

## Roof Gutters: Who needs them?!

By Kate Norris

The spring rains will soon be upon us. Great news for those who planted grass seed last month but what will all that rain do to high-traffic areas around your barn or run-in shed? Will the probable deluge leave your horses standing in muck soup? Will it wash gullies in your newly surfaced bluestone sacrifice paddock or even worse through your stalls? How much of a difference can roof gutters and thoughtfully directed downspouts really make? How much rainwater falls on your barn or shed roof anyway?

It's easy to calculate the expected amount of roof runoff, in a normal year, using the following formula:

\_\_\_\_\_ # inches of annual rainfall x \_\_\_\_\_ # of square feet of roof surface x 0.62 = # of gallons

Example:

- 40 inches of annual rainfall in Northern VA
- 864 sq. ft roof (24' x 36' small barn)

In our example a small 3-stall barn with an overhang would produce **21,427 gallons** of concentrated roof runoff per year! That could really make some mud and/or move some gravel! On one rainy day (1 inch of rain) there's still more than 500 gallons of rainwater concentrated in our "work areas."

Areas around barns and sheds typically have higher concentrations of manure and bare soil. Re-directing rainwater away from these areas benefits you and your horse. I don't know about you but I prefer firm footing when wielding a heaping wheelbarrow or dodging frisky stablemates. Diverting rainwater also means that your horse will have less mud to slip, slide, and roll in which can lessen the likelihood of injuries, lost shoes, skin infections, or weak hooves.

Another great reason to re-direct roof runoff... the fish will thank you! Rainwater is clean. Rainwater mixed with manure and soil is not.

Which do you think the critters in the nearby stream would prefer to live in?

**Let the guttering begin!**

1. Install gutters and downspouts to your roof.
2. Attach additional piping at ground level to take the water away from your paddock, manure pile, gate, or other sensitive area.
3. Direct the water into well-vegetated areas.
4. Better yet, dig a trench a foot deep, and bury the pipe attached to your downspout. Make sure you run the pipe downhill. Commonly available black corrugated piping with a 4-6" opening works well.
5. Re-cover the trench. Apply soil, seed, and hay/mulch or your bluestone dust, as appropriate.

As an alternative to simply diverting rainwater, it can also be "harvested" and stored for other uses. You can collect water from downspouts in rain barrels and reuse it to fill water troughs/buckets, for bathing horses, or for watering riding arenas. The larger your roof, the more water you can collect. Use this management tool to help yourself, your horses, water quality and your bottom line-- keep the clean water clean.

Prince William County horse owners can contact the District at (703) 594-3621 or [katenorris@pwsxcd.org](mailto:katenorris@pwsxcd.org) if they'd like more information on implementing any of the above suggestions.