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The impact of urbanization on the freshwater fish community in small streams

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Fish fauna of six steams (1st to 3rd order, 18 sites) in Gijang-Gun (217.64 km^2) was investigated in 1997 (2 times) and 2001 to 2002 (3 times). Gijang-Gun was incorporated into the Busan Metropolitan City in 1995. Since then, rapid urbanization and population increase were observed. About half of the studied sites were intermittent streams and stream ecosystems were strongly influenced by the physical modifications (e.g., weirs). In 1997, collected fishes were classified into 23 species and 11 families. *Rhinchocypris oxycephalus* (RA 45.6%) was dominant species, and superior species were *Carassius auratus* (11.1%) and *Rhinogobius brunneus* (8.4%). In 2001 survey, 34 species including 16 families were collected and *Zacco platypus* (18.9%) was dominant. Superior species were *Pseudorasbora parva* (15.3%) and *Z. temmincki* (11.3%). Overall, changes in species composition between two surveys were due to the sampling methodology ('97, electric shocks; '01-'02, casting net). However, in recent survey, deterioration of water quality due to the urbanization and a massive fish kill caused by the chemical released from the factories were observed at two streams (Jukseong and Jwakwang stream). In order to maintain fish biodiversity, there is a strong needs for the stream management and rehabilitation in this area.

Key words : urbanization, fish community, small size stream