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6 Using Ecopath. Part 1: Ecopath inputs

This chapter describes the steps taken to build, parameterize and balance an Ecopath model. The Introductory material (Chapter 2 of the User Guide) gave a scientific overview of the fundamental features of Ecopath and descriptions of the basic equations governing Ecopath, in particular, the system of linear equations that Ecopath solves under the assumption of mass balance. Other major assumptions are also discussed in the Introductory material and consideration is given to the types of data that are appropriate for use with Ecopath. Before proceeding with the instructions below for building an Ecopath model, you are strongly encouraged to read this material and thoroughly familiarise yourself with the relevant scientific literature, particularly the original Ecopath, Ecosim and Ecospace papers (Polovina 1984; Christensen and Pauly 1992; Walters et al. 1997; 1999; Christensen and Walters 2004).

The first task in building an Ecopath model is to define the model's functional groups and fishing fleets (see Edit groups, Edit multi-stanza groups and Edit fleets). Once the basic structure of the model is in place, you can enter parameters using the forms found under the Input data node in the Navigator window.

Once you have defined the model's functional groups and fishing fleets, you can enter the input parameters for functional groups and fisheries. Data is input into Ecopath using a number of entry forms accessible under the Input data node in the Navigator window. These forms include: Basic input, Diet composition, Detritus fate, Other production, Fishery, Definition of fleets, Landings, Discards, Discard fate, Market price and Non-market price).

Before entering data, you are encouraged to read the introductory material on the mass balance approach to ecosystem modelling for information about how the input parameters are used in the model (see links in Introductory material Ecopath).

Generally, leaving an input blank on a data entry form implies it is unknown. For some required parameters defaults are supplied and skipping over these means accepting the default values. This is the case for biomass accumulation, detritus import, landings, discards, migrations and prices. You should be aware that opting for default values is as much a modelling decision as setting a new value, i.e., default values will not necessarily be appropriate for your ecosystem.