

# **Ludwig's Ratchet and the Collapse of New England Groundfish Stocks: Extended Abstract**

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**Abstract.** The stocks of principal groundfish species off New England have collapsed creating economic hardship and dislocation in fishing communities from Rhode Island to Maine. In this paper we analyze the causes of this collapse using the Ratchet effect described by Ludwig et al. (1993, *Science* 260:36-37) as a framework. According to Ludwig et al., powerful economic and political interests drive fisheries to overcapitalize and overexploit despite scientific evidence that stocks are declining. When the fishery is no longer economically viable, governments provide financial assistance to minimize economic hardship. When stocks increase there is another rush to invest and the cycle repeats itself. The history of groundfish management in New England conforms well to this model. Optimism among fishers and government over US control of this fishery in 1977 stimulated successive rounds of investment that built up excessive fishing capacity despite warnings from scientists that stocks were becoming weaker. Management regimes designed by the New England Fishery Management Council were ineffective in constraining fishing effort. Collapse of the stocks has led to severe restrictions on fishing and government assistance. We suggest that the integration of science, management and harvesting sectors through ecosystem based management offers the best means of avoiding similar situations in the future.

**Reference:**

T. Hennessey and M. Healey. 2000. Ludwig's ratchet and the collapse of New England groundfish stocks. *Coastal Management* 28:187-213