3-1. Migration and Distribution of Salmon (Poster-5)

Do Bering Sea Temperatures Regulate Catch Rates in the South Alaska Peninsula June Fishery?

Patrick C. Martin

Concerned Area M Fishermen, 2771 Deer Creek Drive, Bozeman, MT 59715, USA; E-mail, pcmartin@montana.net

After departing the Bering Sea immature salmon are known to travel to the east in the well-established circulation of the Subarctic Current and Alaska Gyre. The extent of migration to the east and then north in the Gulf of Alaska during the winter could control the distance of salmon offshore in the southwest bound Alaska Stream the following spring. The hypothesis under consideration is that during colder years, immature salmon migrate from the Bering Sea through the Aleutian passes earlier in the fall and enter the Subarctic current sooner and further offshore. In migrating further east than in warmer years these immature salmon would then end up traveling further north in the Gulf of Alaska and closer to shore on their maturing southwesterly migration past the Alaska Peninsula to the Aleutian Passes. Dramatic changes in availability of sockeye and chum salmon in a near shore coastal fishery along the South Alaska Peninsula appear to be unrelated to general abundance of stocks known to be present in the fishery. Effort was high enough in the 1980s and 1990s that the subsequent reduction of effort would have been expected to lead to increased catch per unit effort (CPUE) but catch rates declined instead. Relaxation of regulatory restrictions did not reverse the downward trend in CPUE over a 13 year period in spite of relatively large and stable stock abundance. Local knowledge in this fishery holds that unknown forces regulate availability of salmon over decadal time scales. Between 1983 through 1993 Bering Sea surface temperatures cooled and the abundance of immature salmon in the Bering Sea declined. During this same period, the coastal fishery experienced high CPUE in seven of eleven years. The fall of 2006 was cold in Alaska and CPUE in the 2007 coastal fishery was the highest since 1999 and the second highest since 1993. While this information is consistent with the hypothesis it remains to be seen if recent temperature and immature salmon abundance from the Bering Sea supports this interpretation.