

**Title:** *Precocialism of salmonids in the Columbia Basin*

**Authors:** Brian Beckman and Don Larsen  
Northwest Fisheries Science Center, NOAA Fisheries, Seattle WA

Recent studies have documented high rates of precocial male maturation (age 1 mature male parr – ie “minijacks”) in spring chinook salmon populations reared in the Cle Elum Hatchery program. This has caused concern among project managers and generated curiosity among researchers. Perhaps the most obvious question is: are minijack production rates at the Cle Elum facility different from that found at other hatcheries? There are very limited reports of minijack production rates from any hatchery in the Columbia River Basin. Therefore we compared detection of PIT-tagged minijacks in adult ladders of dams on the mainstem Columbia and Snake Rivers from selected hatcheries. Fifteen hatcheries released at least 7500 PIT-tagged spring chinook salmon smolts in 2002 and 2003. Minijacks were detected from all these release groups at Bonneville Dam. Minijacks were detected as early as June and numbers migrating upstream past Bonneville Dam peaked in July. Estimated number of minijacks migrating up-stream past Bonneville Dam from these hatcheries varied by two orders of magnitude (100 – 10,000). Estimated minijack production rate (% of release detected migrating upstream at Bonneville Dam) also varied greatly (0.01 – 0.79%). PIT-tagged minijacks were detected in upstream ladders of all dams (Bonneville, McNary, Priest Rapids, Rock Island, Well, Ice Harbor, Lower Granite) on the Columbia and Snake rivers fitted with PIT-tag detectors. Detection rates of minijacks at these dams varied among hatcheries according to the hatcheries geographic location. Overall, difference in detection rates of upstream migrating minijacks from different hatcheries suggests minijack production varies between hatcheries. However, detections of upstream migrating minijacks can not be considered either an accurate or precise indicator of minijack production.