

# **Relationships between dispersion of invasive alien species & changing of environment by human activities within river basin- a case study in Yura-river-**

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*Keywords: conservation of ecosystem in river basin, invasive alien species, Yura-river, Black Bass, Bluegill, unauthorized release*

## **Conservation of ecosystem, the problem of invasive alien species and BlackBass&BlueGill in the river**

Conservation of Biodiversity is taken as the basis of environmental conservation policy in Japan. One of the biggest reasons of losing Biodiversity is devastation of the Habitat and immigration of invasive alien species. Recently, alien species keeps invading into River basin that is precious for conserving biodiversity. Black Bass is considered to be the worst invasive alien species all over the world. The damage to the domestic ecosystem and fishery by Black Bass is taken as a serious problem. There are reasons why Black Bass could spread to a lot of Japanese waters. Although ranked on the top of ecosystem pyramid, the reproduction ability of Black Bass is very strong and Black Bass can eat varieties of food. In addition, Black Bass uses Bluegill as emergency food. If there is Bluegill, Black Bass will not starve. When Bluegill was introduced to Japan, the rivalry of food for Bluegill was not introduced. That means that Bluegill in Japan can get wider ranges of food than it used to do in USA. For Bluegill, Japanese waters are paradise because of the lack of food competition.

## **About Yura-river**

Yura-river is first-class river located in the north of Kyoto-prefecture with the total length of 146 km and area of 1,880km<sup>2</sup>. The nature of Yura-river basin is well preserved and the first total river basin plan in Kinki-region was enacted in 2003. Investigating Yura-river is meaningful from the aspects of conservation of nature and policymaking in river basin. Recently, the spreading of Black Bass and Bluegill is taken as serious problem in Yura-river basin. The fishermen's association in Yura-river basin starts to take actions to decrease the amount of Black Bass & Bluegill (e.g. catching Black Bass by net & opening of Bass fishing tournament to catch Black Bass).

## **The Distribution of Black Bass & Blue gill in Yura river**

When considering the conservation of river-ecosystem, the Unit of river basin should be used. In Yura-river basin, distribution density of Black Bass & Bluegill is dense in middle area and thick in lower area. Also, in upper area, they are living only in Dam.

Black Bass & Bluegill are taken into river basin by the hand of bass-fisherman and bass-fishing industry. It is important to prevent bass-fisherman from unauthorized releasing. To do so, environmental education to Bass fishermen will be quite effective.

Fig.1. Distribution of Black bass & Bluegill in Yura-river

