

Abstract: This paper examines the problem of the optimal management of a joint ownership fishery exploitation, where agents use different fishing gears. We consider a model in which the fishing activity may affect the resource's growth not only through the harvest function, but also through the natural growth rate of the resource. This allows us to capture the fact that some fishing gears alter the natural growth rate of the resource.

We find that when the natural growth of the resource is altered by the fishing technology, the optimal stock is not independent of how harvest quotas are distributed among the agents. As a result, a fishing policy that determines, first, the optimum stock and, secondly, decides how to distribute the harvest among the different agents will not be efficient. We also analyze the joint determination of optimal stock and harvest quotas and show that positive harvest quotas will only be optimal when countries are characterized by certain asymmetries.