1050-92-67 **Janet A Nye*** (janet,nye@noaa.gov), 166 Water Street, East Falmouth, MA 02543, **Jason S. Link** (jason.link@noaa.gov), 166 Water Street, Woods Hole, MA 02543, and **Jonathan A. Hare** (jon.hare@noaa.gov), 28 Tarzwell Drive, Narragansett, RI 02882. *Climate-induced changes in spatial distribution of Northwest Atlantic fish stocks: implications for management.* Preliminary report.

Fish populations may respond to climate change in a number of different ways, including changes in vital rates, changes in sources of mortality, and shifts in spatial distribution. All of these responses have important ramifications on the population dynamics of these fish and may hinder our ability to properly assess their status. In this work, we focused on the hypothesized first response of fish to warming, a shift in spatial distribution. In a meta-analysis of 36 fish stocks on the Northeast US coast, we found that over half of these fish stocks exhibited distributional responses consistent with warming, including a poleward shift in mean center of biomass, an increase in mean depth, and an expansion or contraction of their range. Such shifts in distribution suggest that we re-evaluate the population unit at which we model and manage fisheries upon these species. Defining the "unit stock" is the first and arguably most important step in performing a stock assessment on commercially important fish stocks. We suggest a general framework to detect and re-evaluate stock definitions. We then use red hake Urophycis chuss as an example of how changing spatial distribution affects stock assessments and advice given to fisheries managers. (Received February 23, 2009)