

Dry Fire Hydrants and Aquatic Invasive Species

Rural fire hydrant systems, otherwise known as dry fire hydrants, are non-pressurized hydrants that can be installed in ponds, lakes and streams. Rural fire departments primarily use dry hydrants in areas that lack water mains with pressurized fire hydrants.

Dry fire hydrants are an important and useful asset to fire departments and rural communities. However, like boating, angling and other water related activities, dry hydrants may contribute to the spread of invasive aquatic plants and animals. Water pumping operations from dry hydrants and portable pumps can spread these plants and animals by direct water transfers through tanks, pumps, hoses and equipment or surface runoff of



discharged unused water. Species such as, zebra mussels, purple loosestrife, Hydrilla and Eurasian water milfoil, are a few of the species that can cause problems for lake managers and local communities.

Many invasive plants can survive in a very small amount of water and can infest other waters from just a tiny fragment. Zebra mussel larvae, called veligers, are microscopic and can unknowingly be transferred between waters in tanks, hoses and other equipment. These invasive species can clog power plants, industrial and public water intakes, interfere with recreational uses and affect native aquatic communities. Local communities can suffer from

decreased property values and economic losses due to reduced public use of infested waters.

Many states restrict transfer of water and bait between waterbodies. The Mississippi River Basin Panel on Aquatic Nuisance Species suggests the following guidelines for dry hydrant use and maintenance to reduce the risk of spreading aquatic invasive species.

Guidelines:

1. If possible, use well or treated municipal water sources for back flushing dry hydrants eliminating the risk of transferring aquatic invasive species. Only use options 2 or 3 if well or municipal water sources are unavailable.
2. Back-flushing dry hydrants can be done with a high-volume portable pump adjacent to a dry hydrant location. Water should be pumped directly from the source and through the hydrant to clear the pipe of silt and other materials. Before the system is used at another lake or stream, hoses, pumps and tanks should be completely dried or disinfected with 5% bleach and neutralized with sodium thiosulfate (see dilution rate table).
3. Water may be pumped from a lake or stream to back-flush a dry hydrant without disinfection only if the water is from that same lake or stream. Before equipment is used at another lake or stream, hoses, pumps and tanks should be completely dried or disinfected with 5% bleach and neutralized with sodium thiosulfate (see dilution rate table). The disinfected and neutralized water should be discharged onto the ground where it can soak-in far enough away to prevent the water from entering any water body.
4. Water taken from a dry hydrant and not completely used during training exercises or on a fire call should be discharged to the lake or stream where the water was taken, or onto the ground where it can soak-in far enough away to prevent it from entering any water body.



Disinfectant Amounts to Make Effective Concentrations					
Disinfectant	1 gallon	2 gallons	5 gallons	20 gallons	100 gallons
200 ppm Chlorine (household bleach, 5.25% Chlorine)	0.5 ounce (15 ml)	1.0 ounce (30 ml)	2.5 ounces (75 ml)	11.0 ounces (300 ml)	6 1/3 cups (1.5 L)
200 ppm Chlorine (HTH granular)	0.04 ounce (1.2 g)	0.08 ounce (2.4 g)	0.2 ounce (6 g)	0.8 ounce (24 g)	4.2 ounces (120 g)
800 ppm Sodium Thiosulfate	0.1 ounce (3 g)	0.2 ounce (6 g)	0.5 ounce (15 g)	2.1 ounces (60 g)	10.6 ounces (300 g)
Air Dry in Sun	5 days - Must dry completely to be effective. Most effective when first washed with hot water (140° F)				