

Complementary Investigation on Fish Community with Different Sampling Gears

Jinwon Seo

Korea Institute of Water and Environment, Korea Water Resources Corporation

Introduction

Fish investigations in America have been generally performed by backpack electroshocker on wadable streams and gill net on nonwadable sites such as large rivers and lakes. Whereas, we have been using cast net and kick net in streams and rivers and fyke net in reservoirs. Each sampling gear explains their efficiency for capturing fish and they complement each other in order to make us understand community in detail. Therefore, it is necessary to use different types of sampling gears when we study fish fauna and community for long-term environmental monitoring.

Materials and Methods

Fishes were caught by cast net and kick net in the three wadable sites and by two different mesh-size fyke nets in the four nonwadable sites. In the wadable sites investigation was performed for about one hour, and the fyke nets were set up over two nights (about 72 hours). Fishes were identified and classified *in situ* and some of them were measured total length and total weight after they were brought to the laboratory (Nelson 1994; Anderson and Neumann 1996).

Results and Discussion

A total fish fauna during the study period was 12 families 41 species in the upper reaches of Peace Dam (Table 1). In the study area 2 natural monuments

(*Hemibarbus mylodon*, *Siniperca scherzeri* albino type), 2 endangered (*Pseudopungtungia tenuicarpus*, *Gobiobotia brevibarba*) and 18 (43.9%) Korean endemic species (including *Coreoleuciscus splendidus*) were found, and there was two introduced species of fish (*Carassius cuvieri*, *Micropterus salmoides*). In order to perform quantitative comparison of fish collected by fyke nets, mean fish number and fish biomass were calculated based on the setting day and number of net. There was small difference in total number of species (21~22 in wadable and 30~33 in nonwadable) per sampling attempt except for the third investigation (18 in wadable and 24 in nonwadable). Data from each sampling gear explained their efficiency of investigation, and we could have better understanding on fish community in the upper reaches of Peach Dam.

Table 1. Comparison of fish fauna investigated between different sampling gears

	Wadable sites	Nonwadable sites	Total
Total number of family	10	10	12
Total number of species	32	33	41
Total number of individuals	1,949	19,709	21,658
Natural monument species	1	2	2
Endangered species	1	1	2
Korean endemic species	16	11	18
Introduced species	0	2	2

References

- Anderson, R.O. and R.M. Neumann. 1996. Length, weight, and associated structural indices. Pages 447-482 in B.R. Murphy and D.W. Willis, editors. Fisheries Techniques, 2nd edition. American Fisheries Society, Bethesda, Maryland.
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