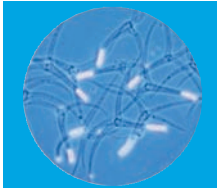


# Aquatic Invasive Species

## Already here



whirling disease parasite



New Zealand mud snail

Three invasive species already exist in Yellowstone's waters:

**Whirling disease** parasite causes deformities in young native trout, which then cannot feed normally and are vulnerable to predation. Whirling disease exists in Pelican Creek and its tributaries, one of the largest aquatic systems draining into Yellowstone Lake.

**New Zealand mud snails** occur in many park streams, where they consume aquatic vegetation that immature trout and other native species depend on.

**Lake trout**, a non-native predatory species, were introduced to Yellowstone and Heart lakes, which are native cutthroat waters. They grow much larger than native cutthroat trout and consume the native trout's young and adults, and compete with the native trout for food.

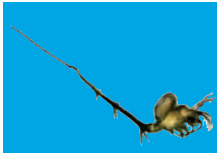


lake trout

## On their way



Eurasian water-milfoil



spiny waterflea (plankton)



zebra mussel

These invasive species are likely to arrive in Yellowstone:

**Eurasian water-milfoil** grows in lakes, ponds, shallow reservoirs, and calm areas of rivers and streams. It is particularly troublesome in water bodies that experience abundant motorboat use (such as Bridge Bay). Milfoil colonizes new habitats just from stem fragments transported by boating equipment.

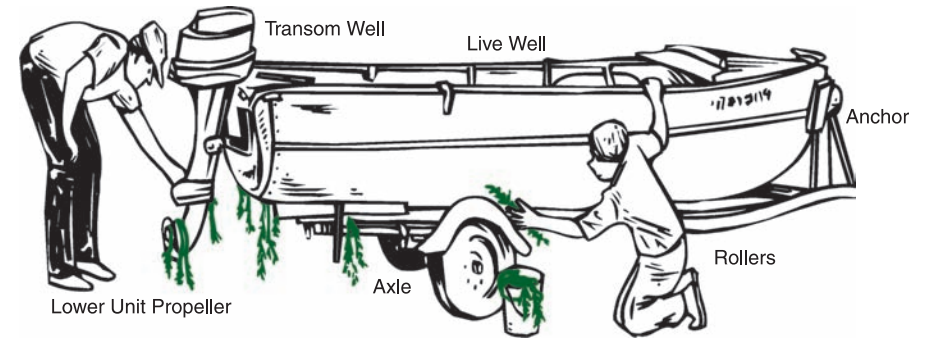
**Exotic plankton**, such as spiny waterflea, displace native zooplankton and are difficult for young fish to eat because of their long spines. Plankton eggs can remain dormant for decades, even surviving passage through fish guts to colonize new waters.

**Zebra mussel** adults are usually the size of your fingernail, but can grow to two inches in length. The larvae (immature form) can be so tiny that you cannot see them. However, exotic species larvae can live in mud, dirt, sand, and on plant fragments.

**Exotic fish species**, such as bighead carp, silver carp, and others can irreversibly damage ecosystems through competition with native fish.



bighead carp



## Prevent the spread of aquatic invasive species

Before you enter Yellowstone National Park and any time you move to another body of water within the park:

### CLEAN YOUR BOAT

### CLEAN YOUR GEAR

1. Remove ALL visible mud, plants, fish, or other tiny animals from your boats, trailers, and other equipment, including waders, boots, clothing, and nets.
2. DO NOT dump any water from other sources into Yellowstone waters. Drain your boat hull and live well in a safe location (a flat, paved, dirt, or gravel area) away from all park surface waters.
3. NEVER empty bait or release fish, other animals, or plants into a body of water unless they came out of it. It is illegal to transport live fish within the park.
4. CLEAN AND DRY EVERYTHING that comes in contact with water before entering a new body of water, following these directions:

- ◆ Dry everything in the sun for 5 days or
- ◆ Use high-pressure, hot (>104°F) water (available at car washes outside the park) to clean your boat, trailer, waders, and equipment
- ◆ For equipment that cannot be exposed to hot water, dip into 100% vinegar for 20 minutes or a 1% table salt solution for 24 hours, using the following ratios:

water (gallons)	5	10	25	50	100
salt (cups)	$\frac{3}{8}$	$\frac{1}{4}$	3	$6\frac{1}{4}$	$12\frac{3}{4}$

## Dispose of all bait before you enter Yellowstone National Park

No natural or organic bait such as minnows, salmon eggs, worms, insects, or foodstuffs—alive or dead—are allowed in Yellowstone National Park. See General Regulation 4b on page 6 for details and the one exception.