STREAM SITE: Cassadaga Creek - Station 00
LOCATION: Cassadaga, NY, 30 meters below Luce Rd. Bridge
DATE: 05 August 2002
SAMPLE TYPE: Kick sample
SUBSAMPLE: 100individuals

ANNELIDA			
OLIGOCHAETA			
TUBIFICIDA	Tubificidae	Undet. Tubificidae w/o cap. setae	6
HIRUDINEA			
	Glossiphoniidae	Undetermined Hirudinea	1
MOLLUSCA			
GASTROPODA	Physidae	Physella sp.	1
ARTHROPODA			
CRUSTACEA			
ISOPODA	Asellidae	Caecidotea racovitzai	2
AMPHIPODA	Gammaridae	Gammarus sp.	13
INSECTA			
EPHEMEROPTERA	Baetidae	Acentrella sp.	1
		Baetis intercalaris	2
HEMIPTERA	Corixidae	Undetermined Corixidae	11
COLEOPTERA	Elmidae	Stenelmis sp.	3
TRICHOPTERA	Hydropsychidae	Cheumatopsyche sp.	2
DIPTERA	Simuliidae	Simulium sp.	1
	Stratiomyidae	Undetermined Stratiomyidae	1
	Chironomidae	Thienemannimyia gr. spp.	4
		Cricotopus bicinctus	1
		Tvetenia vitracies	1
		Cryptochironomus fulvus gr.	20
		Microtendipes pedellus gr.	1
		Polypedilum flavum	13
		Polypedilum illinoense	4
		Polypedilum scalaenum gr.	1
		Cladotanytarsus daviesi	7
		Rheotanytarsus exiguus gr.	4

SPECIES RICHNESS: 22 (very good)
BIOTIC INDEX: 6.49 (good)
EPT RICHNESS: 3 (poor)
NCO RICHNESS 11 (very good)
ASSESSMENT: slightly impacted

DESCRIPTION: This upstream site was slow-moving and had a sand-gravel substrate; therefore sandy-stream criteria were used to evaluate the data. The macroinvertebrate fauna was dominated by midges, with backwimmers and scuds also abundant. Based on the metrics, water quality was assessed as slightly impacted.

STREAM SITE:	Cassadaga Creek - Station 01
LOCATION:	South Stocton, NY, 80 meters below Rte. 56 (closed bridge)
DATE:	05 August 2002
SAMPLE TYPE:	Kick sample
SUBSAMPLE:	100 individuals

ANNELIDA			
OLIGOCHAETA			
TUBIFICIDA	Tubificidae	Limnodrilus hoffmeisteri	11
MOLLUSCA			
PELECYPODA	Sphaeriidae	Undetermined Sphaeriidae	2
ARTHROPODA			
CRUSTACEA			
ISOPODA	Asellidae	Caecidotea racovitzai	8
AMPHIPODA	Gammaridae	Gammarus sp.	13
INSECTA			
EPHEMEROPTERA	Baetidae	Baetis intercalaris	6
	Caenidae	Caenis sp.	1
HEMIPTERA	Corixidae	Undetermined Corixidae	1
ODONATA	Calopterygidae	Undetermined Calopterygidae	1
COLEOPTERA	Elmidae	Dubiraphia vittata	7
		Macronychus glabratus	8
		Optioservus sp.	1
		Stenelmis sp.	4
TRICHOPTERA	Hydropsychidae	Cheumatopsyche sp.	5
DIPTERA	Tipulidae	Hexatoma sp.	1
	Tabanidae	Undetermined Tabanidae	8
	Chironomidae	Orthocladius annectens	1
		Cryptochironomus fulvus gr.	5
		Microtendipes pedellus gr.	1
		Polypedilum flavum	6
		Polypedilum illinoense	1
		Polypedilum scalaenum gr.	5
		Saetheria sp.	1
		Cladotanytarsus daviesi	2
		Rheotanytarsus exiguus gr.	1

SPECIES RICHNESS:	24 (very good)
BIOTIC INDEX:	6.29 (good)
EPT RICHNESS:	3 (poor)
NCO RICHNESS:	14 (very good)
ASSESSMENT:	slightly impacted

DESCRIPTION: The sample was taken downstream of Route 56, a closed bridge site. The bottom had much detritus and woody material. Similar to the upstream site, sandy-stream criteria were used to evaluate the data. The fauna was similar to that at the upstream site, and water quality was similarly assessed as slightly impacted.

STREAM SITE:	Cassadaga Creek - Station 03
LOCATION:	Ross Mills, NY, 30 meters below Rte. 63 bridge
DATE:	05 August 2002
SAMPLE TYPE:	Kick sample
SUBSAMPLE:	100 individuals

MOLLUSCA			
GASTROPODA	Bithyniidae	Undetermined Bithyniidae	2
PELECYPODA	Sphaeriidae	Sphaerium sp.	7
ARTHROPODA			
CRUSTACEA			
AMPHIPODA	Gammaridae	Gammarus sp.	1
DECAPODA	Cambaridae	Undetermined Cambaridae	1
INSECTA			
EPHEMEROPTERA	Baetidae	Baetis intercalaris	12
	Heptageniidae	Stenacron interpunctatum	6
		Stenonema sp.	2
COLEOPTERA	Elmidae	Dubiraphia sp.	1
		Macronychus glabratus	1
		Stenelmis sp.	7
TRICHOPTERA	Philopotamidae	Chimarra obscura	11
	Hydropsychidae	Cheumatopsyche sp.	22
	Leptoceridae	Undetermined Leptoceridae	1
DIPTERA	Athericidae	Atherix sp.	2
	Simuliidae	Simulium sp.	1
	Empididae	Hemerodromia sp.	2
	Chironomidae	Thienemannimyia gr. spp.	1
		Orthocladius obumbratus	1
		Cryptochironomus fulvus gr.	2
		Microtendipes pedellus gr.	1
		Polypedilum flavum	11
		Micropsectra aristata gr.	1
		Rheotanytarsus exiguus gr.	4

SPECIES RICHNESS:	23 (good)
BIOTIC INDEX:	5.36 (good)
EPT RICHNESS:	6 (good)
MODEL AFFINITY:	69 (very good)
ASSESSMENT:	slightly impacted

DESCRIPTION: Sampling was conducted downstream of the Route 63 bridge in Ross Mills. The riffle habitat was acceptable for kick sampling. The macroinvertebrate community was dominated by caddisflies and mayflies, and most metrics were within the range of slightly impacted water quality.

STREAM SITE:	Cassadaga Creek - Station 04
LOCATION:	Falconer, NY, 80 meters below Dolloff Road bridge
DATE:	05 August 2002
SAMPLE TYPE:	Kick sample
SUBSAMPLE:	100 individuals

ANNELIDA			
OLIGOCHAETA			
TUBIFICIDA	Tubificidae	Aulodrilus pluriseta	2
		Branchiura sowerbyi	1
ARTHROPODA			
CRUSTACEA			
ISOPODA	Asellidae	Caecidotea sp.	2
AMPHIPODA	Gammaridae	Gammarus sp.	40
INSECTA			
EPHEMEROPTERA	Baetidae	Baetis flavistriga	4
		Baetis intercalaris	29
	Heptageniidae	Stenacron interpunctatum	3
COLEOPTERA	Elmidae	Stenelmis crenata	8
DIPTERA	Chironomidae	Natarsia baltimorea	1
		Thienemannimyia gr. spp.	1
		Chironomus sp.	1
		Glyptotendipes lobiferus	3
		Polypedilum flavum	1
		Polypedilum illinoense	1
		Polypedilum scalaenum gr.	3

SPECIES RICHNESS:	15 (poor)
BIOTIC INDEX:	5.83 (good)
EPT RICHNESS:	3 (poor)
MODEL AFFINITY:	68 (very good)
ASSESSMENT:	slightly impacted

DESCRIPTION: The site was downstream of Dolloff Road, Falconer, approximately 1.5 stream miles downstream of the effluent of the Jamestown (C) Wastewater Treatment Facility. The fauna shifted compared to Station 3, with a substantial reduction in species and loss of caddisflies. Based on the metrics, water quality declined, but was still within the category of slight impact.

FIELD DATA SUMMARY				
STREAM NAME: Cassadaga Creek		DATE SAMPLED: 8/5/2002		
REACH: Cassadaga to Falconer				
FIELD PERSONNEL INVOLVED: Abele, Bode				
STATION	00	01	03	04
ARRIVAL TIME AT STATION	1:45	2:25	3:25	4:00
LOCATION	Cassadaga	South Stockton	Ross Mills	Falconer
PHYSICAL CHARACTERISTICS				
Width (meters)	10	5	12	20
Depth (meters)	0.1	0.3	0.2	0.3
Current speed (cm per sec.)	50	75	100	80
Substrate (%)				
Rock (>25.4 cm, or bedrock)			10	
Rubble (6.35 - 25.4 cm)	10		40	20
Gravel (0.2 – 6.35 cm)	40	30	20	40
Sand (0.06 – 2.0 mm)	30	30	10	20
Silt (0.004 – 0.06 mm)	20	40	20	20
Embeddedness (%)	40	40	20	30
CHEMICAL MEASUREMENTS				
Temperature (°C)	22.8	24.3	25.3	26.7
Specific Conductance (umhos)	367	416	360	300
Dissolved Oxygen (mg/l)	7.5	7.6	8.3	6.3
pH	7.4	7.4	7.6	7.5
BIOLOGICAL ATTRIBUTES				
Canopy (%)	0	10	10	20
Aquatic Vegetation				
algae – suspended				
algae – attached, filamentous				
algae - diatoms				
macrophytes or moss	X			
Occurrence of Macroinvertebrates				
Ephemeroptera (mayflies)			X	X
Plecoptera (stoneflies)				
Trichoptera (caddisflies)			X	X
Coleoptera (beetles)		X	X	X
Megaloptera(dobsonflies,alderflies)				
Odonata (dragonflies, damselflies)				
Chironomidae (midges)		X		X
Simuliidae (black flies)				
Decapoda (crayfish)	X	X	X	X
Gammaridae (scuds)	X			X
Mollusca (snails, clams)			X	
Oligochaeta (worms)				
Other	X			X
FAUNAL CONDITION	POOR	POOR	GOOD	GOOD

Appendices (Click each for a link to an external document)

- I. Biological methods for kick sampling
- II. Macroinvertebrate community parameters
- III. Levels of water quality impact in streams
- IV. Biological Assessment Profile derivation
- V. Water quality assessment criteria
- VI. Traveling kick sample illustration
- VII. Macroinvertebrate illustrations
- VIII. Rationale for biological monitoring
- IX. Glossary
- X. Methods for Impact Source Determination
- XI. Macroinvertebrae community parameters for sandy streams