

Biomonitoring of Fish Movement through Fishway Constructed in Simcheon Weir, Tamjin River

Su-hyun Kye, Jinwon Seo, Euiyong Choi, Dong-Sup Kim, Nahm-Chung Jung
Ecological Research Team, Environmental Research Center, KIWE, Daejeon 305-730
(Corresponding author : jinwonseo91@kowaco.or.kr)

In relation with Jangheung Dam construction, a variety of facilities have been made to conserve and enhance fisheries resource in Tamjin River. Among them, the Fishway in Simcheon Weir was constructed to play an important role of fish movement between up- and downstream. The fishway is pool type ice-harbor, its slope is 1:20 (height : length), and water current in it is about 1.0 m/s. We investigated fish movement through the fishway from March to November 2004. Six sampling traps (1m×1m) were set up at the top of the fishway during 24 hours in order to capture fish swimming up and to find out difference of movement between daytime and nighttime. A total of 3,710 fish belonging to 8 families 25 species were caught. Most of the fish caught belonged to Cyprinidae (97.44%), and the pale chub (*Zacco platypus*, 2,044 fish) was the dominant species (55.09%) during the entire study period. Compared to the amount of fish captured in daytime, most fish tended to move through the fishway in nighttime. According to field investigation performed with cast net and scoop net in the downstream of the fishway, 24 species of fish were confirmed to inhabit the sampling site. There were seven species (*Carassius auratus*, *Rhodeus ocellatus*, *Acanthorhodeus gracilis*, *Hemiculter eigenmanni*, *Plecoglossus altivelis*, *Silurus asotus*, *Rhinogobius giurinus*) found in monitoring of the fishway even though these species were not confirmed in the field investigation. Whereas six species (*Rhodeus uyekii*, *Acanthorhodeus macropterus*, *Pseudorasbora parva*, *Iksookimia hugowolfeldi*, *Liobagrus mediadiposalis*, *Odontobutis obscura*), which were captured in the field investigation, did not move through the fishway. The number of fish captured during 24 hours ranged from 4 (March 10) to 933 (August 9), and the size of fish swam up ranged from 21 mm (*Pseudobagrus koreanus*) to 350 mm (*Silurus asotus*) of total length. The results provide an important information for migration of individual fish species and contribute efficient operating system on the fishway.

Keywords: Biomonitoring, Fishway, Migration, Tamjin River, Jangheung Dam