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Vanessa Trijoulet* (vanessa.trijoulet@strath.ac.uk), LT 838, 26 Richmond Street, Glasgow, G31 2HA, United Kingdom, and **Robin M Cook**. *Estimation of grey seal predation mortality on the three main commercial demersal species in West of Scotland and implications for stock assessments and MSY calculation.*

Since the 80s the groundfish stocks have decreased around the UK, while grey seal population has doubled. Seal diet studies have shown that the weight of cod consumed by grey seals in West of Scotland (VIa) can exceed the cod spawning stock biomass. This has created conflicts between fishermen and conservationists as regards to the role grey seals may have played in the stock depletion. So it is necessary to quantify seal predation on groundfish stocks to improve seal and fisheries management.

A Bayesian model has been developed to estimate grey seal predation on cod, haddock and whiting. This model is a common fish assessment model where seal predation is part of the total mortality on fish. The model outputs were used to run a steady state equilibrium model which estimates fishing yield for different levels of fishing and seal predation.

Grey seal mortality has been estimated as 0.39, 0.09, and 0.12 for cod, haddock and whiting respectively. A decrease in grey seal predation induces an increase in for cod and whiting, but no impact exists for haddock. A reduction in cod fishing mortality of 50% would maintain the current fishing yield and enable a better recovery of the stock. An increase in the current fishing mortality for haddock and whiting is necessary to reach FMSY. (Received August 04, 2015)