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Dan Ryan and **Carl Toews***, toewsc@gmail.com, and **James Sanchirico** and **Paul Armsworth**. *Implications of policy adjustment costs for fisheries management.*

Optimal control applied to natural resource management models often results in fast moving policies. However, many management policies change slowly, suggesting mis-modeled policy adjustment costs. This talk presents the results of a study that compares two methods for incorporating such costs into fisheries management models. Both methods involve a quadratic penalty term, but while one method attaches this term directly to harvesting effort, the other attaches it to the rate at which effort changes. Using a combination of numerical and analytical methods, and focusing on cyclically changing environments, this work compares features of equilibrium and approach paths. Both cost models decrease variation in effort but increase variation in optimal stock size, and produce smoother approach paths to long term equilibrium targets. The work includes an analysis of model and parameter errors, and shows that mis-specifying the rate-of-change costs can result in particularly complicated optimal approach paths and poor tracking of recruitment variation. (Received September 20, 2016)