

3 Introductory material: Ecosim

Ecosim provides a dynamic simulation capability at the ecosystem level, with key initial parameters inherited from the base Ecopath model.

This chapter contains details of the theory underpinning the function of Ecosim:

- i. [An Overview of Ecosim](#)
- ii. [Ecosim Basics](#)
- iii. [Vulnerabilities in Ecosim](#)
- iv. [Dealing with Dynamic Instability in Ecosim and Ecospace](#)
- v. [Predicting Consumption](#)
- vi. [Foraging Time and Predation Risk](#)
- vii. [Time Series Fitting in Ecosim: Evaluating Fisheries and Environmental Effects](#)
- viii. [Hints for Fitting Models to Time Series Reference Data](#)
- ix. [Effects of P/B \(Z\) and Vulnerability for Time Series Fitting](#)
- x. [Predator Satiation and Handling Time Effects](#)
- xi. [Modelling Switching Behaviour in Ecosim](#)
- xii. [Compensatory Mechanisms](#)
- xiii. [Using Ecosim to Study Compensation in Recruitment Relationships](#)
- xiv. [Compensatory Growth](#)
- xv. [Compensatory Natural Mortality](#)
- xvi. [Linking Mediation and Time Forcing Functions to Trophic Interaction Rates](#)
- xvii. [Primary Production](#)
- xviii. [Nutrient Cycling and Nutrient Limitation in Ecosim](#)
- xix. [Density-dependent Changes in Catchability](#)
- xx. [Modelling Effort Dynamics](#)
- xxi. [Using Ecosim for Stock Reduction Analysis](#)
- xxii. [Hatchery Populations in Ecosim](#)
- xxiii. [Parameter Sensitivity](#)

See [Ecosim Inputs](#) and [Ecosim Outputs](#) for links to instructions for using Ecosim.