

## 6.12 Landings

Landings and catches are not the same, as discarding is an integral part of most fishing operations. Ecopath calculates:  $\text{Catch} = \text{landings} + \text{discards}$ .

You should therefore enter only the landings here ? while any discards should be entered on the [discards?](#) form. Landings must be expressed as flows, typically in t/km<sup>2</sup>/year. The area to be used should be the total area of your model, not just habitat area, or the area in which the fleet operates. For instance, if you are entering information for a coastal shrimp fishery, the landings (and discards) should be calculated relative to the total area of the model ? even if most of it is too deep for trawling.

In a model of an ecosystem exploited by a fishery, the catch is the total extractions over the time period considered in the model, (e.g., a year), for each of the groups modelled. Similarly, in an aquaculture system the ?catch? is the harvest from each group over the time period considered, (e.g., a growing season).

Fishery catches are normally based on landing statistics. This may cause a problem as official statistics are generally on a regional basis, not on an ecosystem basis. This can be of importance when defining the system to be modelled, either as a geographical/political region or as an ecosystem. It is necessary to consider the availability of appropriate catch data when taking such decisions.

The catches together with other export sum up to the total export. Catches are also used to estimate the fraction of primary production that is utilized in the system (i.e., the ?gross efficiency of the fishery?).