

AFSC/ABL: Gulf of Alaska and Bering Sea Capelin Microsatellite data, 2005 & 2007

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Capelin are important forage fish in Alaska for marine mammals, birds, and predatory fish. Capelin prefer cold water and are very sensitive to changing environmental conditions. Population studies in the Arctic suggest that capelin migrate with temperature changes. During warm historical periods, capelin migrated through the Arctic Ocean to move between Pacific and Atlantic Oceans. Strong preference for specific temperature regimes may cause some populations to become trapped in local refugia such as glacier fiords, if sea temperatures fluctuate. Preliminary data in our laboratory suggests that the Bering Sea and Gulf of Alaska capelin populations are genetically isolated. Based on their histories, we predict that capelin populations have strongly diverged in local refugia. Understanding the genetic structure of Alaska capelin populations will allow us to estimate whether these populations are isolated and how they might respond to warming environmental conditions. Results will provide crucial information to Gulf of Alaska and Bering Sea ecosystem models.