

Inspection, Compliance & Violation: A Case of Fisheries

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Abstract

The presence of illegal, unregulated and unreported (IUU) fishing activities are considered a serious threat to the sustainable use of marine resources. This paper uses a game theoretic approach to investigate the strategic interaction between fishers and management in the presence of IUU fishing. Managers choose a combination of fines, inspection probabilities and whether to classify a firm as "good" or "bad" to induce a target level of compliance from fishers who choose whether or not to comply. Importantly, this paper finds that equilibrium compliance strategies of fishers affect stock levels over time. In particular, less than perfect monitoring and enforcement lowers illegal harvesting which is beneficial for stocks. The results show that increasing the cost of engaging in illegal activities, through punishment, may be sound economic policy to discourage illegal fishing but that there should be upper bound on effective punishment.