



PHOTO CREDIT - MARK CHANSKI

# Environmental Awareness

## What can I do to prevent the spread of non-native species?

Connecticut offers a wide variety of boating opportunities. Whether your boating preference is fresh water lakes and ponds or the salty water of Long Island Sound, you should be aware that aquatic invasive species have entered CT waters and may be here to stay. Aquatic Invasive Species (AIS) are non-native plants or animals that tend to grow at a rate such that they can displace beneficial native species, disrupt the ecosystem and drastically reduce recreational activities, including swimming. Freshwater aquatic invasive plants can form a dense mat just below the water's surface, which interferes with boating, swimming and other recreational activities.

These species may have been introduced when large cargo ships took on ballast water in foreign waters and discharged in US waters. Steps are being taken nationally to minimize these introductions. If a vessel sits at a dock for too long, growth can occur on the hull, as well as bilge areas, live wells, or other places that may collect water are good hiding places for AIS to hitchhike between ports or waterbodies. Local boaters can help by removing the species on their boats and trailers and properly preparing and maintaining their boat's bottom. You can help prevent new introductions of invasive plants and animals: Clean, Drain, Dry your boat and gear.

### Clean, Drain, Dry Method

#### BEFORE LEAVING THE LAUNCH:

- ✓ **Clean:** remove any visible mud, plants, fish or animals before transporting equipment.
- ✓ **Drain:** eliminates water from equipment, such as a live well, before transporting.

#### AT HOME PRIOR TO YOUR NEXT LAUNCH:

- ✓ **Dry:** anything that comes into contact with water (boats, trailers, anchors, propellers, fishing equipment, clothing, etc.) for a minimum of one week.
- ✓ If drying isn't possible, wash your vessel with the options below.
- ✓ Never release plants, fish or animals into a body of water unless they came out of that body of water.
- ✓ Dispose any unused bait in an upland trash.

### How Can I Clean My Boat to Prevent the Spread?

- ✓ Dry equipment for a minimum of one week (hot/dry weather) and a minimum of four weeks (cool/wet weather) before entering new waters.

OR.....

- ✓ Wash with hot water, preferable high pressure.
- ✓ Dip equipment into 100% vinegar for 20 minutes prior to rinsing.
- ✓ Use a 1% salt solution and leave on for 24 hours prior to rinsing (2/3 cups of salt to 5 gallons of water).
- ✓ Wet with bleach solution (1 oz. per gallon) or soap and hot water (Lysol, boat soap, etc.) for 10 minutes prior to rinsing.

# Invasive plants and animals in Connecticut Waters

## 1. Eurasian milfoil:

Submerged, perennial aquatic plant with green feathered type leaves. The stems are brownish-red to light green. Milfoil produces pink flowers between July and August.



Alison Fox, University of Florida

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Rochet Vidaki, Doroniscum Kt.

## 2. Fanwort:

Submerged plant that ranges in color from grass green to olive and to reddish brown. The leaves are finely divided and strictly opposite arranged. Small white flowers with six petals emerge among the floating leaves.

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Leslie Markhoff, UConn

## 3. Hydrilla:

Submersed, rooted plant with long stems that branch at the surface where growth becomes horizontal and dense mats form under the water surface. Leaves are small and pointed and the plant will produce tiny white flowers.

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## 4. Zebra mussel:

Zebra mussels are small, striped rigid mussel that grows to a maximum length of 2.5 cm (approximately one inch) in length. The shell color is black or brown with variable white to yellow striped or zig zag patterns and they can live up to five years. Zebra mussels are established in Lakes Lillinonah, Zoar and Housatonic in the Housatonic River, and the Twin Lakes in Salisbury. These mussels can impact the ecosystem, foul boat hulls and engine cooling systems, are sharp to step on and can clog power plant, industrial and drinking water intakes.

## 5. Quagga mussel:

The quagga is slightly larger than the zebra mussel. The shell is striped but is more pale toward the end of the hinge. Color patterns vary widely with black, cream, or white bands. The quagga has a rounded angle and a convex ventral side. Quagga mussels have not been found in Connecticut waters.

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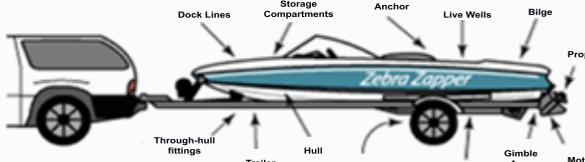


Michelle See, Curran



**STOP AQUATIC HITCHHIKERS!**  
Be A Good Steward.  
Clean. Drain. Dry.  
[StopAquaticHitchhikers.org](http://StopAquaticHitchhikers.org)

**Before Leaving & Before Launching...  
Inspect Everything!**



**CLEAN. DRAIN. DRY**

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Dore Keldal, Ohio Sea Grant

## 6. Chinese mitten crab:

The claws are of equal size and appear “furry” with whitish tips. The smooth shell is brown to green with four spines (the fourth can be small) on each side. There is a notch between the eyes. In June, 2012, a juvenile Chinese mitten crab was collected from the Mianus River in Greenwich. This is the first confirmed report of this invasive in CT. This crab reproduces in saltwater but spends most of its life in freshwater.

## 7. New Zealand mud snails:

Relatively small snail that has brown or black cone shaped shell with seven to eight whorls. Between the whorls are deep grooves. This snail has the ability to reproduce quickly and populations can rapidly reach high densities under suitable conditions. New Zealand mud snails have not been found in Connecticut waters.

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New Zealand Mudsnail - US Geologic Survey

## 8. Rusty crayfish:

A large crayfish with reddish spots on each side of the body just in front of the tail, grayish green color, smooth mandibles (mouth parts without serrated edge) and black bands on tips of claws. Rusty crayfish are aggressive and can displace native crayfish. They feed heavily on invertebrates that are important food sources for fishes and can destroy aquatic vegetation beds, impacting habitat used by other invertebrates and game fish. Rusty crayfish are often spread via bait buckets. Rusty crayfish can be found in a number of freshwater systems throughout Connecticut.



Jeff Gunderson, MN Sea Grant

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## 9. Asian clam:

A bivalve that can grow as large as 5 cm (2 inches) wide and live up to seven years. Asian clams can be identified by the presence of yellow and brown color concentric rings on their shell. The outer side of the shell can flake, revealing white spots. Asian clam excretions encourage algal growth which reduces water quality for native flora and fauna. Asian clams can aggressively colonize the bottom of waterways and can outcompete native species for space. Asian clams can be found in a number of freshwater systems throughout Connecticut.



Neal Rickard, USGS

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## HELP KEEP Aquatic Invasive Species (AIS) OUT OF CONNECTICUT'S WATERS!

**It is critical that boaters take responsibility for stopping the spread of these plants and animals.**

Failure to remove all vegetation and the listed aquatic invasive species, that are visible and identifiable without optical magnification, is subject to a fine of \$95 for each such violation.



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**IT IS ILLEGAL TO TRANSPORT** on a boat or trailer any vegetation and the following aquatic invasive species (as determined by the Commissioner pursuant to CGS Section 15-180; see [www.ct.gov/deep/boating/](http://www.ct.gov/deep/boating/)):

- Asian clam (*Corbicula fluminea*)
- Chinese mitten crab (*Eriocheir sinensis*)
- New Zealand mudsnail (*Potamopyrgus antipodarum*)
- Quagga mussel (*Dreissena bugensis*)
- Rusty crayfish (*Orconectes rusticus*)
- Zebra mussel (*Dreissena polymorpha*)



## Connecticut's Clean Boater Program

Using sound environmental boating practices protects our resources and ensures the future health of Connecticut's waters.

The Clean Boater Program encourages the state's boaters to use clean boating techniques. Support marinas that are environmentally responsible. For information about the Clean Boater Program or Clean Marina Program, contact the Boating Division at 860-434-8638 or visit: [www.ct.gov/deep/boating](http://www.ct.gov/deep/boating).

## Boat Hull Maintenance

If your marina allows underwater hull cleaning, please proceed with caution:

- DO NOT clean boat bottoms painted with abrasive paints.
- Use hard bottom paint if you need to clean your boat bottom throughout the season (sailboats).
- Ask your marina operator if there are any specific guidelines you need to follow while cleaning your boat bottom.
- Use only soft material (sponges, not brushes!) to clean growth off the hull.
- Use stainless steel pads and/or brushes only on UNPAINTED surfaces.
- Stop cleaning in the water if colored plumes of paint appear in the water.
- Do not paint zincs. When replacing zinc anodes, bring them ashore for recycling.
- Hire a professional diver and tell them you expect them to minimize pollution.

## MARPOL Regulations

All vessels must obey MARPOL regulations developed in the 1970s, revised in 2006 and guidelines accepted in 2012 to protect the marine environment from operational pollution. The U.S. legislation that implements MARPOL Annex V, bans the dumping of specified garbage and all plastics in all navigable waters of the United States. (It is illegal to discard fishing line on land or in state waters.) It also places restrictions on the disposal of other types of shipboard solid wastes. Vessels over 26 feet must display a durable placard explaining MARPOL Annex V disposal regulations.

## Marine Sanitation Devices (MSDs)

All vessels with an installed toilet are required to have a Coast Guard certified Marine Sanitation Device (MSD) attached to the toilet. Visit [www.ct.gov/deep/cva](http://www.ct.gov/deep/cva) for more information. A macerator alone is not a certified MSD. A macerator only grinds the sewage. It does not treat it to kill bacteria and

viruses. All Coast Guard certified Type I and Type II MSDs have a certification label affixed by the manufacturer. Holding tanks are not required to have a certification label. Visit the Environmental Protection Agency website at <https://www.epa.gov/vessels-marinas-and-ports/vessel-sewage-discharges>

The U.S. Coast Guard can issue fines of up to \$2,000 for the illegal discharge of untreated sewage. Section 15-175(a) of the Connecticut General Statutes provides that any person owning or operating a vessel from which untreated sewage is discharged from a MSD or bypass into the waters of this state has committed a class A misdemeanor. A class A misdemeanor is a criminal offense for which a person, if convicted, may be sentenced to a term of imprisonment of not more than one year and be fined an amount not more than two thousand dollars. State conservation officers and municipal marine police may enforce this law.

## No Discharge Areas

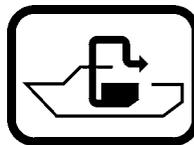
It is illegal to discharge untreated sewage from your boat into any of Connecticut's waters.

**Connecticut:** All waters.

**New York:** Long Island Sound, including the open waters, harbors, bays and navigable tributaries of the Sound and a portion of the East River, from the Hell Gate Bridge in the west to the northern bounds of Block Island Sound in the east. Included in the NDA are: Peconic Estuary and East Hampton, Mamaroneck Harbor, Greater Huntington-Northport Bay Complex, Port Jefferson Harbor Complex, Hempstead Harbor, Oyster Bay/Cold Spring Harbor Complex, and Hudson River.

**Rhode Island:** All waters.

See the EPA website at [www.epa.gov/vessels-marinas-and-ports/no-discharge-zones-ndzs-state](http://www.epa.gov/vessels-marinas-and-ports/no-discharge-zones-ndzs-state) for a list of NDAs by state.



## Pumpout Facilities

The Federal Clean Vessel Act directs excise tax dollars, collected on fishing tackle and motorboat fuel, to construct, operate and maintain pumpout stations. All CT CVA funded pumpouts and dump stations available to recreational boating public are FREE.

To find a land based pumpout facility or pumpout boat near you, see the map on page 34-35 or visit [www.ct.gov/deep/pumpoutdirectory](http://www.ct.gov/deep/pumpoutdirectory).

