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Référence	Web_EstComInd_PresentationIndic_EN.doc

The community indices available in the website

The community indices are calculated for all the species sized in each series.

[1] Total abundance (Ntot)

The total number of fish and Invertebrates in the area. Community abundance indicates whether there are more or less fish and shellfish, irrespective of their species or size. When total abundance increases, it may reflect the increase in abundance either of the most abundant species, or of several species.

[2] Geometric mean of species abundances (Gtot)

Usually mean implies the arithmetic mean, that is, total abundance divided by the number of species. Unfortunately fluctuations in the arithmetic mean are driven by the most abundant species. To overcome this, the geometric mean is calculated as the arithmetic mean of log-transformed abundances.

This indicator varies as do most species in the community: its increase suggests that many species increase and few decrease.

[3] Average length (Lbcomm)

The average length (cm) of all fish and Invertebrates in the community, irrespective of species. Changes in average length result either from length changes within species or from changes in the species composition. This indicator tracks changes in the most abundant species.

[4] Average length of large fish (meanQuant0.95)

The average 95th percentile of the species length distribution. This indicator summarizes changes within species, not changes in species composition.

The estimators

Index	Required input	Estimator
Total abundance N	Catch haul k stratum j $y_{k,j}$ Swept area $a_{k,j}$ Stratum area A_j	$N = \sum_j N_{i,j} = \sum_j A_j \sum_{k=1}^{n_j} \sum_i y_{ikj} / \sum_{k=1}^{n_j} a_{k,j}$ $Var(N) = \sum_j \frac{A_j^2}{n_j - 1} \sum_{k=1}^{n_j} \left(\frac{\sum_i y_{ikj}}{a_{k,j}} - \frac{\sum_{k=1}^{n_j} \sum_i y_{ikj}}{\sum_{k=1}^{n_j} a_{k,j}} \right)^2$
Geometric mean G	N_i	$G = \exp \left(\frac{1}{n} \sum_i \log \left(\frac{N_{i,t} + 1}{N_{i,1} + 1} \right) \right)$
Average length	$y_l(t)$ catch per length class l $y(t)$ total catch (measured species)	<p>Variance by parametric bootstrap</p> $L_{bar_i} = \frac{\sum_{l=1}^L y_l l}{y} \text{ avec } y = \sum_{l=1}^L y_l$ $Var[L_{bar}] = \left(\frac{\sum_{l=1}^L y_l l^2}{y} - L_{bar}^2 \right) / y$
Average population length percentiles $l_{0,95}$	Population length percentiles $L_{q,i}$ S number of consistently measured species	$l_q = \sum_{i=1}^S L_{q,i} / S$ $Var[l_q] = \sum_{i=1}^S Var[L_{q,i}]$