

# Dreissenid Videos Research Group

Overseen by USEPA Great Lakes National Program Office

**Purpose:** To train educators in the use of video and video software to analyze the density and distribution of quagga mussels in Lake Michigan.

**Background:** Since their invasion by zebra mussels and then quagga mussels, the Great Lakes have undergone large ecosystem changes. Assessing the distribution and population size of mussels in Lake Michigan has been based on analysis of the number of mussels captured by sediment samplers, mainly Ponar grabs which have a foot print of about .05 m<sup>2</sup>. These small samples have been used to estimate the mussel population and mussel impact on the lake. A problem is that mussel distributions are "patchy," to the extent that one Ponar sample taken next to another might provide very different estimates of the population. The use of video transects to provide a better population estimate is a new technique that should provide a more robust estimate of populations and of the amount of patchiness that occurs throughout the lake.

## Research Questions:

- Using video, can we count the number of mussels in a video frame? Can we estimate based on coverage?
- How much of the sediment is colonized by mussels at different depths?
- Can we quantify the patchiness of the distribution of mussels?