

Figure 3-2a. FMR1 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 |
| Gastropoda | Planorbidae | - | CLI | SC | 7 | 1 |
| Ephemeroptera | Baetidae | Baetis sp. | SWI | CG | 2 | 7 |
| Odonata/Anisoptera | Calopterygidae | Calopteryx sp. | CLM | PR | 5 | 1 |
| Odonata/Anisoptera | Coenagrionidae | Argia sp. | CLM | PR | 5 | 8 |
| Odonata/Anisoptera | Coenagrionidae | Enallagma sp. | CLM | PR | 8 | 30 |
| Trichoptera | Hydropsychidae | Hydropsyche betteni | CLI | CF | 5 | 9 |
| Diptera | Chironomidae | - | BUR | CG | 6 | 44 |
| Total Organisms Collected | | | | | | 101 |

Virginia Stream Condition Index Metrics

| Water Quality Metrics | Value | |
|-----------------------------------|-------------|--------------------------------|
| Total Taxa Richness (Family) | 7 | |
| EPT Richness (Family) | 2 | |
| Percent Ephemeroptera | 6.9 | |
| Percent PT-H | 0.0 | |
| Percent Scrapers | 1.0 | |
| Percent Chironomidae | 43.6 | |
| Percent Top Two Dominant Families | 73.3 | (Chironomidae, Coenagrionidae) |
| Family Biotic Index (DEQ) | 7.01 | FAIRLY POOR |
| IBI Score | 25.3 | SEVERE STRESS |

Fairfax Index of Macroinvertebrate Biotic Integrity (Piedmont)

| Water Quality Metrics | Value | |
|---------------------------------|-------------|----------------|
| Total Taxa Richness | 8 | |
| EPT Richness | 2 | |
| Percent EPT | 15.8 | |
| Percent T - H | 0 | |
| Percent Coleoptera | 0 | |
| Family Biotic Index (VERSAR) | 7.18 | FAIRLY POOR |
| Percent Dominance | 43.6 | (Chironomidae) |
| Percent Clingers and Plecoptera | 9.9 | |
| Percent Shredders | 0.0 | |
| Percent Predators | 38.6 | |
| IBI Score | 38.6 | POOR |

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

| Water Quality Metrics | Value | Adjusted Score | |
|--------------------------|-------|----------------|-------------|
| Total Taxa Richness | 8 | 1 | |
| EPT Richness | 2 | 1 | |
| Ephemeroptera Richness | 1 | 1 | |
| Diptera Richness | 1 | 1 | |
| Percent Ephemeroptera | 6.9 | 3 | |
| Percent Tanytarsini | 0 | 1 | |
| Intolerant Taxa Richness | 1 | 1 | |
| Percent Tolerant Taxa | 31.7 | 3 | |
| Percent Collectors | 51.6 | 5 | |
| IBI Score | | 1.9 | POOR |

Additional Metric Computations

| Water Quality Metrics | Value | |
|------------------------------------|-------|------|
| Hilsenhoff Biotic Index (HBI) | 6.17 | FAIR |
| Simpson's Index of Diversity (SID) | 0.70 | |
| Effective Number of Taxa | 3.36 | |

Feeding Group Community Distribution

| Feeding Group | Quantity | Rel. Abundance (%) |
|--------------------------|----------|--------------------|
| Shredders (SH) | 0 | 0 |
| Scrapers (SC) | 1 | 1 |
| Predators (PR) | 39 | 39 |
| Collector Gatherers (CG) | 52 | 51 |
| Collector Filterers (CF) | 9 | 9 |

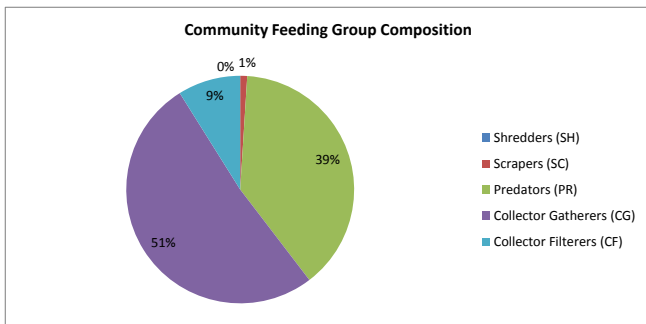


Figure 3-2b. FMR1 Taxa List/Metric Summary Sheet (Spring 2012)

| Taxa List | | | | | | |
|----------------------------------|----------------|--------------------|-------|---------------|-----------------|------------|
| Order/Major Group | Family | Genus species | Habit | Feeding Group | Tolerance Value | Quantity |
| Gastropoda | Planorbidae | - | CLI | SC | 7 | 4 |
| Gastropoda | Physidae | - | CLI | SC | 8 | 22 |
| Ephemeroptera | Baetidae | Baetis sp. | SWI | CG | 2 | 2 |
| Odonata/Anisoptera | Calopterygidae | Calopteryx sp. | CLM | PR | 5 | 1 |
| Odonata/Anisoptera | Coenagrionidae | Argia sp. | CLM | PR | 5 | 11 |
| Odonata/Anisoptera | Coenagrionidae | Enallagma sp. | CLM | PR | 8 | 4 |
| Trichoptera | Hydropsychidae | Cheumatopsyche sp. | CLI | CF | 6 | 1 |
| Diptera | Syrphidae | - | BUR | CG | 10 | 1 |
| Diptera | Chironomidae | - | BUR | CG | 6 | 57 |
| Total Organisms Collected | | | | | | 103 |

Virginia Stream Condition Index Metrics

| Water Quality Metrics | Value | |
|-----------------------------------|-------------|--------------------------|
| Total Taxa Richness (Family) | 8 | |
| EPT Richness (Family) | 2 | |
| Percent Ephemeroptera | 1.9 | |
| Percent PT-H | 0.0 | |
| Percent Scrapers | 25.2 | |
| Percent Chironomidae | 55.3 | |
| Percent Top Two Dominant Families | 76.7 | (Chironomidae, Physidae) |
| Family Biotic Index (DEQ) | 6.89 | FAIRLY POOR |
| IBI Score | 28.8 | SEVERE STRESS |

Fairfax Index of Macroinvertebrate Biotic Integrity (Piedmont)

| Water Quality Metrics | Value | |
|---------------------------------|-------------|----------------|
| Total Taxa Richness | 9 | |
| EPT Richness | 2 | |
| Percent EPT | 2.9 | |
| Percent T - H | 0 | |
| Percent Coleoptera | 0 | |
| Family Biotic Index (VERSAR) | 7.01 | FAIRLY POOR |
| Percent Dominance | 55.3 | (Chironomidae) |
| Percent Clingers and Plecoptera | 26.2 | |
| Percent Shredders | 0.0 | |
| Percent Predators | 15.5 | |
| IBI Score | 36.6 | POOR |

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

| Water Quality Metrics | Value | Adjusted Score | |
|--------------------------|-------|----------------|-------------|
| Total Taxa Richness | 9 | 1 | |
| EPT Richness | 2 | 1 | |
| Ephemeroptera Richness | 1 | 1 | |
| Diptera Richness | 2 | 1 | |
| Percent Ephemeroptera | 1.9 | 3 | |
| Percent Tanytarsini | 0 | 1 | |
| Intolerant Taxa Richness | 1 | 1 | |
| Percent Tolerant Taxa | 30.1 | 3 | |
| Percent Collectors | 58.3 | 5 | |
| IBI Score | | 1.9 | POOR |

Additional Metric Computations

| Water Quality Metrics | Value | |
|------------------------------------|-------|------|
| Hilsenhoff Biotic Index (HBI) | 6.39 | FAIR |
| Simpson's Index of Diversity (SID) | 0.63 | |
| Effective Number of Taxa | 2.73 | |

Feeding Group Community Distribution

| Feeding Group | Quantity | Rel. Abundance (%) |
|--------------------------|----------|--------------------|
| Shredders (SH) | 0 | 0 |
| Scrapers (SC) | 26 | 25 |
| Predators (PR) | 16 | 16 |
| Collector Gatherers (CG) | 60 | 58 |
| Collector Filterers (CF) | 1 | 1 |

