

UNDERSTANDING HABITATS REQUIREMENTS OF VULNERABLE FRESHWATER MUSSELS

This study examined optimal microhabitat conditions for unionid mussels, which are globally concerned for decreases in species diversity and abundance, and shrinking habitat ranges, focusing on agricultural drainage channels and floodplain ponds along rivers. Field surveys involved quantitative examinations of mussel assemblages in relation to physical habitat environmental variables in quadrates laid out along cross-sectional transects in two drainage channels and 30 floodplain ponds. Our findings suggest that spatial heterogeneity of flow velocity within drainage channels is in particular important for highly endangered mussel species, and that excessive accumulation of detritus such as leaves and twigs provide unpreferable microhabitat conditions for resident mussels in floodplain ponds.

Key words : conservation, endangered species, floodplain, flow heterogeneity, habitat analyses, organic matter, restoration