

3-1. Migration and Distribution of Salmon (Oral-8)

Pacific Rim Stock Identification of Chum Salmon (*Oncorhynchus keta*) with Microsatellites

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A microsatellite baseline incorporating over 53,000 chum salmon (*Oncorhynchus keta*) sampled from over 380 locations ranging from Korea to Washington was applied to estimate stock composition in mixed-stock fishery samples from the Sea of Okhotsk, the western Pacific, the Gulf of Alaska, and coastal British Columbia. High resolution of these mixed-stock samples was possible, with 1 reporting group developed for Korean populations, 7 groups for Japanese populations, 8 groups for Russian populations, 15 groups for Alaskan populations, 5 groups for Canadian Yukon River populations, 16 groups for British Columbia populations, and 5 groups for Washington populations. Sampling of juvenile chum salmon in the Sea of Okhotsk in 2003 indicated that Japanese chum salmon (Hokkaido Sea of Okhotsk coast) were dominant along 51°N, but Sakhalin Island origin chum salmon increased to over 20% of the samples from 155°E to 149°E. Russian chum salmon were more prevalent in more northern (55°N) and eastern (155°E) locations, with chum salmon from West Kamchatka the major stock present. In summer 2005 western Pacific samples, most chum salmon were of Russian (primarily Kamchatka) and Japanese (Sea of Okhotsk and Sea of Japan coasts of Hokkaido) origin. In February 2006 samples from the Gulf of Alaska (145°W), chum salmon in more northern areas (54°N) were primarily of North American origin (55% British Columbia, 30% Alaska), but in more southern areas (48°N), nearly 40% of chum salmon sampled were of Japanese origin (Sea of Okhotsk and Pacific coasts of Hokkaido), and 30% were of Russian origin (Kamchatka and northeast Russia).