

Participant's Abstracts

Presentations are listed in alphabetical order of the presenting author's last name. Poster and oral presentations are listed together, with the titles of the oral presentations underlined to distinguish them.

ANALYSIS OF ECOLOGICAL TRANSITIONS IN THE BLACK SEA DURING THE LAST FOUR DECADES: A MODELLING STUDY

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This work investigates the Black Sea ecosystem and the changes it had undergone in the second half of the 20th century focusing on ecological interactions between ecosystem components using concepts derived from fundamental ecology coupled with ecological modelling. Different states of the Black Sea ecosystem were modelled using 5 mass-balance scenarios: Scenario 1, represents the quasi-pristine conditions of the Black Sea ecosystem during early 1960s; Scenario 2, represents the over-enrichment period of the ecosystem during early 1980s; Scenario 3, represents the changes in the ecosystem along with the outburst of *Mnemiopsis* in 1989; Scenario 4, represents the aftermath effects in the Black Sea ecosystem just after the collapse of the fisheries; and Scenario 5, represents the recovery period of the fish stocks in the very beginning of 1990s.

According to the findings, from a healthy ecological state in early 1960s, the Black Sea ecosystem outgrew to a vulnerable state in 1980s. In this new state, a great proportion of system production ended in dead-end groups indicating the vulnerability of the system to perturbations due to its poor "ecological health". In 1989, the balance of the ecosystem was disturbed due to the continuous development of favourable conditions for the outburst of *Mnemiopsis* via over-exploitation of dominant fish groups. The loss in the system production fell short for the development of two dominant groups in the ecosystem and shifted the balance of the system in favour of *Mnemiopsis* because of its high growth rate and exhausting reproductive capacity.

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