

Chapter 6 – Fish it now or later? Population processes*

QUESTIONS ASKED

- How to describe the life of a cohort?
- How long to wait until we fish a cohort? The dilemma: catch it now or later?
- How to describe the sexual maturation and the recruitment processes in fish?

BACKGROUND INFORMATION

- FAO: [Review of the State of the World Marine Resources 2011](#)
- BBC: [Reproduction in fish and birds](#)
- Bozeman science: [r and K selection](#)
- A fishery: Sealord Story: [Who caught your hoki?](#)



COVERAGE

- Introduction to the mathematical treatment of growth and mortality
- Calculation of critical biomass for different life-histories
- The statistical treatment of the sexual maturation and recruitment processes.

INFORMATION AND SOFTWARE

The Chapter 6 of FISH IT deals with mathematical notation utilized in fisheries to describe growth and mortality of a cohort. The biomass development of an un-exploited cohort is calculated in a worksheet-like manner for two species with different life-histories. The logistic regression is introduced to make the fit of sexual maturation curves, and the spawning biomass of a stock is calculated. The Ricker and the Beverton & Holt recruitment functions are utilized and compared with the same set of spawning biomass and recruit data. The text by Haddon (2010) and the collaboration with Natalia Yaragina were very useful to develop the recruitment examples.

- [Ch6a Pop processes Growth JdS.xlsx](#)
- [Ch6a Pop processes Mortality JdS.xlsx](#)



* Santos, J. 2015. FISH IT 1.0 – Student Manual: A Training System for Aquatic Resource Managers. *Septentrio Educational* 2015(3). DOI: <http://dx.doi.org/10.7557/se.2015.3> . This work is licensed under a [Creative Commons Attribution 4.0 International License](#).

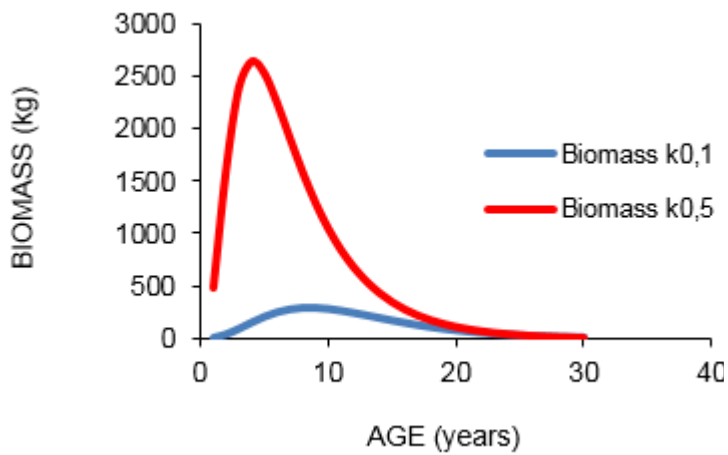
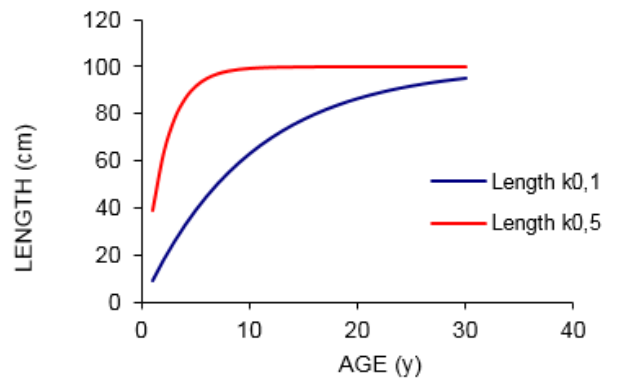
FIΣH IT 1.0 – student manual

- [Ch6a Pop processes Maturation JdS.xlsx](#)
- [Ch6d Pop processes Recruitment JdS.xlsx](#)

SNAPSHOTS



Soumya Mukherjee 2012



Maturation - pooled sexes; fit logit model

