

# Counting Zebras: Sampling Designs for Newly Infested Lakes

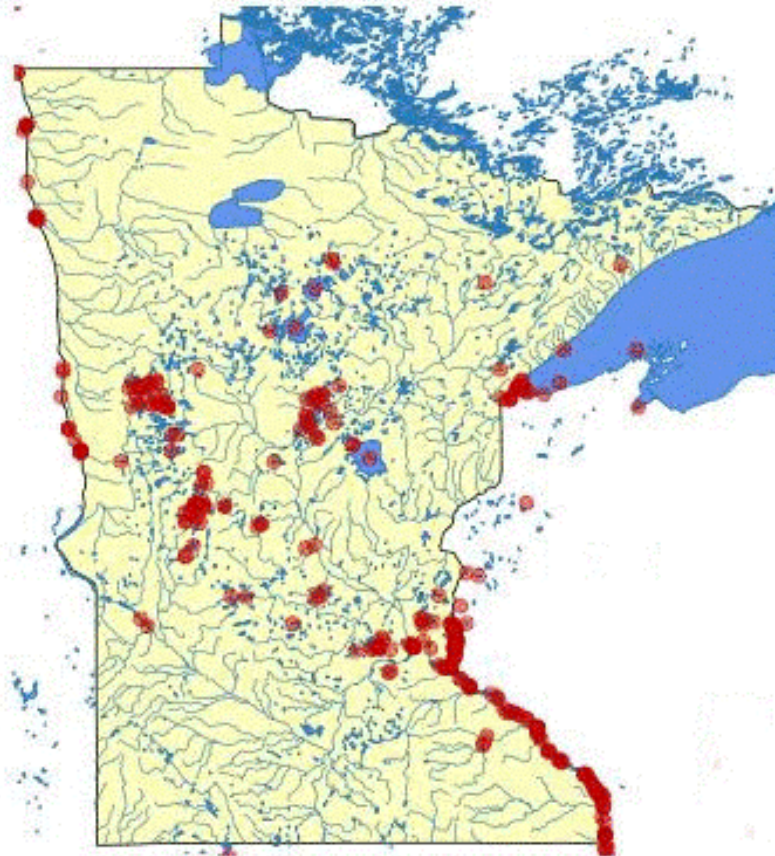
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# Spread of zebra mussels in MN

2016



Data from USGS Nonindigenous Aquatic Species Information Resource

# Ecological & economic impacts

- Changes in water chemistry
- Decreased plankton densities
  - Changes in water clarity
  - Increased plant cover
- Decreased native mussel populations



Photo: Mussel Prevention Program, San Luis Obispo County

# Our goal

- Develop methods to reliably survey zebra mussel densities in newly infested lakes

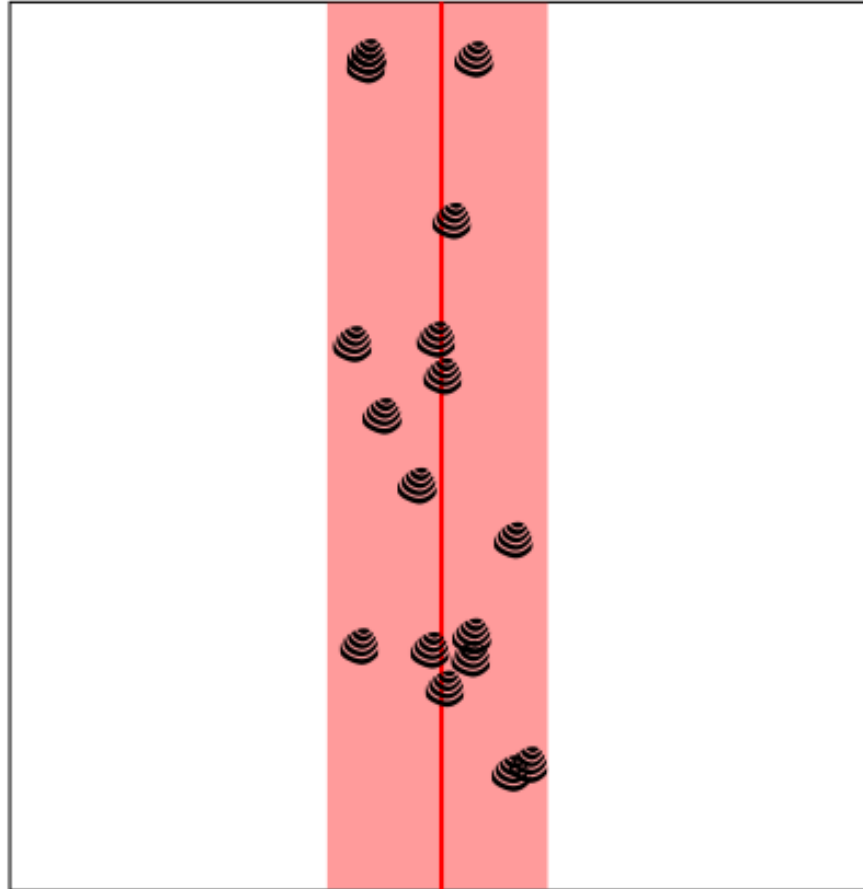


Photo: Naomi Blinick

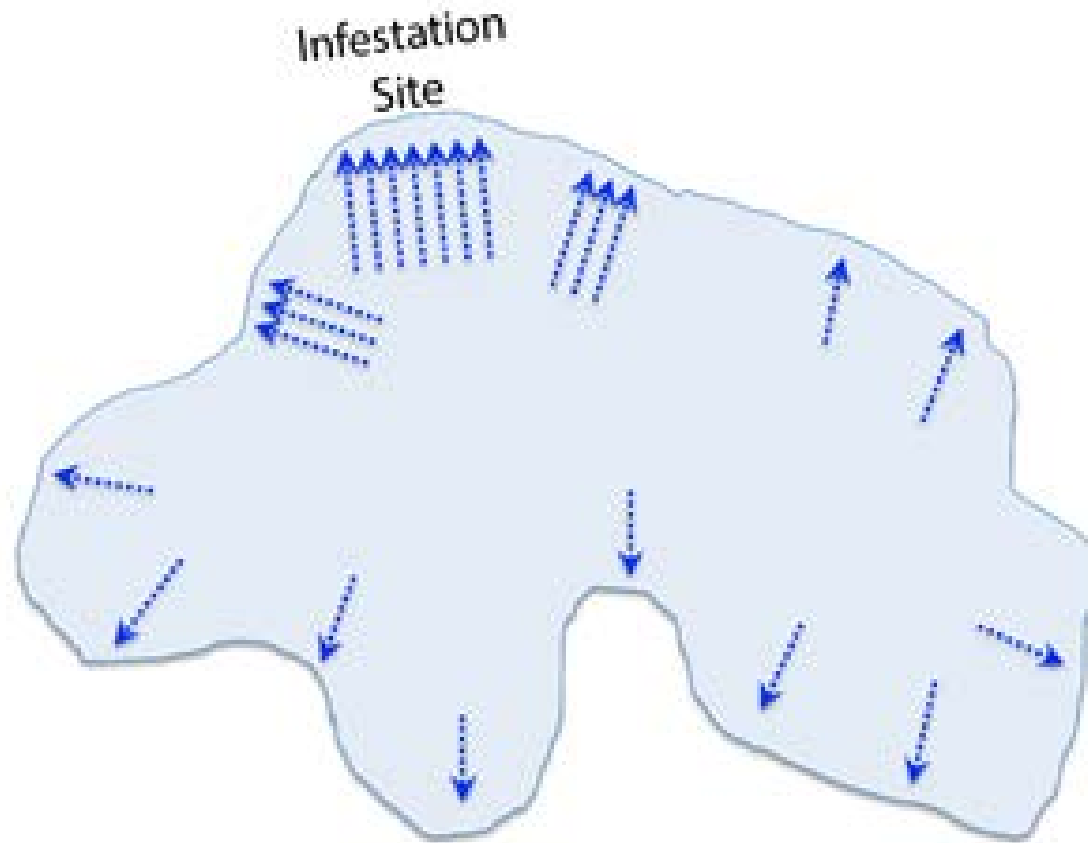
# Why do we need a sampling protocol?

- Allocate and account for survey effort
- Determine effects of control over time
- Compare control measures across lakes
- Provide precise language for managers

# Belt transect sampling



# Whole-lake sampling design



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