

## VIT (LCA) and its data requirements

The VIT program uses length frequency data to perform a length-cohort analysis. These data can be a single year of length frequency information, or a number of years averaged together. The method assumes equilibrium, a strong assumption, and hence care must be taken when obvious changes in the fishery are taking place.

Requirements are:

1. VIT4WIN requires two files: a data file, and a parameter file (see attached spreadsheet). Each file has TWO sheets.
2. Annual length frequency weighed to catches by gear (including discards when possible). **At least** a complete one year of data is required, but more should be included within the data set if available. IF analyses are proposed separately by sex, the length structure should be divided into separate sexes. The size intervals must be in cm and constant (1 cm for hake).
3. Total annual catches (in grams) by gear (and gear percentage to the total).
4. A proposal for the von Bertalanffy growth parameters ( $L_{inf}$ ,  $k$ ,  $t_0$ ), by sex and/or combined, estimated in cm and years.
5. A proposal of length-weight relationship parameters ( $a$ ,  $b$ ), by sex and/or combined, estimated from length in cm and weight in grams.
6. A proposal of natural mortality ( $M$ ), by sex and/or combined: constant or vector (by class)
7. A proposal of terminal fishing mortality ( $F_t$ )
8. Sexual maturity by length class, for sex and/or combined
9. Sex-ratio by length classes

### NOTES:

- The units must always be the same (cm and grams), both for data and estimation of parameters.
- Dependent upon the software version used, a plus group may not be accepted by the program.