

Biotic Index and Feeding Type Calculations

$$\text{Family BI} = \frac{\sum \text{Abundance} \times \text{Tolerance Values}}{\text{Total Abundance}}$$

Mayflies

| <u>Family</u> | <u>BI value</u> | <u>General Feeding type</u> |
|-----------------|-----------------|-----------------------------|
| Baetiscidae | 3.0 | Scraper |
| Ephemeraidae | 4.0 | Collector (gatherer) |
| Potomanthidae | 4.0 | Collector (gatherer) |
| Polymitarcyidae | 2.0 | Collector (gatherer) |
| Neophemeridae | 2.0 | Collector (gatherer) |
| Caenidae | 7.0 | Collector (gatherer) |
| Ephemerellidae | 1.0 | Collector (gatherer) |
| Tricorythidae | 4.0 | Collector (gatherer) |
| Leptophlebiidae | 2.0 | Shredder |
| Oligoneuridae | 2.0 | Collector (filterer) |
| Heptageniidae | 4.0 | Scraper |
| Metretopodidae | 2.0 | Predator |
| Siphonuridae | 7.0 | Scraper |
| Baetidae | 4.0 | Scraper |

Stoneflies

| <u>Family</u> | <u>BI Value</u> | <u>General Feeding type</u> |
|------------------|-----------------|-----------------------------|
| Nemouridae | 2.0 | Shredder (Collector) |
| Taeniopterygidae | 2.0 | Generally a Shredder |
| Capniidae | 1.0 | Shredder |
| Leuctridae | 0.0 | Shredder |
| Pteronarcyidae | 0.0 | Shredder/Scraper |
| Peltoperlidae | 2.0 | Shredder |
| Perlodidae | 2.0 | Collector/Predator |
| Chloroperlidae | 1.0 | Predator/Collector |
| Perlidae | 2.0 | Predator |

Caddisflies

| <u>Family</u> | <u>BI Value</u> | <u>General Feeding type</u> |
|-------------------|-----------------|-----------------------------|
| Hydropsychidae | 4.0 | Collector (filterer) |
| Philopotamidae | 3.0 | Collector (filterer) |
| Polycentropodidae | 6.0 | Collector/Shredder |
| Psychomyiidae | 2.0 | Collector (gatherer) |
| Glossosomatidae | 0.0 | Scraper/Collector |
| Hydroptilidae | 4.0 | Piercer/Scraper |
| Rhyacophilidae | 0.0 | Predator/Scraper |
| Brachycentridae | 1.0 | Collector (filterer) |
| Lepidostomatidae | 1.0 | Shredder |
| Limnephilidae | 4.0 | Scraper/Shredder |
| Phryganeidae | 4.0 | Shredder |
| Beraeidae | 1.0 | Collector (gatherer) |
| Calamoceratidae | - | Shredder |
| Helicopsychidae | 3.0 | Scraper |
| Leptoceridae | 4.0 | Shredder/Collector |
| Molannidae | 6.0 | Scraper/Predator |
| Odontoceridae | 0.0 | Collector (gatherer) |
| Sericostomatidae | 3.0 | Shredder/Collector |

Biotic Index Worksheet

| Family Identifications | | | |
|--|-------------------------|----------------------------|-----------------------------|
| Mayflies | Abundance Values | Biotic Index Values | Abundance x BI = |
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| Stoneflies | Abundance Values | Biotic Index Values | Abundance x BI = |
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| Caddisflies | Abundance Values | Biotic Index Values | Abundance x BI = |
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| Total Abundance¹ | = | | Σ = |
| Σ Abundance x Tol. Valu / Total Abundance | | | Biotic Index Value = |

¹ Use this number when calculating the functional feeding groups also.

Percent Composition of Functional Feeding Group Worksheets

| Family Identifications | Total Abundance | General Feeding Type |
|------------------------|-----------------|----------------------|
| Mayflies | | |
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Site 1:

| Functional Feeding Groups | Total Abundance by feeding group | % Composition (abundance by group / total density) |
|----------------------------------|---|---|
| Total Shredders | | |
| Total Scrapers | | |
| Total Collectors (filtering) | | |
| Total Collectors (gatherers) | | |
| Total Predators | | |

Site 2:

| Functional Feeding Groups | Total Abundance by feeding group | % Composition (abundance by group / total density) |
|----------------------------------|---|---|
| Total Shredders | | |
| Total Scrapers | | |
| Total Collectors (filtering) | | |
| Total Collectors (gatherers) | | |
| Total Predators | | |

Site 3:

| Functional Feeding Groups | Total Abundance by feeding group | % Composition (abundance by group / total density) |
|----------------------------------|---|---|
| Total Shredders | | |
| Total Scrapers | | |
| Total Collectors (filtering) | | |
| Total Collectors (gatherers) | | |
| Total Predators | | |