

Marine Survival and Interspecific Interactions of Coho Salmon in Southeast Alaska

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Keywords: marine survival, coho salmon, Southeast Alaska

We examined physical and biotic factors potentially affecting marine survival of coho salmon in Auke Creek, Alaska, where activities conducted at a weir has produced a long time series of smolt and adult abundance. Marine survival was positively related to nearby releases of hatchery-produced pink and chum salmon. Strong correlation of jack and adult coho returns suggested survival was determined in the first summer at sea. Early marine growth was positively related to both the jack return rate and the survival of both male and female coho.

When we expanded this study to 14 coho salmon stocks situated throughout Southeast Alaska, abundance of hatchery produced chum and wild pink salmon was often correlated with coho survival, but the effect was sometimes positive and sometimes negative. Models that best explained coho salmon marine survival varied from place to place, both in the factors included and the direction of their effect. Only the North Pacific Index had a consistent (positive) effect. However, despite the disparity in explanatory models, productivities of the 14 coho salmon stocks were highly correlated.