

Submission Type

Oral Presentation

Presenter Name

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Presenter Organization

DOI/USGS/CERC

Presenter Title

Primary Cell Culture and Viral Discovery Efforts Supporting RNAi-Based Biocontrol of Invasive Dreissenid Mussels

Presenter Bio

Edward E. Large is a Biologist at the USGS Columbia Environmental Research Center, specializing in genetic biocontrol approaches for invasive dreissenid mussels.

Abstract Title

Primary Cell Culture and Viral Discovery Efforts Supporting RNAi-Based Biocontrol of Invasive Dreissenid Mussels

Abstract Summary

We developed primary cell cultures from zebra and quagga mussels to test RNA interference (RNAi) reagents for potential biocontrol targets. Cultured cells take up large quantities of RNA, though gene suppression has not yet been detected. Dose-response results will be compared with whole-animal trials to assess feasibility of RNAi-based control. In parallel, pathogen-discovery work identified the first freshwater mussel herpesvirus, with active transcription and related viruses in both dreissenid species. Ongoing isolation and genome analyses will evaluate whether these viruses could support delivery of RNAi reagents and other genetic tools for future management applications.

Conference Themes

- Control (Biocontrol)
- Monitoring
- Innovation & Technology

TAXA

- Freshwater AIS