DREISSENID MUSSELS IMPACT ON NATIVE UNIONIDS

Presenter:
Douglas Kapusinski, Ph.D., PWS
Date: 2021

US Army Corps of Engineers ®

BACKGROUND

- Dreissenid mussels introduced in the Great Lakes in the 1980's.
- Attach to surfaces, including rocks, woody debris, plant matter and human constructed objects.
- Will also attach to the shells of native mussels.

https://www.climate.gov/news-features/featured-images/fending-invaders-warmer-climate

IMPACTS ON NATIVE MUSSELS

- Native mussels bury in sediments, leaving a small portion of the shell exposed for feeding and respiration.
- Dreissenids will attach and colonize on the exposed portion of the shell.
- Fouling of native mussels.
- Densities can increase to numbers that will cause native mussel mortality.

https://www.usgs.gov/centers/umesc/science/conservation-and-restoration-native-freshwater-mussels?qt-science_center_objects=0#qt-science_center_objects

IMPACTS ON NATIVE MUSSELS

- Mussels build up to high densities on the outside of native shells.
- When densities get high, mussels may not be able to open and close and water flow is impaired.
- Mortality due to impairing movement, feeding, respiration and excretion.

IMPACTS ON NATIVE MUSSELS

US Army Corps of Engineers

- Dreissenid mussels have been shown to be removed through predation by fish and turtles, and by scouring and desiccation.
- Native mussels will often be found with no zebra mussels attached, however, the presence of byssal threads evident.

IMPACTS ON NATIVE MUSSELS

- Majority of native mussels are either threatened, endangered or extinct.
- Densities in the great lakes are a small fraction of what they were historically, generally only present in coastal wetlands, shallow harbors, drowned river mouths and tributaries.
- These remnant population are currently being studied and could serve as possible seed populations for future re-establishement projects.

https://www.usgs.gov/centers/lumrec/science/conservation-and-restoration-native-freshwater-mussels?qt-science_center_objects=0#qt-science_center_objects

https://www.fws.gov/midwest/endangered/clams/zebra.html