

Clean, Drain and Dry your BOAT

NOW IT'S THE LAW

DON'T MOVE A MUSSEL

STOP AQUATIC HITCHHIKERS!



Quagga and zebra mussel distribution – 2010

Since quagga and zebra mussels were first found in the Great Lakes 25 years ago, they have spread throughout much of the eastern United States. During the last three or four years, they have spread to limited areas in the Western states. Lake Mead and the Colorado River drainage below Lake Mead (including Lake Pleasant) are now heavily infested with mussels.

Please report mussel sightings

Call 1-800-352-0700 (Operation Game Thief hotline) or e-mail aiscomments@azgfd.gov immediately if you see mussels stuck to a boat in or coming into Arizona. Please note details, including vehicle license plate, boat type, bow number and mussel location.



Arizona Game and Fish Department

www.azgfd.gov/ais

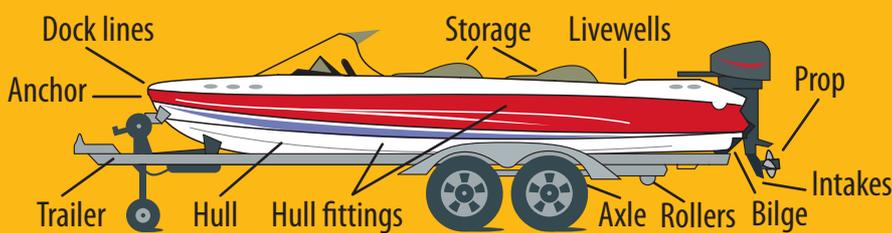
Inspect and decontaminate your boat (according to AIS Director's Orders 1, 2 and 3)

Please follow these simple steps to rid your watercraft or equipment of any possible "hitchhikers:"

- 1. Clean** — Remove all mud, plants and animals from every part of your boat, trailer and equipment.
- 2. Drain** — Before you leave the recreation area, eliminate all water from your boat, including its livewells, ballast and engine-cooling water.
- 3. Dry** — Allow time for your boat to completely dry before you launch in any other waters. This amount of time may vary depending on humidity and temperature. In the summer, your dry time should be at least seven days.

Clean Drain and Dry

Inspect everything: if it gets wet, it could harbor mussels.



If you are leaving an affected, listed aquatic invasive species (AIS) water or lake in Arizona (such as Lake Mead, Mohave, Havasu or Pleasant) you must inspect, clean, drain and dry your boat. Furthermore, if your watercraft or equipment has been in these listed AIS waters for more than 5 days consecutively, there is a very good chance you have live mussels attached. Therefore, you must follow these additional protocols.

Long-term Moored Boat Decontamination Protocols:

- Step 1** — Remove any clinging material such as plants, animals and mud from anchor, boat, motor, equipment and trailer.
- Step 2** — Remove the plug (if applicable) and drain the water from the bilge, livewell and any other compartments that could hold water. Drain water from engine and engine cooling system(s).
- Step 3** — Physically remove all visible attached mussels from boat surfaces, motors, impellers, outdrives, rudders, anchor(s) and through-hull fittings.
- Step 4** — If possible, flush engine and cooling system and any other through-hull fittings with hot water that is exiting those areas at 140 degrees Fahrenheit for at least 10 seconds.
- Step 5** — Keep the boat out of the water and ensure all areas of the boat are dry, including bilge, through-hull fittings and engine, for a minimum of 18 consecutive days during the months of November through April and seven consecutive days from May through October.



Mussel threat

Invasive mussels are a problem because they form dense, destructive colonies that encrust almost any underwater surface. Irrigation pipes, watercraft hulls, boat engines and canal grates are just a few common targets.

Quagga mussels also reproduce quickly. An adult female mussel can produce up to a million eggs each year in the desert Southwest. Newly hatched mussels (called “veligers”) are microscopic plankton. They will easily latch onto almost any surface (such as your boat) in the water. Adult mussels can live many days in water that collects in boats and equipment. They even live totally out of the water for hours; they simply clam up!! So, as boaters and anglers visit other unaffected lakes, live mussels may travel with them and spread to these new waters. **That is what we all must STOP.**

Safeguarding Arizona waters

These mussels spread quickly after arriving in the Great Lakes in the late 1980s through ballast water. It took them less than 25 years to infest waterways across the eastern half of the country. They now threaten many areas in the West, including Arizona’s rivers, lakes and reservoirs.

Divers discovered quagga mussels in Lake Mead in 2007. Most likely this aquatic invasive species arrived in Arizona in 2004–2005, attached without the owner’s knowledge to a boat from back East. It apparently quickly spread and is now firmly entrenched in the lower Colorado River (Lake Mead, Lake Mohave, Lake Havasu) and central Arizona (Lake Pleasant). The passage of HB2157 (Aquatic Invasive Species Interdiction Act—2009) directed the Arizona Game and Fish Department to create an aquatic invasive species program to combat this progressing menace. Through A.R.S. §17-255, the department has developed Director’s Orders and decontamination protocols to assist in the fight to prevent quagga mussel movement into new waters in Arizona.

But the key to this is YOU . . . and the public’s ability to “Clean, Drain, and Dry” their watercraft and equipment so as not to move these aquatic invasive species around Arizona and the western United States. Check out www.azgfd.gov/ais for further detailed information on aquatic invasive species rules, Director’s Orders and watercraft decontamination protocols.



Potential damage

Large colonies of this invasive mussel already infest Lake Mead, Mohave, Havasu and Pleasant. Further spread into other Arizona waters could:

- **Destroy your favorite fisheries.** Invasive mussels have decimated fisheries by consuming critical plankton, collapsing food webs and “clearing” the water of vital nutrients and plankton.
- **Pollute shorelines and recreation areas.** Mussels have a nasty stench and razor-sharp shells that foul shorelines and beaches, resulting in cut feet and other unpleasant recreational problems.
- **Ruin your boat and equipment.** Mussels will grow all over your boat, including the lower unit, intake valves, cooling systems, and through-hull fittings, leaving you with high repair costs.
- **Cost millions of dollars to control, contain and eradicate.** It could cost tens of millions of dollars to remove quagga mussels from critical water and power facilities and infrastructure in Arizona. Those costs will most likely result in higher utility bills and/or taxes for mussel eradication and containment, not to mention increasing maintenance costs that may be passed on to the public.

Check out www.azgfd.gov/ais for further information on quagga and all aquatic invasive species.



Quagga and zebra mussels are tiny, but they pose a huge threat to Arizona’s economy and environment.

In other states, these invasive clam-like creatures have destroyed fisheries, polluted shorelines, ruined watercraft and cost billions of dollars in infrastructure damage.

**Spread the message ...
not the mussels**