

The inflow of hot spring heat impact on fish communities around estuaries in Beppu, Oita prefecture

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Hot spring drainage flows into a river and then flow into the coastal area in Beppu, Oita prefecture which is a region with many hot springs in Japan. In Hirata River where many hot spring drainage flow into, hot spring drainage creates a better habitat for *Oreochromis niloticus* (Nile tilapia), a foreign species, in terms of available food and water temperature. Hot spring drainage flow into the river except Hirata River in Beppu area. However, it is not clear that the influence of hot spring drainage on ecosystem of those rivers. In order to evaluate the impact of thermal energy from hot spring drainage on the fish communities near the estuary, we investigated water temperature, flow rate and fish communities near the estuaries of six rivers in Beppu area. We sampled the fish using a small seine net in January 2015. Although the number of fish collected in four rivers was very small, Nile Tilapia and *Opsariichthys platypus* was collected in Hirata River and Haruki River, respectively. Hot spring drainage flow into these two rivers, however, there is a big difference in the water temperature near the river mouth in these two rivers. These results suggest the possibility that the difference in inflow of the hot spring heat affects the dominant species of the fish community near the estuary. In this presentation, we will discuss the inflow of hot spring heat impact on fish communities near the estuary with the result of the summer investigation.

Keywords: hot spring heat, fish community, around estuary, hot spring drainage