ABSTRACT

Stock assessments of burbot *Lota lota* were conducted at Tanada Lake in 2007 and at adjacent Copper Lake in 2008. Burbot were captured using baited hoop traps systematically set along equally spaced transects and soaked for two nights (approximately 48 h). Sampling was conducted twice at each lake as part of a two-event mark-recapture experiment. Mean CPUE, length composition and abundance were estimated.

At Tanada Lake, the first event occurred from 25 June to 6 July 2007 and 388 traps were set. The second event took place from 12 to 19 September 2007 and 333 traps were set. Mean CPUE of fully recruited burbot (i.e., ≥450 mm TL) for the first event was 1.17 (SE = 0.19) burbot/trap and was 0.89 (SE = 0.13) burbot/trap for the second event. A pooled Chapman-modified Petersen estimator was used to estimate the abundance of fully recruited burbot at 2,217 (90% CI = 1,821–2,613). Burbot from 450 to 549 mm TL composed 77% of the total estimated abundance of fully recruited burbot. Measurements (1.0 m depth increments) of water temperature (°C), conductivity (µS/cm), dissolved oxygen (DO) and pH were recorded at several occasions during the spring, summer and fall and all measurements were within expected ranges.

At Copper Lake, the first event occurred from 7 to 15 June 2008 and 382 traps were set. The second event took place from 10 to 17 September 2008 and 311 traps were set. Mean CPUE of fully recruited burbot for the first event was 0.041 (SE = 0.016) burbot/trap and was 0.096 (SE = 0.031) burbot/trap for the second event. A length-stratified, Chapman-modified Petersen estimator was used and the abundance estimate of burbot ≥315 mm TL was 943 (90% CI = 550–1,337). Smaller sized fish (315–425 mm TL) dominated the catches. Measurements (1.0 m depth increments) of water temperature (°C), conductivity (µS/cm), dissolved oxygen (DO) and pH were recorded at several occasions during the spring, summer, and fall. DO and temperature readings in the deeper zones of the lake indicate that Copper Lake does not turn over annually.

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