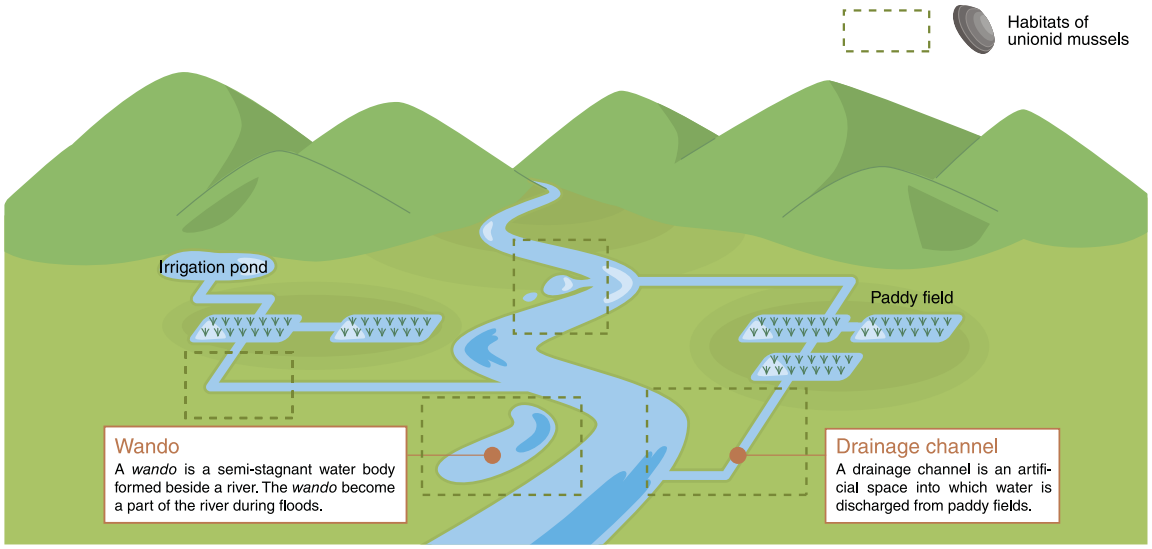
Studies on the Floodplain Environment: Mechanisms of Deterioration and Floodplain Restoration

How Do the Habitat for the Endangered Unionid mussels (Bivalvia: Unionidae) Deteriorate?

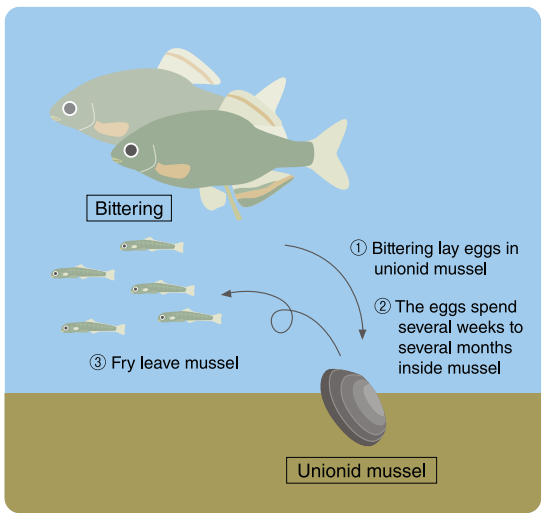
Background

A floodplain is generally defined as an area that is inundated when a river overflows. Having intermediate characteristics between land and water, floodplains play an important role in fostering diverse flora and fauna adapted to recurring inundation (the "floodplain function"). Because of this, floodplains are one of the most biologically diverse landscape components and are very important for the conservation of biodiversity. At present, environmental features that can provide the floodplain function are largely limited to semi-stagnant water bodies (e.g., *wando*) along river channels within the dikes, and to paddy fields artificially flooded every season and their drainage channels. In this study, we are examining deterioration processes and restoration potentials of these two types of functional floodplains. Unionid mussels (Bivalvia: Unionidae) are used as an indicator species. Thirteen of 18 species of Unionoida (Margaritiferidae and Unionidae) in Japan are endangered and included in the Red List of the Ministry of the Environment.

Unionid mussels lives in wando and drainage channels in low land areas



Relationship between unionid mussel and bittering



Life cycle of unionid mussels