MCI CALCULATION EXAMPLE

|  |  |  |  |
| --- | --- | --- | --- |
| Taxa | Total Number Taxa in sample  (S) | Tolerance Value Score  See Appendix. |  |
| Mayflies | 15 | 8 | 120 |
| Caddisflies | 40 | 7 | 280 |
| Freeliving Caddis | 2 | 5 | 10 |
| Amphipods | 10 | 4 | 40 |
| Flat worms | 2 | 2 | 4 |
|  | 69 | 26 | 454 |

MC1 = 454 divided by 69 then multiply by 20 = 131

A screenshot of a social media post

Description automatically generatedTable indicated the stream Health of 131 is Very Good.

John D. Stark and John R. Maxted( 2007) A User Guide for the Macroinvertebrate Community Index. Prepared for the Ministry of Health.

NOTE: TV= Tolerance Value ( Range from 1-10)

![A screenshot of a video game

Description automatically generated]()

Indicator value

# **SINGLE GILL MAYFLY ( LEPTOPHLEBIIDAE : DELEATIDIUM )**

High abundances of Deleatidium suggest good habitat and water quality conditions, especially if other mayfly or stonefly groups are abundant. Deleatidium has tolerance values of 8 (hard bottom sites) and 5.6 (soft bottom sites).

**SMOOTH CASED CADDIS ( CONOESUCIDAE : OLINGA )**

An abundance of Olinga larvae indicates good habitat and water quality, particularly if mayfly and stonefly nymphs are also abundant. They have tolerance values of 9 (hard bottom sites) and 7.9 (soft bottom sites).

**FREE-LIVING CADDIS ( HYDROBIOSIDAE : COSTACHOREMA )**

An abundance of Costachorema larvae indicates good water quality, particularly where mayfly and stonefly nymphs are also abundant. They have tolerance values of 7 (hard bottom sites) and 7.2 (soft bottom sites).

**WATER SCAVENGER BEETLE ( HYDROPHILIDAE : HYDROPHILID )**

Hydrophilids occur in slow flowing waters with moderate to good water quality. They have tolerance values of 5 (hard bottom sites) and 8.0 (soft bottom sites).

**AMPHIPODS ( TALITRIDAE : TALITRIDAE )**

Talitrids can be common in small bush-covered streams with little flow, much decomposing plant matter and limited dissolved oxygen. The family has not been assigned tolerance values, but the general amphipod values are 5 (hard bottom sites) and 5.5 (soft bottom sites).

# **OLIGOCHAETE WORMS ( OLIGOCHAETA : OLIGOCHAETES )**

While oligochaetes can be found in pristine streams, they can also be abundant in the sediment of sewage treatment ponds. Their ability to tolerate highly polluted waters results in low tolerance values of 1 (hard bottom sites) and 3.8 (soft bottom sites).

<https://www.landcareresearch.co.nz/resources/identification/animals/freshwater-invertebrates/species-list>