

Management of Marine Resources

Valerio Zupo

Program of lectures and topics

All lectures contain both theoretical approaches and practical exercises to test the understanding of the main concepts illustrated. The course also contains at least two practical days in the laboratory and/or on the sea and an experimental approach to statistics for management assessments and scientific purposes.

General Overview. Let's prepare the program together	Conservation, exploitation, administration. Hot topics. Italian Laws. Curiosity driven course.
Marine Biology issues	Basic concepts of Marine Biology, summarizing the content of other courses
Marine Ecology Issues	Basic concepts of Marine Ecology summarizing the content of other courses
Biodiversity trends	Basic knowledge about biodiversity and its spatial patterns
Marine Resources	Definitions, significance, general overview
Sustainable use of marine resources. Biotic - abiotic	Biotic characters. Abiotic resources.
Marine Strategy, Marine Protected Areas, Conservation programs	The Italian Marine Strategy. Blue growth. Peculiarity of the Mediterranean Sea. Pressures and impacts
New exploitation programs: drug mining and biotechnologies	Use of aquatic organisms for the development of biotechnologies. The case of <i>H. inermis</i>
How ecosystems work: food webs and plant-animal interactions	Main food webs. Exploitation at various levels and improvement of yields
Food from the sea: Fisheries and Aquaculture	Importance, influence, impacts, research
Mesocosms: a mean to understand complex systems	Practical session: how to set and manage a microcosm in the laboratory (6 hours)
Basic statistical concepts: from univariate to multivariate	Importance, influence, impacts, research
Univariate techniques	Statistics
Multivariate techniques	Statistics
Practical approach to ecological modelling: ecopath-ecosym	A practical session on a study case
Management and conservation through Marine Protected Areas	

Management of a protected area: Banco Santa Croce	In cooperation with diving Centers. Dining at Bikini and lesson "open air"
How to plan, set, perform, analyse a study for the sustainable management of resources: a practical approach	Operative conclusions. Management plans. Sets of instruments for practical purposes. A practical exercise: let's plan together on a case study.