Livestock Yards and Access: Assessing Your Risks Self-assessment Worksheet 1

This worksheet assesses the relative risk to water quality posed by a livestock yard, which is an area that is typically used for animal feeding, handling, exercise and loafing. It also considers whether your animals have direct access to a water resource. This worksheet accompanies Fact Sheet 4 *Livestock on Small Acreages: Assessing Your Risks to Water Resources*.

If you have more than one livestock yard, consider filling out a separate survey for each area. Otherwise, fill out the survey for the yard that is closest to a drinking water well or other water resource. Circle the answer that best describes your livestock yard and enter the relative risk rating in the right hand column. Although some choices may not correspond exactly to your situation, choose the response that is most comparable to your perceived risk.

ASSESSMENT CATEGORY	LOW RISK	MEDIUM RISK	HIGH RISK	YOUR RISK
LOCATION				
Distance from a drinking water well.	More than 200 feet.	100 – 200 feet.	***Less than 100 feet.**	❑ Low ❑ Medium ❑ High
Distance from surface water: pond, stream, or wetland.	More than 200 feet.	100 - 200 feet.	Less than 100 feet.	❑ Low ❑ Medium ❑ High
Distance from a drainage feature: storm drain, drainage ditch, tile inlet, subsurface drainage lines.	More than 200 feet.	100 - 200 feet.	Less than 100 feet.	❑ Low ❑ Medium ❑ High
Distance from septic system components: septic tank, distribution box, leachfield, cesspool, dry well.	Greater than 50 feet.	25 – 50 feet.	Less than 25 feet.	❑ Low ❑ Medium ❑ High
SITE CHARACTERISTICS				
Soil texture within the yard area. If the yard area is paved, indicate the original and surrounding soil type.	Silt loam (feels like talcum powder, smooth, silky.)	Fine sandy loam (not as smooth as silt loams, sounds gritty when rubbed between fingers.)	Sandy loam, loamy sand (coarse texture, feels gritty.)	❑ Low ❑ Medium ❑ High

***State of Rhode Island Rules and Regulations Governing the Enforcement of Chapter 46-13.2 Relating to Drilling of Drinking Water Wells, December 1989: Wells shall not be located within 100 feet of livestock pens or animal waste storage facilities.**

SITE CHARACTERISTICS continued	**LOW RISK**	**MEDIUM RISK**	**HIGH RISK**	**YOUR RISK**
Soil drainage within the yard area. If the yard area is paved, indicate the original and surrounding soil drainage.	Well-drained, high water table 6 feet or more below the surface.	Moderately well-drained, high water table within 18 – 36 inches of the surface.	Excessively drained, rapid drainage; **or,** poorly drained, high water table at or near the surface.	❑ Low ❑ Medium ❑ High
Depth of soil layer (upper, active soil layers), indicate original soil if paved	More than 30 inches.	Between 20 and 30 inches.	Less than 20 inches.	❑ Low ❑ Medium ❑ High
DESIGN AND MANAGEMENT				
Upslope surface runoff and roof runoff.	No surface water runoff or roof runoff flows into the yard.	Some surface water and/or roof runoff flows into the yard.	All surface and roof runoff flows into the yard.	❑ Low ❑ Medium ❑ High
Livestock yard runoff.	No runoff leaves the yard, the area is roofed.	Most of the yard runoff is directed to <u>well-vegetated</u> areas (woodlands, buffer strips, cropland, pastures), runoff does not leave the property or enter water resource areas.	Yard runoff is uncontrolled, travels through poorly vegetated areas, gravel or paved areas, water resource areas, or leaves the property.	❑ Low ❑ Medium ❑ High
Answer for the one that applies or for both if you have a combination paved and earthen yard: **Paved Yard:** Yard cleaning and scraping management.	Paved yard is roofed, area is cleaned periodically as needed.	Paved yard is not roofed and is cleaned at least once per week.	Paved yard is not roofed and is cleaned less than once per week.	❑ Low ❑ Medium ❑ High
Earthen yard: Amount of vegetative cover within earthen yard.	More than 75%.	25% - 75%.	Less than 25%.	❑ Low ❑ Medium ❑ High

DESIGN AND MANAGEMENT Continued	LOW RISK	MEDIUM RISK	HIGH RISK	YOUR RISK
Animal access to earthen yard.	Animals only access during dry periods to prevent mud.	Animals access periodically during wet conditions, yard is wet and muddy at times.	Animals access the yard at all times, regardless of conditions, it is wet and muddy most of the time.	❑ Low ❑ Medium ❑ High
Direct animal access to a water resource: pond, stream, wetland, or well (this includes your entire property, not just the area of the livestock yard. For example, if you have pastureland, the animals may have direct access to surface waters when out on pasture.)	Animals never have direct access to a shoreline or other water resource.	Animals have direct access to a shoreline or water resource at times, the access area is limited with most of the shoreline or water resource containing a good vegetative buffer.	Animals have direct access to a large shoreline or water resource area, there is little to no vegetative buffer.	❑ Low ❑ Medium ❑ High

CONCENTRATION OF ANIMALS ON YARD (Square Feet per Animal)

Determine the total area of the yard in square feet. Measure the length and width of the yard.
_____ feet long X _____ feet wide = _____ square feet total (one acre is equal to 43,560 square feet)

Enter the total number of animals occupying the yard: _____ number of animals

Divide the total yard area by the total number of animals to get your current square feet per animal

Total yard area/total number of animals = _____ square feet per animal (sf/a)

Example: 10 dairy replacement heifers occupy a yard that is roughly 50’ X 120’. The yard is 6,000 sq. ft. total.
6,000 sq. ft. divided by 10 animals = 600 square feet per animal (sf/a)

CONCENTRATION OF ANIMALS ON YARD (Square Feet per Animal) continued

Compare your answer with the minimum recommended sf/a listed in the table below. If your animals remain confined under a roofed area 100% of the time, enter LOW for your risk. If your sf/a is equal to or more than the minimum recommended figures provided below, enter MEDIUM for your risk. If your sf/a is less than the minimum recommended figures provided below, enter HIGH for your risk.

From page 3, enter your square feet per animal (sf/a) _____

Animal	**Paved Yard minimum sq. ft. per animal**	**Earthen Yard minimum sq. ft. per animal**	**Your Risk Low / Medium or High**
Dairy Cows	75	400	
Dairy replacement heifers	40	150	
Beef feeders	50	500	
Beef cows & heifers	60	600	
Sheep and goats	20	40	
Feeder lambs	10	25	
Hogs and sows; growing / finishing pigs	15	30	
Horses		* >2,500	
Chickens, layers		**4	
Chickens, broilers		**2	
Turkeys		**8	
Ducks		**4	
[1]Multiple types of livestock occupy the yard			

[1] If more than one type of livestock occupies the same yard, multiply the number of each type of livestock by the minimum sf/a listed in the table. Add up the minimum recommended areas (in square feet) for each type of livestock. How does this total number compare with your actual livestock yard area?

Example: 3 sheep and 2 horses occupy the same earthen yard. The yard is 30' by 200' and is not roofed.

Min. suggested for 3 sheep: 3 X 40 sf = 120 sq. ft.

Min. suggested for 2 horses: 2 X 2,500 sf = 5,000 sq. ft.

Min. suggested yard area: 120 + 5,000 = 5,120 sq. ft.

Yard area available: 30' X 200' = 6,000 sq. ft. which is greater than the minimum suggested.

The risk in this case is MEDIUM (area is not roofed)

*With proper engineering and maintenance, the minimum recommended area per horse for an exercise yard can be reduced to 600 sq. ft. per animal with the use of sand and geotextile materials. Contact the USDA Natural Resources Conservation, Warwick, RI at (401) 828-1300 for more information. View the Ohio State University Fact Sheet *Using Geotextile Fabric in Livestock Operations* at http://ohioline.osu.edu/aex-fact/0304.html for more information on the use of geotextiles in livestock yards.

** Minimum sq. ft./animal is based on medium textured soils, silt loam/fine sandy loam. If soils are coarse textured sandy loam/loamy sand, enter HIGH for your risk.

Animal concentrations derived from Midwest Plan Service publications and other sources.

RESPONDING TO RISKS

Your goal is to lower the risks identified. Use the action checklist below to record medium and high risk practices. Use the information and resources provided in our small acreage livestock fact sheet series to help you make plans to reduce your risks.

ACTION CHECKLIST: LIVESTOCK YARD AND ACCESS MANAGEMENT

Write all high and medium risks below.	**What can you do to reduce the risk?**	**Set a target date for action.**
Example: *Livestock yard located less than 100 feet from drinking water well.*	*Keep the animals confined to the barn as much as possible until a new livestock yard can be located and fenced.*	*This weekend: August 14*
Example: *Roof runoff from south half of barn flows through the livestock yard.*	*Install a roof gutter system for the east side of barn. Direct the downspout to a well-vegetated area that is not prone to erosion.*	*Late Fall: by November 1*
Example: *Animals have direct access to entire pond for drinking, though they only concentrate along the edge that is adjacent to the livestock yard.*	*Investigate watering tubs to be supplied by hose and barn faucet. Visit local farm for fencing and watering ideas. Install a new watering tub in livestock yard.* *Install fencing around perimeter of pond, leaving a 10 foot buffer. Allow natural vegetation to re-grow.* *Close gate to pasture area, confine animals to livestock yard until pond fencing is complete.*	*Six weeks, end of September* *Next Spring* *When new watering tub is installed, 6 weeks*

RESPONDING TO RISKS

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ACTION CHECKLIST: LIVESTOCK YARD MANAGEMENT AND ACCESS

Write all high and medium risks below.	**What can you do to reduce the risk?**	**Set a target date for action.**

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Healthy Landscapes is a project of the University of Rhode Island Cooperative Extension and the Town of North Kingstown, Rhode Island. It is funded by the USDA CSREES, National Integrated Water Quality Program. Cooperative Extension in Rhode Island provides equal opportunities in programs and employment without regard to race, sex, color, national origin, sex or preference, creed or disability. This is contribution number 4096 of the College of the Environment and Life Sciences, University of Rhode Island.