Title: Estimating pollution abatement costs of salmon aquaculture

Author(s): Yajie Liu, Rashid Sumaila, Sumeet Gulati

Abstract: Salmon aquaculture generates good output (i.e. salmon) and bad output (e.g., pollution). A joint production function approach is applied to model both outputs simultaneously. Two environmental production technologies are proposed, namely, regulated and unregulated technologies. Two production function models with different mapping rules in the analysis are used. Pollution abatement costs are estimated based on a series of data from the Norwegian salmon aquaculture industry. The results indicate that pollution abatement costs vary among observations and models. On average, pollution abatement cost is estimated to be about 2.6% in terms of total farmed salmon production, and 4.6% in terms of total revenue of farmed salmon.