

Figure 3-10a. TRA1 Taxa List/Metric Summary Sheet (Fall 2011)

Taxa List						
Order/Major Group	Family	Genus species	Habit	Feeding Group	Tolerance Value	Quantity
Oligochaeta	Lumbriculidae	-	BUR	CG	8	21
Gastropoda	Physidae	-	CLI	SC	8	4
Gastropoda	Planorbidae	-	CLI	SC	7	1
Trichoptera	Hydropsychidae	Hydropsyche betteni	CLI	CF	5	17
Trichoptera	Hydropsychidae	Cheumatopsyche sp.	CLI	CF	6	2
Diptera	Tipulidae	Tipula sp.	BUR	SH	4	3
Diptera	Chironomidae	-	BUR	CG	6	46
Total Organisms Collected						94

Virginia Stream Condition Index Metrics

Water Quality Metrics	Value	
Total Taxa Richness (Family)	6	
EPT Richness (Family)	1	
Percent Ephemeroptera	0.0	
Percent PT-H	0.0	
Percent Scrapers	5.3	
Percent Chironomidae	48.9	
Percent Top Two Dominant Families	71.3	(Chironomidae, Lumbriculidae)
Family Biotic Index (DEQ)	6.45	FAIR
IBI Score	23.9	SEVERE STRESS

Fairfax Index of Macrobenthic Biotic Integrity (Piedmont)

Water Quality Metrics	Value	
Total Taxa Richness	7	
EPT Richness	2	
Percent EPT	20.2	
Percent T - H	0.0	
Percent Coleoptera	0.0	
Family Biotic Index (VERSAR)	7.15	FAIRLY POOR
Percent Dominance	48.9	(Chironomidae)
Percent Clingers and Plecoptera	25.5	
Percent Shredders	3.2	
Percent Predators	0.0	
IBI Score	36.4	POOR

Benthic Index of Biotic Integrity for Maryland Streams (non-coastal)

Water Quality Metrics	Value	Adjusted Score	
Total Taxa Richness	7	1	
EPT Richness	2	1	
Ephemeroptera Richness	0	1	
Diptera Richness	2	1	
Percent Ephemeroptera	0.0	1	
Percent Tanytarsini	0.0	1	
Intolerant Taxa Richness	0	1	
Percent Tolerant Taxa	27.7	3	
Percent Collectors	71.3	5	
IBI Score		1.7	POOR

Additional Metric Computations

Water Quality Metrics	Value	
Hilsenhoff Biotic Index (HBI)	6.30	FAIR
Simpson's Index of Diversity (SID)	0.67	
Effective Number of Taxa	3.07	

Feeding Group Community Distribution

Feeding Group	Quantity	Rel. Abundance (%)
Shredders (SH)	3	3
Scrapers (SC)	5	5
Predators (PR)	0	0
Collector Gatherers (CG)	67	71
Collector Filterers (CF)	19	20

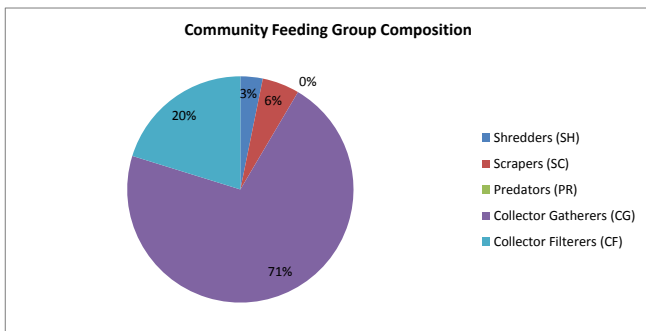


Figure 3-10b. TRA1 Taxa List/Metric Summary Sheet (Spring 2012)

Taxa List						
Order/Major Group	Family	Genus species	Habit	Feeding Group	Tolerance Value	Quantity
Hirudinea	Erpobdellidae	Mooreobdella tetragon	SPR	PR	8	1
Gastropoda	Physidae	-	CLI	SC	8	21
Ephemeroptera	Baetidae	Baetis sp.	SWI	CG	2	5
Diptera	Tipulidae	Antocha sp.	BUR	CG	4	6
Diptera	Simuliidae	Simulium sp.	CLI	CF	3	28
Diptera	Tipulidae	Tipula sp.	BUR	SH	4	5
Diptera	Chironomidae	-	BUR	CG	6	44
Total Organisms Collected						110

Virginia Stream Condition Index Metrics

Water Quality Metrics	Value	
Total Taxa Richness (Family)	7	
EPT Richness (Family)	1	
Percent Ephemeroptera	4.5	
Percent PT-H	0.0	
Percent Scrapers	19.1	
Percent Chironomidae	40.0	
Percent Top Two Dominant Families	65.5	(Chironomidae, Simuliidae)
Family Biotic Index (DEQ)	6.01	FAIR
IBI Score	31.7	SEVERE STRESS

Fairfax Index of Macrobenthic Biotic Integrity (Piedmont)

Water Quality Metrics	Value	
Total Taxa Richness	7	
EPT Richness	1	
Percent EPT	4.5	
Percent T - H	0.0	
Percent Coleoptera	0.0	
Family Biotic Index (VERSAR)	5.45	GOOD
Percent Dominance	40.0	(Chironomidae)
Percent Clingers and Plecoptera	44.5	
Percent Shredders	4.5	
Percent Predators	0.9	
IBI Score	41.7	FAIR

Benthic Index of Biotic Integrity for Maryland Streams (non-coastal)

Water Quality Metrics	Value	Adjusted Score	
Total Taxa Richness	7	1	
EPT Richness	1	1	
Ephemeroptera Richness	1	1	
Diptera Richness	4	1	
Percent Ephemeroptera	4.5	1	
Percent Tanytarsini	0.0	1	
Intolerant Taxa Richness	2	1	
Percent Tolerant Taxa	20.0	3	
Percent Collectors	50.0	5	
IBI Score		1.7	POOR

Additional Metric Computations

Water Quality Metrics	Value	
Hilsenhoff Biotic Index (HBI)	5.25	GOOD
Simpson's Index of Diversity (SID)	0.73	
Effective Number of Taxa	3.73	

Feeding Group Community Distribution

Feeding Group	Quantity	Rel. Abundance (%)
Shredders (SH)	5	5
Scrapers (SC)	21	19
Predators (PR)	1	1
Collector Gatherers (CG)	55	50
Collector Filterers (CF)	28	25

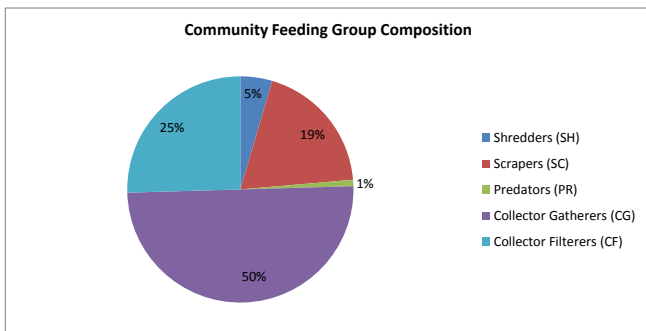


Figure 3-11a. TRA2 Taxa List/Metric Summary Sheet (Fall 2011)

Taxa List						
Order/Major Group	Family	Genus species	Habit	Feeding Group	Tolerance Value	Quantity
Oligochaeta	Lumbriculidae	-	BUR	CG	8	1
Hirudinea	Glossiphoniidae	Helobdella elongata	SWI	PR	7	5
Gastropoda	Physidae	-	CLI	SC	8	23
Gastropoda	Planorbidae	-	CLI	SC	7	2
Ephemeroptera	Baetidae	Baetis sp.	SWI	CG	2	35
Trichoptera	Hydroptilidae	Ochotrichia sp.	CLI	SC	4	1
Trichoptera	Hydropsychidae	Hydropsyche betteni	CLI	CF	5	15
Trichoptera	Hydropsychidae	Cheumatopsyche sp.	CLI	CF	6	4
Diptera	Culicidae	Aedes	SWI	CF	8	3
Diptera	Ceratopogonidae	Atrichopogon sp.	BUR	PR	6	2
Diptera	Chironomidae	-	BUR	CG	6	18
Total Organisms Collected						109

Virginia Stream Condition Index Metrics

Water Quality Metrics	Value	
Total Taxa Richness (Family)	10	
EPT Richness (Family)	3	
Percent Ephemeroptera	32.1	
Percent PT-H	0.9	
Percent Scrapers	23.9	
Percent Chironomidae	16.5	
Percent Top Two Dominant Families	53.2	(Baetidae, Physidae)
Family Biotic Index (DEQ)	5.96	FAIR
IBI Score	48.0	STRESS

Fairfax Index of Macroinvertebrate Biotic Integrity (Piedmont)

Water Quality Metrics	Value	
Total Taxa Richness	11	
EPT Richness	4	
Percent EPT	50.5	
Percent T - H	0.9	
Percent Coleoptera	0.0	
Family Biotic Index (VERSAR)	5.13	GOOD
Percent Dominance	35.0	(Baetis sp.)
Percent Clingers and Plecoptera	41.3	
Percent Shredders	0.0	
Percent Predators	6.4	
IBI Score	67.0	GOOD

Benthic Index of Biotic Integrity for Maryland Streams (non-coastal)

Water Quality Metrics	Value	Adjusted Score	
Total Taxa Richness	11	1	
EPT Richness	4	1	
Ephemeroptera Richness	1	1	
Diptera Richness	3	1	
Percent Ephemeroptera	32.1	5	
Percent Tanytarsini	0	1	
Intolerant Taxa Richness	1	1	
Percent Tolerant Taxa	3.1	5	
Percent Collectors	49.5	5	
IBI Score		2.3	POOR

Additional Metric Computations

Water Quality Metrics	Value	
Hilsenhoff Biotic Index (HBI)	5.12	GOOD
Simpson's Index of Diversity (SID)	0.80	
Effective Number of Taxa	5.03	

Feeding Group Community Distribution

Feeding Group	Quantity	Rel. Abundance (%)
Shredders (SH)	0	0
Scrapers (SC)	26	24
Predators (PR)	7	6
Collector Gatherers (CG)	54	50
Collector Filterers (CF)	22	20

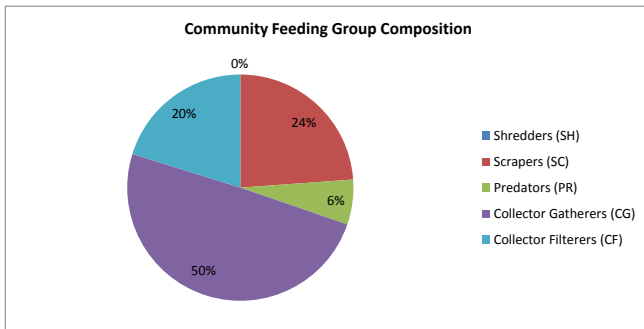


Figure 3-11b. TRA2 Taxa List/Metric Summary Sheet (Spring 2012)

Taxa List						
Order/Major Group	Family	Genus species	Habit	Feeding Group	Tolerance Value	Quantity
Oligochaeta	Lumbriculidae	-	BUR	CG	8	6
Hirudinea	Erpobdellidae	Mooreobdella tetragon	SPR	PR	8	1
Gastropoda	Physidae	-	CLI	SC	8	15
Diptera	Simuliidae	Simulium sp.	CLI	CF	3	45
Diptera	Tipulidae	Tipula sp.	BUR	SH	4	6
Diptera	Chironomidae	-	BUR	CG	6	37
Total Organisms Collected						110

Virginia Stream Condition Index Metrics

Water Quality Metrics	Value	
Total Taxa Richness (Family)	6	
EPT Richness (Family)	0	
Percent Ephemeroptera	0.0	
Percent PT-H	0.0	
Percent Scrapers	13.6	
Percent Chironomidae	33.6	
Percent Top Two Dominant Families	74.5	(Simuliidae, Chironomidae)
Family Biotic Index (DEQ)	6.24	FAIR
IBI Score	26.5	SEVERE STRESS

Fairfax Index of Macrobenthic Biotic Integrity (Piedmont)

Water Quality Metrics	Value	
Total Taxa Richness	6	
EPT Richness	0	
Percent EPT	0.0	
Percent T - H	0.0	
Percent Coleoptera	0.0	
Family Biotic Index (VERSAR)	5.36	GOOD
Percent Dominance	40.9	(Simulium sp.)
Percent Clingers and Plecoptera	54.5	
Percent Shredders	5.5	
Percent Predators	0.9	
IBI Score	38.0	POOR

Benthic Index of Biotic Integrity for Maryland Streams (non-coastal)

Water Quality Metrics	Value	Adjusted Score	
Total Taxa Richness	6	1	
EPT Richness	0	1	
Ephemeroptera Richness	0	1	
Diptera Richness	3	1	
Percent Ephemeroptera	0.0	1	
Percent Tanytarsini	0.0	1	
Intolerant Taxa Richness	1	1	
Percent Tolerant Taxa	20.0	3	
Percent Collectors	39.1	5	
IBI Score		1.7	POOR

Additional Metric Computations

Water Quality Metrics	Value	
Hilsenhoff Biotic Index (HBI)	5.06	GOOD
Simpson's Index of Diversity (SID)	0.69	
Effective Number of Taxa	3.28	

Feeding Group Community Distribution

Feeding Group	Quantity	Rel. Abundance (%)
Shredders (SH)	6	5
Scrapers (SC)	15	14
Predators (PR)	1	1
Collector Gatherers (CG)	43	39
Collector Filterers (CF)	45	41

