Lake Erie Food Web

Food web based on "Impact of exotic invertebrate invaders on food web structure and function in the Great Lakes: A network analysis approach" by Mason, Krause, and Ulanowicz, 2002 - Modifications for Lake Erie, 2009.

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### Macroinvertebrates

- **Chironomids/Oligochaetes.** Larval insects and worms that live on the lake bottom. Feed on detritus. Species present are a good indicator of water quality.
- **Mayfly nymphs** (*Hexagenia* spp.). A burrowing insect larvae found in warm, shallow water bays and basins, usually in soft sediments. The presence of this sensitive organism indicates good water quality conditions.
- **Amphipods (*Gammarus*).** A common amphipod found in warm, shallow regions.
- **Mollusks.** A mixture of native and non-native species of snails and clams are eaten by lake whitefish and other bottom feeding fish.
- **Zebra and quagga mussels** (*Dreissena polymorpha* and *Dreissena bugensis*). Invaded Lake Erie in 1988/89, filter-feeders that remove huge quantities of plankton.

### Zooplankton (Microscopic animals found in the water column)

- **Invasive Spiny waterfleas** (*Bythotrephes longimanus*). Visual raptorial predator that can depress native waterflea populations.
- **Native Raptorial waterfleas** (*Leptodora kindtii*). Slow moving and patchy distribution of small swarms at relatively low numbers.
- **Cyclopoid copepods** (*e.g.*, *Cyclops bicuspidatus*). Carnivorous copepods that feed on rotifers and other microzooplankton.
- **Native waterfleas** (*e.g.*, *Daphnia galeata*). Filter-feeding waterfleas that can be important for controlling phytoplankton.
- **Calanoid copepods** (*e.g.*, *Diaptomus spp.*). Omnivores that feed on both phytoplankton and microzooplankton.
- **Rotifers.** A diverse group of microzooplankton that, depending on species, feed on phytoplankton, detritus, or other microzooplankton.

### Phytoplankton (Algae found in the water column)

- **Blue-green algae** (*aka Cyanobacteria*). Often inedible and frequently toxic; blooms in late summer and can look like spilled paint on the water surface.
- **Green algae.** Microscopic (single-celled) plants that form the main support of the summer food web. Also includes large nuisance species such as *Cladophora*.
- **Diatoms.** Cold-loving microscopic (single celled) plants encased in silica shells that support the first wave of production in the spring.
- **Flagellates.** Motile, single-celled plants or animals frequently found in high numbers. Most eat bacteria and so may help funnel bacterial products back into the food chain.

130 species of fish, including at least 18 non-natives, make their homes in the waters of Lake Erie. Ten species of native fish have been extirpated from Lake Erie. This food web includes only the dominant species.