

Bering Sea & Aleutian Islands – Lower Trophic Levels

Retrospective Analyses of Norton Sound, Alaska Benthic Fauna

Stephen Jewett, jewett@ims.uaf.edu, University of Alaska Fairbanks

Toshihide Hamazaki, toshihide_hamazaki@fishgame.state.ak.us,
Alaska Department of Fish and Game

Seth Danielson, seth@ims.uaf.edu, University of Alaska Fairbanks

Thomas Weingartner, weingart@ims.uaf.edu, University of Alaska Fairbanks

This study retrospectively examined evidence of changes in distribution and abundance of benthic epifauna and demersal fishes of Norton Sound Alaska, northeast Bering Sea from 1976 to 2006, based on triennial bottom-trawl surveys. Throughout the period, average bottom temperature did not increase, rather, it decreased by 2°C, and overall abundance index increased exponentially by 370% with annual rate of 3% per year. Out of 40 selected species/taxa, 35 showed positive increase. Of those, 16 showed $r > 0.5$. However, those trends had no significant correlations with any global ocean climate indices, such as AO, PDO, SOI, NP, PNA, or 19 physical or oceanographic variables specific to Norton Sound. There also were dramatic changes in species or taxa composition. About 70 % of faunal biomass was dominated by sea stars, of which *Asterias amurensis* was the most dominant. The data suggest that Norton Sound benthic fauna has not been significantly affected by climate changes.

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