

## THE SHANNON-WEINER SPECIES DIVERSITY INDEX

The Shannon-Weiner species diversity index, when properly manipulated, will always result in a diversity value ( $H'$ ) ranging between 0 (indicating low community complexity) and 4 (indicating high community complexity). It is not necessary to key all organisms to their specific species nomenclature (i.e. organisms which can not be expediently identified may be assigned numeric values such as species 1, 2, 3, etc.). However, in order to derive accurate diversity values, all organisms should be keyed to the lowest possible like taxonomic level. The following is an example of the Shannon-Weiner formula and how it should be used.

$$H' = CF \left\{ \log N - \sum \frac{N_i (\log N_i)}{N} \right\}$$

**N = Total # individuals in all species**

**$N_i$  = # of individuals in each species**

**CF = Calculated correction factor from base 2 to base 10**

**$H'$  = Diversity (0-4)**