Downstream Migrant Chinook Production Evaluation in Cedar River and Bear Creek

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Juvenile chinook production has been evaluated in two Lake Washington Basin streams, Cedar River and Bear Creek, for brood years 1998 through 2001. Over these four broods, two distinct migration components have been quantified. Fry, which average around 40 mm, migrate from January through mid-April. Smolts range from 60 to 100 mm and migrate from May through June. Cedar River chinook primarily migrate as fry, while in Bear Creek the majority of chinook migrate as smolts. In 2002, of the estimated 122,000 chinook that migrated from the Cedar River, 70% were fry and 30% were smolts. This production represents an egg-to-migrant survival rate of 6.9%. Bear Creek produced an estimated 22,000 chinook, of which, 26% were fry and 74% were smolts. Egg-to-migrant survival is estimated at 1.8%. Analysis to understand inter-system and inter-annual variation in egg-to-migrant survival rates and the different migration components has implicated a number of factors; flow, gradient, habitat, spawner density, and species interactions.