Zebra Mussels in the Hudson River
Zebra Mussels - *Dreissena polymorpha*

- Native to SE Europe and W Asia
- 1985 via European ship’s ballast water to lake by Detroit
- Spread through Great Lakes and Erie Canal
- Live in fresh & brackish water
Native pearly mussels

Invasive zebra mussels

Cary IES
Zebra Mussels
*Dreissena polymorpha*

- Life history
  - Warm water, external fertilization
  - Larvae, veligers
  - Settle on hard surfaces
  - Mature at one year
  - Live 6 - 7 years
  - Filter feeders, plankton
  - Eaten by some fish, some ducks, crayfish and crabs
Veliger Larvae: 500,000 / m³

Filter Feeding:
1 liter water / day

Growth

Settling:
10,000 / m³ / day

Up to 700,000 / m²

40,000 - 1,000,000 eggs / year

95% die

200,000,000 sperm

40,000 - 1,000,000 eggs / year
Ecological Effects

- phytoplankton
- microzooplankton
- native bivalves
- macrozooplankton
- deepwater benthos
- American shad (YOY)
- dissolved oxygen
- littoral benthos
- transparency
- soluble P
- redbreast sunfish YOY

Change associated with zebra mussel invasion

INCREASE

DECREASE