



**I SYMPOSIUM "ISLAND ECOSYSTEMS-A
CONSERVATION AND MOLECULAR APPROACH"**

**Madeira Island, Portugal
05-09/ March/ 2001**

**CENTRE OF BIOLOGICAL AND GEOLOGICAL SCIENCES
CENTRO DE CIÊNCIAS BIOLÓGICAS E GEOLÓGICAS**

EFFECTS OF MARINE FISH PRODUCTION IN CULTURE CAGES ON COASTAL WATER CONDITIONS: A REVIEW

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Keywords: fish net-cage culturist, environmental disturbance, Canary Islands

The fish net-cage culturist located in the coastal waters represents an alternative activity to the overfishing. In the Canary Islands, the main farmed species are the gilthead seabream *Sparus auratus* (90%) and the seabass *Dicentrarchus labrax* (10%). The diameter of the net-cages is comprised between 13 and 20 m and their height is approximately 10 m.

The fish net-cage culturist is an uncontrollable source of contaminants in the marine ecosystem. The main sources of environmental disturbance associated with this activity are the excretion by fish and the lost of feed that is not ingested by fish. In the studied area, the discharged nitrogen and phosphorus (nutrients that contribute to the eutrophication) due to these causes are approximately of 100 t and 17 t respectively for an annual production of fish of 1000 t. These quantities of nitrogen and phosphorus are equivalent to those contained in an effluent of waste waters for a population of 20.000 persons.

Furthermore, the fish net-cage culturist can produce the disturbance of the fauna and the loss of biodiversity, the degradation of the benthos, the accumulation of antibacterial residuals, the increment of the presence of antibiotic-resistant bacteria, the reduction of the bacterial activity, the increment of microorganisms, the persistence of the antibiotics in the sediments, the competence between the farmed species and the wild species, the accumulation of feed that can be toxic for the fauna and flora, the excessive nutrient enrichment, the disturbance associated with the cages cleaning, and the increment of toxicity due to the antifouling products, as has been reported in the bibliography.