON ROCKS?	LEAVES PRESENT?	MINNOWS < 2.5"

WEATHER

PCDY

Clear - CLR
Cloudy - CLDY
Hazy - HAZY
Partly Cloudy - PCDY
Raining - RAIN
Snowing - SNOW

RAIN 48

STREAM CHARACTER CODES

SL

Dry - DY
Dry - Pools - DP
Fast - FA
Low - Flow - LF
Moderate - MD
Salty - SA
Slow - SL
Stagnant - SG
Swampy - SW
Tidal - TD
Torrent - TO

BANK DESCRIPTION CODES

SB MW

Agriculture - AG
Bog - BG
Coniferous - CF
Deciduous - DF
Industrial - IN
Pasture - PA
Meadow - MW
Mixed forest - MF
Marsh - MR
Lawn - LW
Road - RD
Scrub - SB
Stony - SN
Suburb - SU
Swamp - SW
Urban - UR

BOTTOM TYPE and ABUNDANCE CODES

Bottom 1	ABD 1	Bottom 2	ABD 2	Bottom 3	ABD 3
GR	2	CO	1	SD	1

Plant Debris - PD
Mud - MD
Silt - ST
Sand - SD
Gravel - GR
Cobble - CO
Boulder - BO
Bedrock - BR
Clay - CL
Concrete - CT
Marl - ML
Vegetated - VG
Unknown - UN

Abundance Codes (ABD)
N = None
0 = 1 - 5%
1 = 6 - 25%
2 = 26 - 50%
3 = 51 - 90%
4 = > 90%
Blank = not evaluated

NYSDEC Bureau of Fisheries: Fisheries Data Base

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WATERSHED INDEX NUMBER HARBOR Brook Site 1 Downstream

SURVEY NUMBER	DATE (MM/DD/YY)	SITE #
HBS1	07 06 99	DN

TIME	STREAM WIDTH	CHANNEL WIDTH	MAX DEPTH	MEAN DEPTH	METHOD	GRADIENT	COMMENTS
1500	11.3	12.1	0.6	0.4	3	XXXXX	X

SECTION LENGTH	VELOCITY	METHOD	DISCHARGE	METHOD	POOL LENGTH	QUALITY	WATER TEMP	AIR TEMP	TEMP UNITS
50	0.6		2.85	7	RUN	Y	21.6	X.X	C

DISSOLVED OXYGEN	METHOD	pH	METHOD	TOTAL ALKALINITY	METHOD	CONDUCTIVITY	METHOD
9.4		7.63		X.X		2.37	

SHELTER GRADE	SHELTER DESCRIPTION
X	

COVER GRADE	COVER DESCRIPTION
2	TREES/CATTAILS

VEGETATION ABUND.	VEGETATION DESCRIPTION
1	FONTANALIS

SHELTER GRADE CODE - Percentage of the stream study section that provides instream shelter (rocks, boulders, undercut banks, etc.): 1 = 0 - 20%; 2 = 21 - 40%; 3 = >40%
COVER GRADE CODE - Percentage of the stream study section covered by overhanging objects (brush, tree branches, bridges, etc.): 1 = 0 - 25%; 2 = 26 - 50%; 3 = >50%
VEGETATION ABUNDANCE - N = None; 0 = 1 - 5%; 1 = 6 - 25%; 2 = 26 - 50%; 3 = 51 - 90%; 4 = >90%; Blank = not evaluated

CROTS VARIABLES

Enter Y for present or N for not present, if evaluated.

10 INSECT SPP?	SIMULIIDS & HYDROPSYCHIDS?	WATERCRESS COMPLEX?

Enter the proper code, if evaluated: H = High; M = Moderate; L = Low; N = None

INSECT FORAGE?	ALGAE ON ROCKS?	LEAVES PRESENT?	MINNOWS < 2.5"

WEATHER

PCDY

Clear - CLR
Cloudy - CLDY
Hazy - HAZY
Partly Cloudy - PCDY
Raining - RAIN
Snowing - SNOW

RAIN 48

STREAM CHARACTER CODES

MD

Dry - DY
Dry - Pools - DP
Fast - FA
Low - Flow - LF
Moderate - MD
Sally - SA
Slow - SL
Stagnant - SG
Swampy - SW
Tidal - TD
Torrent - TO

BANK DESCRIPTION CODES

SB DF MR

Agriculture - AG
Bog - BG
Coniferous - CF
Deciduous - DF
Industrial - IN
Pasture - PA
Meadow - MW
Mixed forest - MF
Marsh - MR
Lawn - LW
Road - RD
Scrub - SB
Stony - SN
Suburb - SU
Swamp - SW
Urban - UR

BOTTOM TYPE and ABUNDANCE CODES

Bottom 1	ABD 1	Bottom 2	ABD 2	Bottom 3	ABD 3
GR	3	BO	1	SD	1

Plant Debris - PD
Mud - MD
Silt - ST
Sand - SD
Gravel - GR
Cobble - CO
Boulder - BO
Bedrock - BR
Clay - CL
Concrete - CT
Marl - ML
Vegetated - VG
Unknown - UN

Abundance Codes (ABD)
N = None
0 = 1 - 5%
1 = 6 - 25%
2 = 26 - 50%
3 = 51 - 90%
4 = > 90%
Blank = not evaluated

NYSDEC Bureau of Fisheries: Fisheries Data Base

Sheet ___ of ___ Revision Date: 4/95 Coded

WATERSHED INDEX NUMBER Harbor Brook Site 2 Upstream

SURVEY NUMBER	DATE (MM/DD/YY)	SITE #
HBS2	07 06 99	UP

TIME	STREAM WIDTH	CHANNEL WIDTH	MAX DEPTH	MEAN DEPTH	METHOD	GRADIENT	COMMENTS
1615	19.6	24.8	1.2	1.0	3	XXXXX	X

SECTION LENGTH	VELOCITY	METHOD	DISCHARGE	METHOD	POOL LENGTH	QUALITY	WATER TEMP	AIR TEMP	TEMP UNITS
50	0.1	7	2.27	7	RUN	Y	20.8	26.9	C

DISSOLVED OXYGEN	METHOD	pH	METHOD	TOTAL ALKALINITY	METHOD	CONDUCTIVITY	METHOD
9.1		7.59		X.X		2.42	

SHELTER GRADE	SHELTER DESCRIPTION
X	

COVER GRADE	COVER DESCRIPTION
3	EMERGENT VEGETATION

VEGETATION ABUND.	VEGETATION DESCRIPTION
3	EMERGENT VEGETATION

SHELTER GRADE CODE - Percentage of the stream study section that provides instream shelter (rocks, boulders, undercut banks, etc.): 1 = 0 - 20%; 2 = 21 - 40%; 3 = >40%
COVER GRADE CODE - Percentage of the stream study section covered by overhanging objects (brush, tree branches, bridges, etc.): 1 = 0 - 25%; 2 = 26 - 50%; 3 = >50%
VEGETATION ABUNDANCE - N = None; 0 = 1 - 5%; 1 = 6 - 25%; 2 = 26 - 50%; 3 = 51 - 90%; 4 = >90%; Blank = not evaluated

CROTS VARIABLES

Enter Y for present or N for not present, if evaluated.

Enter the proper code, if evaluated: H = High; M = Moderate; L = Low; N = None

10 INSECT SPP?	SIMULIIDS & HYDROPSYCHIDS?	WATERCRESS COMPLEX?	INSECT FORAGE?	ALGAE ON ROCKS?	LEAVES PRESENT?	MINNOWS < 2.5"

WEATHER

DY

- CLR
- CLDY
- HAZY
- PCDY
- RAIN
- SNOW

STREAM CHARACTER CODES

MD

Dry	- DY	Slow	- SL
Dry - Pools	- DP	Stagnant	- SG
Fast	- FA	Swampy	- SW
Low - Flow	- LF	Tidal	- TD
Moderate	- MD	Torrent	- TO
Sally	- SA		

BANK DESCRIPTION CODES

MR

Agriculture	- AG	Marsh	- MR
Bog	- BG	Lawn	- LW
Coniferous	- CF	Road	- RD
Deciduous	- DF	Scrub	- SB
Industrial	- IN	Stony	- ST
Pasture	- PA	Suburb	- SU
Meadow	- MW	Swamp	- SW
Mixed forest	- MF	Urban	- UR

BOTTOM TYPE and ABUNDANCE CODES

Bottom 1	ABD 1	Bottom 2	ABD 2	Bottom 3	ABD 3
ST	4				

Plant Debris	- PD	Cobble	- CO	Marl	ML
Mud	- MD	Boulder	- BO	Vegetated	VG
Silt	- ST	Bedrock	- BR	Unknown	UN
Sand	- SD	Clay	- CL		
Gravel	- GR	Concrete	- CT		

Abundance Codes (ABD)

N = None
0 = 1 - 5%
1 = 6 - 25%
2 = 26 - 50%
3 = 51 - 90%
4 = > 90%
Blank = not evaluated

NYSDEC Bureau of Fisheries: Fisheries Data Base

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WATERSHED INDEX NUMBER Harbor Brook Site 2 Sample Site

SURVEY NUMBER	DATE (MM/DD/YY)	SITE #
HBS2	07 06 99	SS

TIME	STREAM WIDTH	CHANNEL WIDTH	MAX DEPTH	MEAN DEPTH	METHOD	GRADIENT	COMMENTS
1615	15.0	18.3	1.2	0.9	3	XXXXX	X

SECTION LENGTH	VELOCITY	METHOD	DISCHARGE	METHOD	POOL LENGTH	QUALITY	WATER TEMP	AIR TEMP	TEMP UNITS
50	0.1	7	1.60	7	RUN	Y	20.8	26.9	C

DISSOLVED OXYGEN	METHOD	pH	METHOD	TOTAL ALKALINITY	METHOD	CONDUCTIVITY	METHOD
9.1		7.59		X.X		2.42	

SHELTER GRADE	SHELTER DESCRIPTION
X	

COVER GRADE	COVER DESCRIPTION
3	EMERGENT BEDS

VEGETATION ABUND.	VEGETATION DESCRIPTION
3	EMERGENT BEDS

SHELTER GRADE CODE - Percentage of the stream study section that provides instream shelter (rocks, boulders, undercut banks, etc.): 1 = 0 - 20%; 2 = 21 - 40%; 3 = >40%
COVER GRADE CODE - Percentage of the stream study section covered by overhanging objects (brush, tree branches, bridges, etc.): 1 = 0 - 25%; 2 = 26 - 50%; 3 = >50%
VEGETATION ABUNDANCE - N = None; 0 = 1 - 5%; 1 = 6 - 25%; 2 = 26 - 50%; 3 = 51 - 90%; 4 = >90%; Blank = not evaluated

CROTS VARIABLES

Enter Y for present or N for not present, if evaluated.

Enter the proper code, if evaluated: H = High; M = Moderate; L = Low; N = None

10 INSECT SPP?	SIMULIIDS & HYDROPSYCHIDS?	WATERCRESS COMPLEX?	INSECT FORAGE?	ALGAE ON ROCKS?	LEAVES PRESENT?	MINNOWS < 2.5"

WEATHER

PCDY

Clear - CLR
Cloudy - CLDY
Hazy - HAZY
Partly Cloudy - PCDY
Raining - RAIN
Snowing - SNOW

RAIN 48

STREAM CHARACTER CODES

MD		

Dry - DY
Dry - Pools - DP
Fast - FA
Low - Flow - LF
Moderate - MD
Salty - SA
Slow - SL
Stagnant - SG
Swampy - SW
Tidal - TD
Torrent - TO

BANK DESCRIPTION CODES

MR		

Agriculture - AG
Bog - BG
Coniferous - CF
Deciduous - DF
Industrial - IN
Pasture - PA
Meadow - MW
Mixed forest - MF
Marsh - MR
Lawn - LW
Road - RD
Scrub - SB
Stony - ST
Suburb - SU
Swamp - SW
Urban - UR

BOTTOM TYPE and ABUNDANCE CODES

Bottom 1	ABD 1	Bottom 2	ABD 2	Bottom 3	ABD 3
GR	4				

Plant Debris - PD
Mud - MD
Silt - ST
Sand - SD
Gravel - GR
Cobble - CO
Boulder - BO
Bedrock - BR
Clay - CL
Concrete - CT
Marl - ML
Vegetated - VG
Unknown - UN

Abundance Codes (ABD)
N = None
0 = 1 - 5%
1 = 6 - 25%
2 = 26 - 50%
3 = 51 - 90%
4 = > 90%
Blank = not evaluated

NYSDEC Bureau of Fisheries: Fisheries Data Base

Sheet ___ of ___ Revision Date: 4/95 Coded

WATERSHED INDEX NUMBER HARBOR Brook Site 2 Downstream

SURVEY NUMBER	DATE (MM/DD/YY)	SITE #
HBS2	07 06 99	DN

TIME	STREAM WIDTH	CHANNEL WIDTH	MAX DEPTH	MEAN DEPTH	METHOD	GRADIENT	COMMENTS
1615	22.2	23.1	1.2	0.8	3	XXXXX	X

SECTION LENGTH	VELOCITY	METHOD	DISCHARGE	METHOD	POOL LENGTH	QUALITY	WATER TEMP	AIR TEMP	TEMP UNITS
50	0.1	7	2.42	7	RUN	Y	20.8	26.9	C

DISSOLVED OXYGEN	METHOD	pH	METHOD	TOTAL ALKALINITY	METHOD	CONDUCTIVITY	METHOD
9.1		7.59		X.X		2.42	

SHELTER GRADE	SHELTER DESCRIPTION
X	

COVER GRADE	COVER DESCRIPTION
3	EMERGENT BEDS

VEGETATION ABUND.	VEGETATION DESCRIPTION
3	EMERGENT BEDS/SAV

SHELTER GRADE CODE - Percentage of the stream study section that provides instream shelter (rocks, boulders, undercut banks, etc.): 1 = 0 - 20%; 2 = 21 - 40%; 3 = >40%
COVER GRADE CODE - Percentage of the stream study section covered by overhanging objects (brush, tree branches, bridges, etc.): 1 = 0 - 25%; 2 = 26 - 50%; 3 = >50%
VEGETATION ABUNDANCE - N = None; 0 = 1 - 5%; 1 = 6 - 25%; 2 = 26 - 50%; 3 = 51 - 90%; 4 = >90%; Blank = not evaluated

CROTS VARIABLES

Enter Y for present or N for not present, if evaluated.

10 INSECT SPP?	SIMULIIDS & HYDROPSYCHIDS?	WATERCRESS COMPLEX?	INSECT FORAGE?	ALGAE ON ROCKS?	LEAVES PRESENT?	MINNOWS < 2.5"

Enter the proper code, if evaluated: H = High; M = Moderate; L = Low; N = None

WEATHER: PCDY

Clear - CLR
Cloudy - CLDY
Hazy - HAZY
Partly Cloudy - PCDY
Raining - RAIN
Snowing - SNOW

RAIN 48

STREAM CHARACTER CODES: MD

Dry - DY
Dry - Pools - DP
Fast - FA
Low - Flow - LF
Moderate - MD
Salty - SA
Slow - SL
Stagnant - SG
Swampy - SW
Tidal - TD
Torrent - TO

BANK DESCRIPTION CODES: MR

Agriculture - AG
Bog - BG
Coniferous - CF
Deciduous - DF
Industrial - IN
Pasture - PA
Meadow - MW
Mixed forest - MF
Marsh - MR
Lawn - LW
Road - RD
Scrub - SB
Stony - SN
Suburb - SU
Swamp - SW
Urban - UR

BOTTOM TYPE and ABUNDANCE CODES

Bottom 1	ABD 1	Bottom 2	ABD 2	Bottom 3	ABD 3
ST	3	GR	1		

Plant Debris - PD
Mud - MD
Silt - ST
Sand - SD
Gravel - GR
Cobble - CO
Boulder - BO
Bedrock - BR
Clay - CL
Concrete - CT
Marl - ML
Vegetated - VG
Unknown - UN

Abundance Codes (ABD)
N = None
0 = 1 - 5%
1 = 6 - 25%
2 = 26 - 50%
3 = 51 - 90%
4 = > 90%
Blank = not evaluated

NYSDEC Bureau of Fisheries: Fisheries Data Base

WATERSHED INDEX NUMBER Harbor Brook Site 3 Upstream

Sheet ___ of ___ Revision Date: 4/95 Coded

SURVEY NUMBER	DATE (MM/DD/YY)	SITE #
HBS3	07 06 99	UP

TIME	STREAM WIDTH	CHANNEL WIDTH	MAX DEPTH	MEAN DEPTH	METHOD	GRADIENT	COMMENTS
1745	14.7	15.2	1.7	1.5	3	XXXXX	X

SECTION LENGTH	VELOCITY	METHOD	DISCHARGE	METHOD	POOL LENGTH	QUALITY	WATER TEMP	AIR TEMP	TEMP UNITS
50	0.2	7	3.37	7	100	N	20.8	29.2	C

DISSOLVED OXYGEN	METHOD	pH	METHOD	TOTAL ALKALINITY	METHOD	CONDUCTIVITY	METHOD
8.9		7.88		X.X		2.23	

SHELTER GRADE	SHELTER DESCRIPTION
X	

COVER GRADE	COVER DESCRIPTION
1	NONE

VEGETATION ABUND.	VEGETATION DESCRIPTION
3	SAV

SHELTER GRADE CODE - Percentage of the stream study section that provides instream shelter (rocks, boulders, undercut banks, etc.): 1 = 0 - 20%; 2 = 21 - 40%; 3 = >40%

COVER GRADE CODE - Percentage of the stream study section covered by overhanging objects (brush, tree branches, bridges, etc.): 1 = 0 - 25%; 2 = 26 - 50%; 3 = >50%

VEGETATION ABUNDANCE - N = None; 0 = 1 - 5%; 1 = 6 - 25%; 2 = 26 - 50%; 3 = 51 - 90%; 4 = >90%; Blank = not evaluated

CROTS VARIABLES

Enter Y for present or N for not present, if evaluated.

Enter the proper code, if evaluated: H = High; M = Moderate; L = Low; N = None

10 INSECT SPP?	SIMULIIDS & HYDROPSYCHIDS?	WATERCRESS COMPLEX?	INSECT FORAGE?	ALGAE ON ROCKS?	LEAVES PRESENT?	MINNOWS < 2.5"

WEATHER

PCDY

Clear - CLR
Cloudy - CLDY
Hazy - HAZY
Partly Cloudy - PCDY
Raining - RAIN
Snowing - SNOW

RAIN 48

STREAM CHARACTER CODES

SL

Dry - DY
Dry - Pools - DP
Fast - FA
Low - Flow - LF
Moderate - MD
Sally - SA
Slow - SL
Stagnant - SG
Swampy - SW
Tidal - TD
Torrent - TO

BANK DESCRIPTION CODES CHANNELIZED (Concrete)

MW UR

Agriculture - AG
Bog - BG
Coniferous - CF
Deciduous - DF
Industrial - IN
Pasture - PA
Meadow - MW
Mixed forest - MF
Marsh - MR
Lawn - LW
Road - RD
Scrub - SB
Stony - SN
Suburb - SU
Swamp - SW
Urban - UR

BOTTOM TYPE and ABUNDANCE CODES

Bottom 1	ABD 1	Bottom 2	ABD 2	Bottom 3	ABD 3
ST	4				

Plant Debris - PD
Mud - MD
Silt - ST
Sand - SD
Gravel - GR
Cobble - CO
Boulder - BO
Bedrock - BR
Clay - CL
Concrete - CT
Marl - ML
Vegetated - VG
Unknown - UN

Abundance Codes (ABD)

N = None
0 = 1 - 5%
1 = 6 - 25%
2 = 26 - 50%
3 = 51 - 90%
4 = > 90%
Blank = not evaluated

NYSDEC Bureau of Fisheries: Fisheries Data Base

WATERSHED INDEX NUMBER: Harbor Brook Site 3 Sample Site

Sheet ___ of ___ Revision Date: 4/95 Codod: 3

SURVEY NUMBER	DATE (MM/DD/YY)	SITE #
HBS3	07 06 99	SS

TIME	STREAM WIDTH	CHANNEL WIDTH	MAX DEPTH	MEAN DEPTH	METHOD	GRADIENT	COMMENTS
1745	13.1	14.8	2.8	1.8	3	XXXXX	X

SECTION LENGTH	VELOCITY	METHOD	DISCHARGE	METHOD	POOL LENGTH	QUALITY	WATER TEMP	AIR TEMP	TEMP UNITS
50	0.2	7	5.18	7	100	N	20.8	29.2	C

DISSOLVED OXYGEN	METHOD	pH	METHOD	TOTAL ALKALINITY	METHOD	CONDUCTIVITY	METHOD
8.9		7.88		X.X		2.23	

SHELTER GRADE	SHELTER DESCRIPTION
X	

COVER GRADE	COVER DESCRIPTION
1	NONE

VEGETATION ABUND.	VEGETATION DESCRIPTION
3	SAV

SHELTER GRADE CODE - Percentage of the stream study section that provides instream shelter (rocks, boulders, undercut banks, etc.): 1 = 0 - 20%; 2 = 21 - 40%; 3 = >40%
COVER GRADE CODE - Percentage of the stream study section covered by overhanging objects (brush, tree branches, bridges, etc.): 1 = 0 - 25%; 2 = 26 - 50%; 3 = >50%
VEGETATION ABUNDANCE - N = None; 0 = 1 - 5%; 1 = 6 - 25%; 2 = 26 - 50%; 3 = 51 - 90%; 4 = >90%; Blank = not evaluated

CROTS VARIABLES

Enter Y for present or N for not present, if evaluated.

Enter the proper code, if evaluated: H = High; M = Moderate; L = Low; N = None

10 INSECT SPP?	SIMULIIDS & HYDROPSYCHIDS?	WATERCRESS COMPLEX?	INSECT FORAGE?	ALGAE ON ROCKS?	LEAVES PRESENT?	MINNOWS < 2.5"

WEATHER

P	C	D	Y

Clear - CLR
Cloudy - CLDY
Hazy - HAZY
Partly Cloudy - PCDY
Raining - RAIN
Snowing - SNOW

RAIN 48 ☐

STREAM CHARACTER CODES

S	L				

Dry - DY
Dry - Pools - DP
Fast - FA
Low - Flow - LF
Moderate - MD
Sally - SA
Slow - SL
Stagnant - SQ
Swampy - SW
Tidal - TD
Torrent - TO

BANK DESCRIPTION CODES (Concrete Channel)

M	W	U	R		

Agriculture - AG
Bog - BG
Coniferous - CF
Deciduous - DF
Industrial - IN
Pasture - PA
Meadow - MW
Mixed forest - MF
Marsh - MR
Lawn - LW
Road - RD
Scrub - SB
Stony - SN
Suburb - SU
Swamp - SW
Urban - UR

BOTTOM TYPE and ABUNDANCE CODES

Bottom 1	ABD 1	Bottom 2	ABD 2	Bottom 3	ABD 3
S T	4				

Plant Debris - PD
Mud - MD
Silt - ST
Sand - SD
Gravel - GR
Cobble - CO
Boulder - BO
Bedrock - BR
Clay - CL
Concrete - CT
Marl - ML
Vegetated - VG
Unknown - UN

Abundance Codes (ABD)
N = None
0 = 1 - 5%
1 = 6 - 25%
2 = 26 - 50%
3 = 51 - 90%
4 = > 90%
Blank = not evaluated

NYSDEC Bureau of Fisheries; Fisheries Data Base

WATERSHED INDEX NUMBER: HARBOR Brook Site 3 DOWNSTREAM

Sheet ___ of ___ Revision Date: 4/95 Coded

SURVEY NUMBER	DATE (MM/DD/YY)	SITE #
HBS3	07 06 99	N

TIME	STREAM WIDTH	CHANNEL WIDTH	MAX DEPTH	MEAN DEPTH	METHOD	GRADIENT	COMMENTS
1745	12.9	14.8	2.0	1.7	3	XXXXX	X

SECTION LENGTH	VELOCITY	METHOD	DISCHARGE	METHOD	POOL LENGTH	QUALITY	WATER TEMP	AIR TEMP	TEMP UNITS
50	0.3	7	5.94	7	100	N	20.8	29.2	C

DISSOLVED OXYGEN	METHOD	pH	METHOD	TOTAL ALKALINITY	METHOD	CONDUCTIVITY	METHOD
8.9		7.88		X.X		2.23	

SHELTER GRADE	SHELTER DESCRIPTION
X	

COVER GRADE	COVER DESCRIPTION
1	NONE

VEGETATION ABUND.	VEGETATION DESCRIPTION
3	SAV

SHELTER GRADE CODE - Percentage of the stream study section that provides instream shelter (rocks, boulders, undercut banks, etc.): 1 = 0 - 20%; 2 = 21 - 40%; 3 = >40%
COVER GRADE CODE - Percentage of the stream study section covered by overhanging objects (brush, tree branches, bridges, etc.): 1 = 0 - 25%; 2 = 26 - 50%; 3 = >50%
VEGETATION ABUNDANCE - N = None; 0 = 1 - 5%; 1 = 6 - 25%; 2 = 26 - 50%; 3 = 51 - 90%; 4 = >90%; Blank = not evaluated

CROTS VARIABLES

Enter Y for present or N for not present, if evaluated.

10 INSECT SPP?	SIMULIIDS & HYDROPSYCHIDS?	WATERCRESS COMPLEX?	INSECT FORAGE?	ALGAE ON ROCKS?	LEAVES PRESENT?	MINNOWS < 2.5"

Enter the proper code, if evaluated: H = High; M = Moderate; L = Low; N = None

WEATHER

PCDY

Clear - CLR
Cloudy - CLDY
Hazy - HAZY
Partly Cloudy - PCDY
Raining - RAIN
Snowing - SNOW

RAIN 48

STREAM CHARACTER CODES

SL		

Dry - DY
Dry - Pools - DP
Fast - FA
Low - Flow - LF
Moderate - MD
Silty - SA
Slow - SL
Stagnant - SQ
Swampy - SW
Tidal - TD
Torrent - TO

BANK DESCRIPTION CODES

MW	UR	

Agriculture - AG
Bog - BQ
Coniferous - CF
Deciduous - DF
Industrial - IN
Pasture - PA
Meadow - MW
Mixed forest - MF
Marsh - MR
Lawn - LW
Road - RD
Scrub - SD
Stony - SN
Suburb - SU
Swamp - SW
Urban - UR

BOTTOM TYPE and ABUNDANCE CODES

Bottom 1	ABD 1	Bottom 2	ABD 2	Bottom 3	ABD 3
ST	4				

Plant Debris - PD
Mud - MD
Silt - ST
Sand - SD
Gravel - GR
Cobble - CO
Boulder - BO
Bedrock - BR
Clay - CL
Concrete - CT
Marl - ML
Vegetated - VG
Unknown - UN

Abundance Codes (ABD)
N = None
0 = 1 - 5%
1 = 6 - 25%
2 = 26 - 50%
3 = 51 - 90%
4 = > 90%
Blank = not evaluated

NYSDEC Bureau of Fisheries: Fisheries Data Base

Sheet ___ of ___ Revision Date: 4/95 Coded

WATERSHED INDEX NUMBER Harbor Brook Site 4 Upstream

SURVEY NUMBER	DATE (MM/DD/YY)	SITE #
HBS4	06 29 99	UP

TIME	STREAM WIDTH	CHANNEL WIDTH	MAX DEPTH	MEAN DEPTH	METHOD	GRADIENT	COMMENTS
1715	28.8	30.3	2.5	1.9	3	XXXXX	X

SECTION LENGTH	VELOCITY	METHOD	DISCHARGE	METHOD	POOL LENGTH	QUALITY	WATER TEMP	AIR TEMP	TEMP UNITS
50	0.2	7	8.50	7	100	N	21.8	X.X	C

DISSOLVED OXYGEN	METHOD	pH	METHOD	TOTAL ALKALINITY	METHOD	CONDUCTIVITY	METHOD
3.7		8.41		X.X		0.88	

SHELTER GRADE	SHELTER DESCRIPTION
X	

COVER GRADE	COVER DESCRIPTION
1	NONE

VEGETATION ABUND.	VEGETATION DESCRIPTION
N	

SHELTER GRADE CODE - Percentage of the stream study section that provides instream shelter (rocks, boulders, undercut banks, etc.): 1 = 0 - 20%; 2 = 21 - 40%; 3 = >40%
COVER GRADE CODE - Percentage of the stream study section covered by overhanging objects (brush, tree branches, bridges, etc.): 1 = 0 - 25%; 2 = 26 - 50%; 3 = >50%
VEGETATION ABUNDANCE - N = None; 0 = 1 - 5%; 1 = 6 - 25%; 2 = 26 - 50%; 3 = 51 - 90%; 4 = >90%; Blank = not evaluated

CROTS VARIABLES

Enter Y for present or N for not present, if evaluated.

10 INSECT SPP?	SIMULIIDS & HYDROPSYCHIDS?	WATERCRESS COMPLEX?	INSECT FORAGE?	ALGAE ON ROCKS?	LEAVES PRESENT?	MINNOWS < 2.5"

Enter the proper code, if evaluated: H = High; M = Moderate; L = Low; N = None

WEATHER: PCDY

Clear - CLR; Cloudy - CLDY; Hazy - HAZY; Partly Cloudy - PCDY; Raining - RAIN; Snowing - SNOW

RAIN 48

STREAM CHARACTER CODES: SL

Dry - DY; Dry - Pools - DP; Fast - FA; Low - Flow - LF; Moderate - MD; Salty - SA; Slow - SL; Stagnant - SG; Swampy - SW; Tidal - TD; Torrent - TO

BANK DESCRIPTION CODES: MR

Agriculture - AG; Bog - BG; Coniferous - CF; Deciduous - DF; Industrial - IN; Pasture - PA; Meadow - MW; Mixed forest - MF; Marsh - MR; Lawn - LW; Road - RD; Scrub - SB; Stony - SN; Suburb - SU; Swamp - SW; Urban - UR

BOTTOM TYPE and ABUNDANCE CODES

Bottom 1	ABD 1	Bottom 2	ABD 2	Bottom 3	ABD 3
ST	3	CT	1		

Plant Debris - PD; Mud - MD; Silt - ST; Sand - SD; Gravel - GR; Cobble - CO; Boulder - BO; Bedrock - BR; Clay - CL; Concrete - CT; Marl - ML; Vegetated - VG; Unknown - UN

Abundance Codes (ABD): N = None; 0 = 1 - 5%; 1 = 6 - 25%; 2 = 26 - 50%; 3 = 51 - 90%; 4 = > 90%; Blank = not evaluated

TABLE 2-53

NYSDEC Bureau of Fisheries: Fisheries Data Base

WATERSHED INDEX NUMBER HARBOR Brook Site 4 SAMPLE Site

Sheet ___ of ___ Revision Date: 4/95 Coded

SURVEY NUMBER	DATE (MM/DD/YY)	SITE #
HBS4	06 29 99	SS

TIME	STREAM WIDTH	CHANNEL WIDTH	MAX DEPTH	MEAN DEPTH	METHOD	GRADIENT	COMMENTS
1715	31.1	33.1	3.4	2.3	3	xxxxx	x

SECTION LENGTH	VELOCITY	METHOD	DISCHARGE	METHOD	POOL LENGTH	QUALITY	WATER TEMP	AIR TEMP	TEMP UNITS
50	0.2	7	13.73	7	100	N	21.8	x.x	C

DISSOLVED OXYGEN	METHOD	pH	METHOD	TOTAL ALKALINITY	METHOD	CONDUCTIVITY	METHOD
3.7		8.41		x.x		0.88	

SHELTER GRADE	SHELTER DESCRIPTION
x	

COVER GRADE	COVER DESCRIPTION
1	NONE

VEGETATION ABUND.	VEGETATION DESCRIPTION
N	

SHELTER GRADE CODE - Percentage of the stream study section that provides instream shelter (rocks, boulders, undercut banks, etc.): 1 = 0 - 20%; 2 = 21 - 40%; 3 = >40%
COVER GRADE CODE - Percentage of the stream study section covered by overhanging objects (brush, tree branches, bridges, etc.): 1 = 0 - 25%; 2 = 26 - 50%; 3 = >50%
VEGETATION ABUNDANCE - N = None; 0 = 1 - 5%; 1 = 6 - 25%; 2 = 26 - 50%; 3 = 51 - 90%; 4 = >90%; Blank = not evaluated

CROTS VARIABLES

Enter Y for present or N for not present, if evaluated.

Enter the proper code, if evaluated: H = High; M = Moderate; L = Low; N = None

10 INSECT SPP?	SIMULIIDS & HYDROPSYCHIDS?	WATERCRESS COMPLEX?	INSECT FORAGE?	ALGAE ON ROCKS?	LEAVES PRESENT?	MINNOWS < 2.5"

WEATHER

P	C	D	Y

Clear - CLR
Cloudy - CLDY
Hazy - HAZY
Partly Cloudy - PCDY
Raining - RAIN
Snowing - SNOW

RAIN 48

STREAM CHARACTER CODES

S	L				

Dry - DY
Dry - Pools - DP
Fast - FA
Low - Flow - LF
Moderate - MD
Salty - SA
Slow - SL
Stagnant - SG
Swampy - SW
Tidal - TD
Torrent - TO

BANK DESCRIPTION CODES

M	R				

Agriculture - AG
Bog - BG
Coniferous - CF
Deciduous - DF
Industrial - IN
Pasture - PA
Meadow - MW
Mixed forest - MF
Marsh - MR
Lawn - LW
Road - RD
Scrub - SB
Stony - SN
Suburb - SU
Swamp - SW
Urban - UR

BOTTOM TYPE and ABUNDANCE CODES

Bottom 1	ABD 1	Bottom 2	ABD 2	Bottom 3	ABD 3
ST	3	GR	1		

Plant Debris - PD
Mud - MD
Silt - ST
Sand - SD
Gravel - GR
Cobble - CO
Boulder - BO
Bedrock - BR
Clay - CL
Concrete - CT
Marl - ML
Vegetated - VG
Unknown - UN

Abundance Codes (ABD)
N = None
0 = 1 - 5%
1 = 6 - 25%
2 = 26 - 50%
3 = 51 - 90%
4 = > 90%
Blank = not evaluated

NYSDEC Bureau of Fisheries: Fisheries Data Base

Sheet ___ of ___ Revision Date: 4/95 Coded

WATERSHED INDEX NUMBER Harbor Brook Site 4 Downstream

SURVEY NUMBER	DATE (MM/DD/YY)	SITE #
HBS4	06 29 99	DN

TIME	STREAM WIDTH	CHANNEL WIDTH	MAX DEPTH	MEAN DEPTH	METHOD	GRADIENT	COMMENTS
1715	33.5	36.2	1.6	1.5	3	XXXXX	

SECTION LENGTH	VELOCITY	METHOD	DISCHARGE	METHOD	POOL LENGTH	QUALITY	WATER TEMP	AIR TEMP	TEMP UNITS
50	0.3	7	14.87	7	100	N	21.8	X.X	C

DISSOLVED OXYGEN	METHOD	pH	METHOD	TOTAL ALKALINITY	METHOD	CONDUCTIVITY	METHOD
3.7		8.41		X.X		0.88	

SHELTER GRADE	SHELTER DESCRIPTION
X	

COVER GRADE	COVER DESCRIPTION
1	NONE

VEGETATION ABUND.	VEGETATION DESCRIPTION
N	

SHELTER GRADE CODE - Percentage of the stream study section that provides instream shelter (rocks, boulders, undercut banks, etc.): 1 = 0 - 20%; 2 = 21 - 40%; 3 = >40%
COVER GRADE CODE - Percentage of the stream study section covered by overhanging objects (brush, tree branches, bridges, etc.): 1 = 0 - 25%; 2 = 26 - 50%; 3 = >50%
VEGETATION ABUNDANCE - N = None; 0 = 1 - 5%; 1 = 6 - 25%; 2 = 26 - 50%; 3 = 51 - 90%; 4 = >90%; Blank = not evaluated

CROTS VARIABLES

Enter Y for present or N for not present, if evaluated.

10 INSECT SPP?	SIMULIIDS & HYDROPSYCHIDS?	WATERCRESS COMPLEX?

Enter the proper code, if evaluated: H = High; M = Moderate; L = Low; N = None

INSECT FORAGE?	ALGAE ON ROCKS?	LEAVES PRESENT?	MINNOWS < 2.5"

WEATHER

PCDY

Clear - CLR
Cloudy - CLDY
Hazy - HAZY
Partly Cloudy - PCDY
Raining - RAIN
Snowing - SNOW

RAIN 48

STREAM CHARACTER CODES

SL

Dry - DY
Dry - Pools - DP
Fast - FA
Low - Flow - LF
Moderate - MD
Sally - SA
Slow - SL
Stagnant - SG
Swampy - SW
Tidal - TD
Torrent - TO

BANK DESCRIPTION CODES

MR

Agriculture - AG
Bog - BG
Coniferous - CF
Deciduous - DF
Industrial - IN
Pasture - PA
Meadow - MW
Mixed forest - MF
Marsh - MR
Lawn - LW
Road - RD
Scrub - SD
Stony - SN
Suburb - SU
Swamp - SW
Urban - UR

BOTTOM TYPE and ABUNDANCE CODES

Bottom 1	ABD 1	Bottom 2	ABD 2	Bottom 3	ABD 3
ST	2	GR	2		

Plant Debris - PD
Mud - MD
Silt - ST
Sand - SD
Gravel - GR
Cobble - CO
Boulder - BO
Bedrock - BR
Clay - CL
Concrete - CT
Marl - ML
Vegetated - VG
Unknown - UN

Abundance Codes (ABD)
N = None
0 = 1 - 5%
1 = 6 - 25%
2 = 26 - 50%
3 = 51 - 90%
4 = > 90%
Blank = not evaluated