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Variation in Feeding, Aggression, and Position Choice between Hatchery and Wild Cutthroat Trout in an Artificial Stream

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Abstract.—I compared feeding, aggressive behavior, and spatial distribution of differently ranked individuals of hatchery and wild coastal cutthroat trout *Oncorhynchus clarki clarki* in an artificial stream. Both hatchery and wild groups established stable dominance hierarchies that seemed to be based on size differences. Hatchery and wild fish within a hierarchical rank fed at similar rates. Hatchery fish were more aggressive than their wild conspecifics, irrespective of rank. Dominant hatchery fish were evenly distributed in pools and riffles, whereas dominant wild fish were three times more often in pools than in riffles. In both groups, socially intermediate fish were almost evenly distributed between pools and riffles, and subordinate fish spent most of their time in pools. On average, hatchery fish spent 57% of their time in pools and 43% in riffles, whereas wild fish spent 71% of their time in pools and 29% in riffles. These results support the hypothesis that excessive expenditure of energy for unnecessary aggression, use of fast-flowing water, or other purposes contributes to poor survival of hatchery fish after they are stocked in streams. Poor survival would reduce the efficacy of using hatchery stocks to supplement wild production.

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