3-3. Feeding Habits and Trophic Interaction (Oral-24)

Diets and Appetites of Hatchery-Reared and Wild Coho Salmon in the Strait of Georgia

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Wild and hatchery-reared coho salmon (*Oncorhynchus kisutch*) have now co-existed in the Pacific northwest for 30 years. Wild coho salmon in the Strait of Georgia have consistently exhibited marine survivals greater than those of hatchery coho. This superior survival occurs despite the larger average size of hatchery coho compared to their wild counterparts, a characteristic that has been shown to be directly related to marine survival. One method to achieve this is via differences in feeding: either how much is consumed ("appetite"), and/or what is consumed ("diet"). This study will be the first to examine long-term dietary comparisons of juvenile hatchery and wild coho salmon in the marine environment, namely the Strait of Georgia, British Columbia, Canada. In the Strait of Georgia from 1997-2007, hatchery coho in July were, on average, 11.6% larger than wild coho, whereas by September this difference was generally < 5%. This suggests that the initial disparity in size between hatchery and wild coho salmon decreases over the first year of marine residence. There were no significant differences between hatchery and wild coho in either appetite (volume of prey in the stomach) or in diet (analysis of stomach contents) in either July or September surveys from 1998-2007. Shifts in diet did occur annually and seasonally, but both hatchery and wild coho salmon shared the overall trends. In all years, diets in July surveys were dominated by decapods and teleosts, primarily crab megalops and herring, respectively. In September, euphausiids and amphipods dominated. Variability between hatchery and wild coho diet choices were larger in September surveys than in July surveys. Stomach volume, stomach fullness and fork length were significantly correlated between hatchery and wild coho in both July and September surveys. The data indicates that the superior marine survival of wild coho salmon in the Strait of Georgia is not due to differences in appetite or diet.