

Invasive Species Fact Sheet: Waterfleas



Bythotrephes longimanus (Spiny), Ceropagis pengoi (Fishhook), Daphnia lumholtzi

Waterfleas are zooplankton aquatic crustaceans that have a jumpy or jerky mode of swimming. The Daphnia waterflea was introduced from the aquarium trade and fish stocking. They are native to Africa, Asia and Australia. Like invasive mussels, the Bythotrephes and Ceropagis were introduced into the Great Lakes from ships' ballast water coming from Eurasia. Unlike the fleas dogs are known to carry, waterfleas are very different. They do not live outside the water, and do not bite or harm people or pets.

Locations in Colorado:

- **Bythotrephes longimanus (spiny):** no known
- **Ceropagis pengoi (fishhook):** no known
- **Daphnia lumholtzi:** Chatfield State Park, Douglas Reservoir, John Martin State Park, Navajo State Park, Pueblo Lake State Park and Pueblo State Hatchery

Identification:

- Unique body shape: distinguished from other zooplankton by its long tail (70% of body is tail)
- Depending on age – the spine may contain 1-4 barbs (the older the water flea the more barbs)
- Head is mostly a single large black eye
- Swimming antennae propels flea through the water, allowing travel between shallow and deeper waters.
- Range in length from 0.4 to 1.6 mm, depending on sex (females are larger) and age

Biology:

- Found mostly in temperate freshwater lakes, can tolerate brackish water
- Most abundant in the summer and fall
- Can tolerate temps between 4°-30° C (39°-86°F) and .04 to 8% salinity
- Both sexual and asexual life cycles, depending on environmental conditions
- Less than two weeks per generation with asexual life cycle
- Resting eggs may lie dormant for long periods of time, allowing the spread of these exotics into different bodies of water
- Resting eggs may also pass, unharmed, through the digestive tracts of fish

Pathway of introduction and spread:

- Eggs and adults are easily transported in: ballast tanks, bilge water, bait buckets, live wells, and on fishing lines, anchor lines, and nets
- It only takes one adult or egg to start an infestation
- If female waterfleas die out of water, under certain conditions they produce eggs that resist drying and freezing, which can establish a new infestation later

Negative impacts:

- Outcompete native juvenile fish for food, causing low survival rates, and because barbs stick in throat, are unpalatable to juvenile fish
- Avoid predation by larger fish by retreating to deeper waters during the day (10-20m) where they are less visible and ascending (0-10m) at night where food is abundant and temperatures higher, increasing metabolism and growth rates
- Their long spines can cause them to become entangled on fishing lines and can clog eyelets of fishing rods

Management:

Once waterfleas are established, they are almost impossible to eradicate. Educating the public and following state watercraft inspection and decontamination procedures are the best methods to contain current infestations and prevent further spread to new waters.

Prevention:

Preventing the spread of invasive waterfleas is the best strategy; here is what you can do:

- **CLEAN** all plants, animals and mud from your fishing gear, boat, trailer, and equipment before leaving the water. Clean your boat, tackle, downriggers, trailer, waders, etc. with hot water (above 120°F) when you get home
- **DRAIN** live wells, ballast and bilge water before you leave the water body
- **DRY** boats and equipment to dry completely before launching in other waters
- **DISPOSE** of unused bait in the trash, not in the water

Images courtesy of Michigan Dept. of Environmental Quality

Bythotrephes longimanus (Spiny)



Ceropagis pengoi (Fishhook)



Daphnia lumholtzi

