ABSTRACT

The 2006 Anvik River sonar project operated from late June until the end of July to estimate the passage of summer chum salmon *Oncorhynchus keta*. Data from each bank was collected using a Hydroacoustic Technology Incorporated (HTI) split-beam sonar sampling 30 minutes of each hour, 24 hours a day, 7 days a week. The estimated summer chum salmon passage of 605,485 (SE 4,111) was 24% above the minimum escapement objective for the Anvik River Biological Escapement Goal of 400,000 to 800,000 chum salmon. Based on 1979–1985 and 1987–2005 mean quartile passage dates, timing of the 2006 chum salmon run was average. A chum salmon diurnal migration pattern was observed with the highest passage (41%) occurring during the darkest part of the day (2100–0500 hours). Females comprised 50.7% of the catch in beach seines. Age-0.4 fish comprised 58.9% of the chum salmon run in 2006. Side-by-side comparisons of counts obtained with HTI and DIDSON equipment suggest the split-beam estimates were conservative and as many as 992,378 (SE 34,141) fish may have passed the site during the period of operation. We believe the bias in the split-beam estimates was due to high water that prevented normal operations of the counting tower that are used to verify sonar counts inseason.

Key words: chum salmon, *Oncorhynchus keta*, pink salmon, *O. gorbuscha*, sonar, DIDSON, Anvik River