

[Y-02] A challenge for developing the system that aimed to detect distribution and quantify biomass of endangered species Itou (*Parahucho perryi*) simultaneously by using eDNA technique.

Hiroki Mizumoto (Hokkaido University)

Itou (*Parahucho perryi*; aka Sakhalin Taimen) is one of the largest fresh water fish in the world and is a resident of Hokkaido. This species used to distribute not only all over Hokkaido, but also in a north part of Honshu. Currently, however, their distribution is very limited by human activity, such as agricultural development and river structuring. Consequently, they are assessed as Critically Endangered species (CR) by the IUCN extinction risk criteria. Furthermore, their up-to-date biological information (ie. current distribution, biomass, spawning area and seasonal habitat) is not well understood like other endangered species.

In this session, I will introduce our rearing experiments that aimed to quantify the biomass of Itou noninvasively by using environmental DNA (eDNA). The eDNA technique has been progressed remarkably and many papers reported high detectability of aquatic organisms. However, there is little knowledge about the ability of eDNA for quantifying biomass especially in natural environment. In my presentation, I discuss the possibility of eDNA for detecting distribution and quantifying biomass of Itou simultaneously based on our rearing experiment and field sampling.

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