

LANDOWNER'S SURVEY:

WHAT'S THE RISK TO YOUR WATER FROM A LIVESTOCK YARD?

Utah Farmstead Assessment for Ground Water and Surface Water Protection

Survey 8

Revised March 2012

Livestock yards, such as barnyards, holding areas and feedlots, are areas of concentrated livestock manure. They can be a source of nutrient and bacterial contamination of surface or ground water. This is especially true if there is no system to divert clean water flow from the livestock yard or to collect and divert polluted runoff from the yard to an area where it will have minimal effect on ground water or surface water. The potential for livestock yards to affect water quality is greatest if the yard is located over coarse-textured permeable soils, if the water table is at or near the surface, if bedrock is within a few feet of the surface or if polluted runoff reaches surface water sources.



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This survey asks a series of questions dealing with common risks from livestock yard runoff to water quality. The questions are designed to help you identify specific practices or conditions on your farmstead or acreage that should be addressed to reduce risk of water contamination.

The results of this survey are intended to provide general information and recommendations regarding practices and potential risks to water quality. Keep this survey as your private record and use it as a guide to taking action to reduce these risks. For more information, refer to Fact Sheet 8 in this series: "How to Manage a Livestock Yard and Protect Your Water."



Water is Life : Quality Matters



See Glossary in Fact Sheet #8 for clarification of terms in this survey.

SURVEY INSTRUCTIONS

For each question circle the answer that best describes your situation. At the end of each section, add together the numbers that correspond to each answer. When you have completed the survey, add together section totals for the total risk assessment score.

Location and Site Characteristics

1. How far is your livestock yard from a water well?
 - Less than 50 feet (3)
 - Between 50 and 100 feet (2)
 - More than 100 feet (1)

- surface water?
 - Less than 50 feet (3)
 - Between 50 and 100 feet (2)
 - More than 100 feet (1)

- tile inlet?
 - Less than 50 feet (3)
 - Between 50 and 100 feet (2)
 - More than 100 feet (1)

2. Is the yard located upslope from a water well?
 - Yes (3)
 - No (1)

- surface water?
 - Yes (3)
 - No (1)

- a tile inlet?
 - Yes (3)
 - No (1)

3. How deep is the soil layer in the livestock yard?
 - less than 20 inches (3)
 - between 20 and 30 inches (2)
 - more than 30 inches (1)

4. Describe the soil texture in the livestock yard.
 - Clay (1)
 - Loam (2)
 - Sand (3)

5. Does any upslope surface water run through the yard?
 - Yes (3)
 - No (1)



Lot Runoff Control and Yard Cleaning

6. Is the roof water collected and diverted from the yard?
 - Yes (1)
 - No (3)

7. Does the yard have curbs?
 - Yes (1)
 - No (3)

8. Do you collect and store the runoff from the livestock yard?
 - Yes (1)
 - (If No, skip to Question #11) No (3)

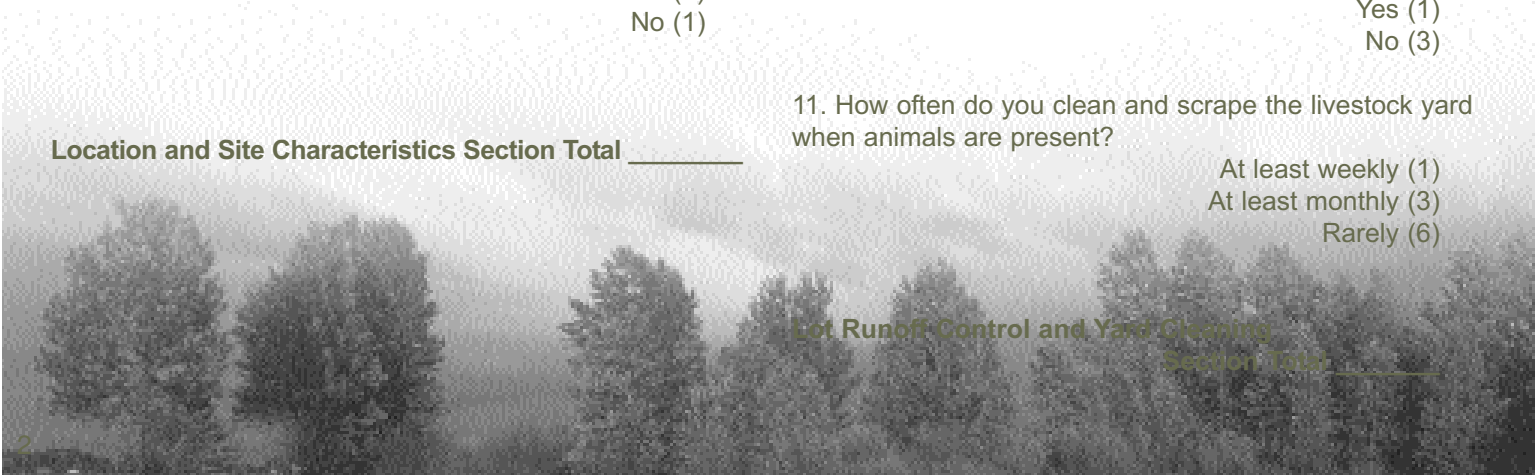
9. Do you use an infiltration strip to receive runoff from the yard?
 - Yes (1)
 - No (3)

10. Do you separate the solids out of the runoff?
 - Yes (1)
 - No (3)

11. How often do you clean and scrape the livestock yard when animals are present?
 - At least weekly (1)
 - At least monthly (3)
 - Rarely (6)

Location and Site Characteristics Section Total _____

Lot Runoff Control and Yard Cleaning Section Total _____



Yard Size

12. To fill in the table below, repeat steps (a) and (b) **for each type of animal you have in a yard.**

(a.) Calculate the area of each yard in square feet.
(Multiply yard width in feet by yard length in feet).

Enter this number in the second column for each animal.

(b.) Calculate the area per animal in square feet.
(Divide the area of the yard by the maximum number of animals kept in the yard at any time).

Enter this number in the third column for each animal.

Scoring

For each type of animal you keep in a yard, compare your calculated area per animal with the recommended yard area for each animal.

Note: the recommended area depends on whether the yard is paved or earthen.

If your area per animal is equal to or greater than the recommended yard area per animal, enter a score of (3) into the last column.

If your area per animal is smaller than the recommended area per animal, enter a score of (1) into the last column.

If you do not have a particular type of animal, enter (0) into the last column.

Sum all scores and enter this as the Total Score.

Enter the Number of Different Animal Types.

Calculate an Average Yard Size Score by dividing the Total Score by the number of different types of animals.

Yard Size Table

Animal Type	Yard area in ft ² (from 12a)	Area per animal in ft ² (from 12b)	Recommended Yard Area per animal		Score
			paved ft ²	earthen ft ²	
dairy cows	_____	_____	75	400	_____
dairy replacements	_____	_____	40	150	_____
beef feeders	_____	_____	50	500 (300 with a mound)	_____
beef cows & heifers	_____	_____	60	600 (400 with a mound)	_____
sheep & ewes	_____	_____	20	40	_____
feeder lambs	_____	_____	10	25	_____
hogs & sows	_____	_____	30	150	_____
growing/finishing pigs	_____	_____	30	150	_____
horses	_____	_____	exercise yard > 2,500		_____
turkeys	_____	_____	on range = 175-290 per acre		_____
ducks	_____	_____	on range = 175-290 per acre		_____
Total Score					_____
Number of Different Animal Types					_____
Average Yard Size Score					_____

RISK ASSESSMENT FOR LIVESTOCK YARD MANAGEMENT

		Add the following totals:	<u>Low</u>	<u>Moderate</u>	<u>High</u>
Location and Site Characteristics section total	_____ x 3 = _____		27	54	81
Lot Runoff Control and Yard Cleaning section total	_____ x 2 = _____		12	27	42
Average Yard Size score	_____ x 5 = _____		0	5	15

SURVEY 8 TOTAL SCORE _____

SURVEY 8 TOTAL SCORE	39	86	138
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TOTAL RISK LEVEL	Low	Moderate	High
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INTERPRETING YOUR RISK RATING

Locate your total risk score on the spectrum above to get a general idea of the risk wastewater is posing to water sources on your farmstead or acreage.

Next, compare your risk scores for each section with the ratings (Low, Moderate, and High) for the individual sections to determine the practices where your risk is moderate to high.

For these sections go back to the survey and look at the questions for which you marked a high scoring choice. These are the areas you should address first to reduce risk of water contamination.

Follow Up

Refer to Fact Sheet #8: How to Manage A Livestock Yard and Protect Your Water for contacts and information about safe well operation. Contact your Utah State University county Extension office, or the Extension web page <http://www.extension.usu.edu> for more information.

