

Bioeconomic model for the decision-making of Korean fisheries: A case study

Choi, Jong Du

The Cyber University of Korea

Transnational fish stocks are those that spend part of their life cycle in the oceans of more than one nation. Mackerel, *Scomber japonicus*, migrate across the border among Korea and Japan. This study is an applied analysis of two countries' cooperative management of a transnational fishery resource. This paper investigates what the optimal management strategy of the Mackerel stock is from a joint Korea-Japan point of view. A bioeconomic model use to compare the economic yield of the two countries for Mackerel fishery, under two countries' joint management of net benefits under the boundary of two countries, by using a cooperative game approach. The model also shows how the rational management, giving the optimal stock level for each point in time, appears when discount rates, effort costs, prices and catchability coefficients all are different for the two countries. The results for this paper suggest that cooperative management can yield more net benefits than non-cooperative management.