

**Title**

Tracing the seasonal migration of adult Sakhalin taimen, *Hucho perryi*, using acoustic telemetry.

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**Abstract**

At present, the distribution of endangered Sakhalin taimen, *Hucho perryi*, in Japan is limited to several rivers and lakes in Hokkaido. Although field studies of adult *H. perryi* have focused on spawning habits, other ecological information is lacking. Here, we report on field research conducted to elucidate the seasonal migration patterns of adult *H. perryi* in the Bekanbe-ushi River system in Hokkaido using acoustic telemetry. From early May to late November 2007, we tracked five taimen with acoustic tags using 13 acoustic receivers. We detected the tagged fish a combined total of 37,683 times. The fish migrated an average of  $33.4 \pm 12.5$  (SD) km downstream from their spawning area over 1-4 days. They primarily resided mid-downstream in the spring, upper-downstream in the summer, and downstream in the autumn. Logistic regression analysis revealed that the upward migration by tagged fish living downstream was affected by ambient daily maximum water temperatures in the summer, whereas spring and autumn downward migrations were facilitated by ambient daily minimum water temperatures in mid-stream areas. These results suggest that the seasonal migration patterns of adult *H. perryi* are closely associated with the water temperature regimes of this river system.