CONΣERV IT 1.0 - STUDENT MANUAL

Chapter 6 - Population Sub-Structure and Management

QUESTIONS ASKED

- Does it matter how fish populations are divided spatially?
- How do we deal with different spatial linkages, configurations and populations sizes in fisheries management?
- How much biomass or money do we lose by not fishing or by overfishing small and large mixed populations?

BACKGROUND INFORMATION

- Compendium: Santos (2015a)
- Wikipedia: Insular biogeography, Metapopulation
- YouTube: Robertandkylie, Bugger off with Metapopulation Theory
- YouTube: scienceclassisgreat, Metapopulation •

COVERAGE

- Colonization, depletion and rescue effects
- Mainland-island structure (peripatry)
- Mixed-stocks metapopulation structure (sympatry)
- Stepping-stone structure (parapaty)

INSPIRATION AND SOFTWARE

Although the issue of mixed stocks and stock discrimination has long been discussed in fishery biology, the works of *i.a.* Wilson, MacArhtur and Levins were critical to bring ecology and genetics together and construct theories of biogeography. Here simple fishery dynamic models are applied to their ideas. Contains macros.

- Ch6a ConservArea | Mainland_Island whelk macro JdS.xlsm
- Ch6b ConservArea II Metapopulation sardine macro JdS.xlsm
- Ch6c ConservArea III Stepping-stone salmon macro JdS.xlsm

Santos, J. 2015. CONSERV IT 1.0 – Student Manual: A Training System for Aquatic Conservation Managers. Septentrio Educational 2015(2). DOI: http://dx.doi.org/10.7557/se.2015.2 This work is licensed under a Creative Commons Attribution 4.0 International License. 20

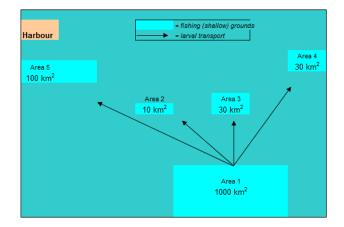






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SNAPSHOTS





Turnover in mixed fishery: immigration (t) / biomass (t-1)



