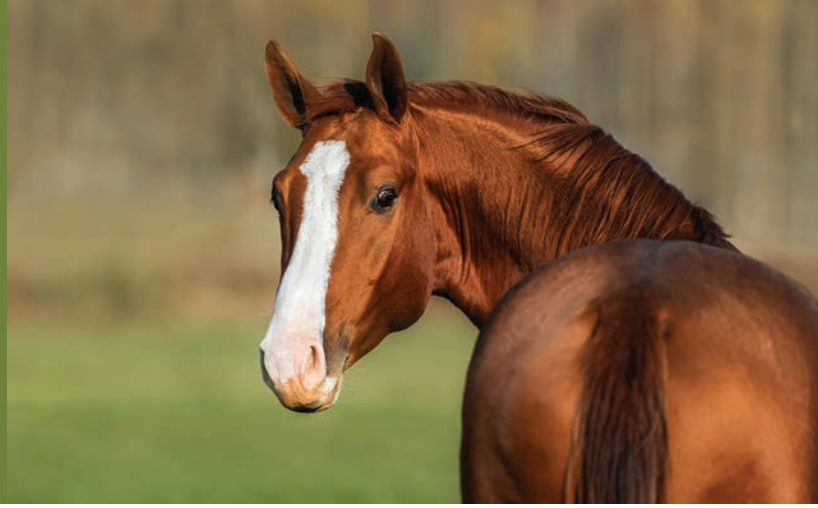
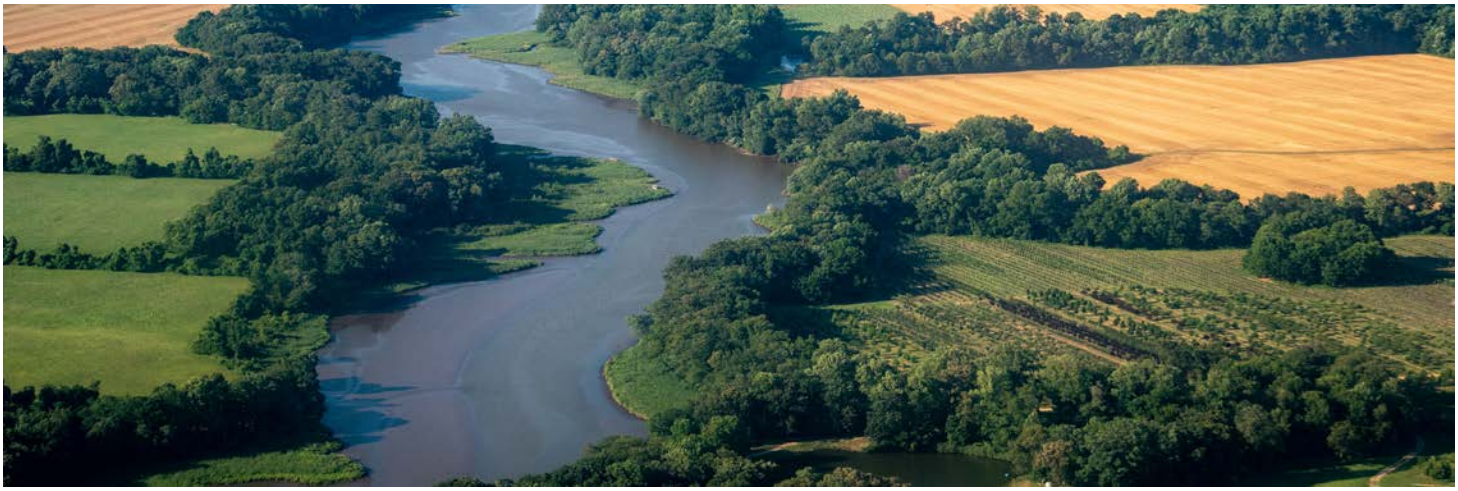
HOW
Horse Outreach Workgroup

FACT SHEET



ASSESSING YOUR FARM'S ENVIRONMENTAL IMPACT



THE BAY CLEANUP

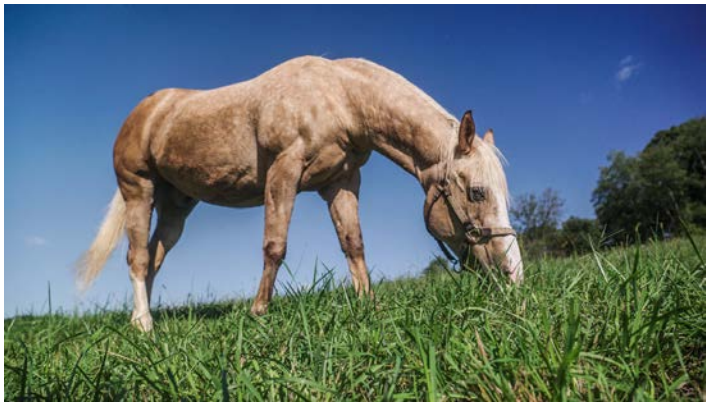
In 2010, the U.S. Envionmental Protection Agency (EPA) placed the Chesapeake Bay on a pollution diet by setting limits on the amount of nutrients and sediments entering its waters. These pollution limits, called Total Maximum Daily Load (TMDL) represent the maximum amount of pollution that can enter the Bay and and still meet water quality standards. The six Bay states, including the District of Columbia, are required to follow Watershed Implementation Plans (WIPs) outlining specific actions that they will take to achieve these pollution limits by 2025.

MARYLAND'S HORSE COUNTRY

Maryland's horse country is also Bay country, closely linked by a dense 17,000 mile network of streams and rivers that feed the Bay. With over 90,000 horses, Maryland has more horses per square mile than any state in the U.S. If not managed properly, this high density of horses can have a significant impact on water quality and natural resources. Eroding soil from overgrazed pastures and rainwater runoff from unmanaged manure piles carry excess nutrients and sediment to the Bay and its tributaries.

DOES YOUR FARM MEASURE UP?

It will take about 35 minutes to complete an assessment that will give you a better understanding of the impact your equine operation is having on the environment and what you can do to reduce that impact and increase the value of your property. The assessment will also help you identify potential environmental impacts associated with your horse operation. For each statement on the left, find the statement in a box that best describes the conditions on your farm. If a statement does not apply, simply skip the question. Check the appropriate impact ranking box in the last column.



Maintaining pasture grasses at a height of six inches is the best way to minimize weeds and spotty growth.

ASSESSING YOUR FARM'S ENVIRONMENTAL IMPACT

GLOSSARY

Calibrate Procedure for determining the actual rate of manure/fertilizer applied by a spreader and adjusting to obtain the desired agronomic rate for a field. This assures that the manure/fertilizer is applied to a field at the desired application rate, one that meets the nutrient needs of the forage species, while minimizing the adverse environmental impacts.

Compost The transformation of organic material (i.e., the plant material in your horse's manure) into a nutrient rich soil-like material through decomposition.

Diversion Earthern embankment that directs runoff water from a specific area.

Forage Species Legume varieties consumed by grazing desirable grass.

Geotextile Cloth Multitude of woven or non-woven fabrics designed with specific physical properties for either filtration or soil reinforcement.

Grazing Intensity Number of animals per unit area of available forage.

Heavy Use Area An area frequented by livestock and in which animals tend to linger and congregate, such as areas used to provide supplemental feed, minerals, and water.

Heavy Use Area Protection Protecting heavily used areas by establishing vegetative cover, by surfacing with suitable materials, or by installing needed structures.

High Traffic Areas Gates, shelters, water and feeding areas where it is difficult to maintain vegetation.

Minimum Grazing Height The minimum height to graze forage crops without loss of stand, sacrifice of plant vigor, and reduction of regrowth potential.

Nutrient Management Plan A specific plan that details how much fertilizer, manure or other nutrient sources may be safely applied to crops to achieve yields and prevent excess nutrients from impacting waterways.

Perennial A plant persisting for several years usually with new herbaceous growth from existing surface or subsurface vegetative structures.

Pest Management Plan A specific plan for managing pests to achieve the highest economic return and prevent environmental contamination. Pest management plans can include biological, chemical, and mechanical control measures.

Roof Runoff System of gutter, downspouts, underground outlets used to manage rainwater.

Sacrifice Lot A small paddock or exercise lot for horses. It requires little maintenance and can be used for feeding or exercise whenever your pastures are wet, overgrazed, under renovation, or drought stricken.

Soil Testing Used to determine the amount and type of fertilizer needed for growing forage species. Visit www.extension.umd.edu for soil testing information.

Stream Crossing A trail or travelway constructed across a stream to allow livestock or equipment to cross with minimal disturbance to the stream and aquatic environment.

Surface Water Ponds, streams, ditches, and adjoining areas. A permanent, existing body of water.

Wetland A lowland area, marsh or swamp, that is periodically saturated with moisture. The Soil Conservation Districts (SCDs) can provide assistance on wetland identification.

ASSESSING YOUR FARM'S ENVIRONMENTAL IMPACT

HORSE FARM MANAGEMENT PRACTICES					
	Low Impact	**Moderate Impact**	**High Impact**	**Severe Impact**	**Your Impact**
Pasture Management					
Grazing Intensity	Plants not grazed lower than 3" for cool-season perennial forages recommended for pastures; at least 85% ground cover of forage species; animals are rotated to allow pastures to recover from grazing	Plants not grazed lower than 3" for cool-season perennial forages recommended for pastures; >70% ground cover of forage species; animals are rotated to allow pastures to recover from grazing	Plants grazed lower than 3" for cool-season perennial forages recommended for pastures; <70% ground cover; little rotation/recover from grazing of pastures	Plants grazed lower than 3" for cool-season perennial forages recommended for pastures; <50% ground cover of forage species; no rotation/recover from grazing of pastures	Low - 0 Mod - 2 High - 4 Severe - 5
Weed Invasion	Invasion of undesirable weedy species is minimal; a healthy stand of forage species is maintained; undesirable weeds comprise <5% of the pasture	Undesirable weeds comprise 5-15% of the pasture; periodic weed control measures are taken	Undesirable weeds comprise 15-30% of the pasture; weed control measures are not routinely taken	No weed control; desirable forage stand is suppressed due to weed invasion; weeds comprise >30% of the pasture	Low - 0 Mod - 2 High - 4 Severe - 5
Maintenance	Follow rotational grazing plan; pastures are mowed and dragged when horses are moved/ rotated	Horses are rotated; pastures are mowed and dragged occasionally	Little rotation; mowing and dragging occasionally	No rotation; pastures are not mowed or dragged	Low - 0 Mod - 2 High - 4 Severe - 5
Forage Species	Selection is based on soil, site conditions, and management objectives following technical recommendations for seeding dates and field conditions	Selection is based on personal preferences and/ or pasture seed mix; follow some but not all of recommendations for seeding dates and field conditions	Use whatever seed available; seed is planted outside of recommended dates and soil conditions	No seeding or reseeding is done	Low - 0 Mod - 2 High - 4 Severe - 5

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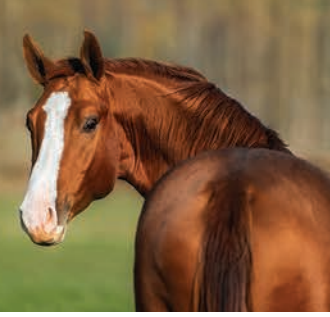

Sacrifice Lot	Used for feeding or exercise when pastures are wet, overgrazed, under renovation or drought striken in conjuntion with a grazing plan	Use sometimes to feed or exercise when pastures are muddy, overgrazed, under renovation or drought striken	Use sporadically or as open/ unmanaged access	No sacrifice area	Low - 0 Mod - 2 High - 4 Severe - 5
Soil Fertility and Nutrient Management					
Soil Testing	Every 3 years with historical soil test records	Every 3 years without historical soil test records	Less than every 3 years	Never	Low - 0 Mod - 2 High - 4 Severe - 5
Nutrient Management Pan	Follow recommendation of certified nutrient management plan with operational changes included	Follow recommendation of certified nutrient management plan	Follow general nutrient recommendations	No nutrient management plan	Low - 0 Mod - 2 High - 4 Severe - 5
Nutrient Analysis, Application Timing, and Pasture Budget	Manure/fertilizer is applied based on realistic pasture production estimates during the growing season; manure is analyzed for nutrient content; application equipment is routinely calibrated	Manure/fertilizer is applied based on realistic pasture production estimates during the growing season; nutrients from manure are estimated using table values; equipment calibrated periodically	Manure/fertilizer applied without regard to soil test or nutrient management plan recommendations; application equipment is not calibrated	No considerations	Low - 0 Mod - 2 High - 4 Severe - 5
Record Keeping	3 to 6 years of historical records of manure/fertilizer applications; manure imports and exports are documented	Less than 3 years of historical records of manure/fertilizer applications; manure imports and exports are documented	Minimal record keeping of on farm application; no records of manure leaving the farm	No nutrient management records are kept	Low - 0 Mod - 2 High - 4 Severe - 5
pH/Liming	Soil pH 6.8-6.2; history of lime applications according to soil test	Soil pH 6.1-5.8; some records of lime application according to soil test	5.7-5.5; no records of lime application	<5.5 or unknown	Low - 0 Mod - 2 High - 4 Severe - 5

ASSESSING YOUR FARM'S ENVIRONMENTAL IMPACT

Sacrifice Lot					
General Location	Located at least 100 ft. downslope from well; 100 ft. from surface water	Located 50 to 100 ft. downslope from well; 100 ft. from surface water	Located upslope and at least 100 ft. from well; 50 ft. away from surface water	Located upslope and at least 100 ft. from well; 25 ft. away from surface water	Low - 0 Mod - 2 High - 4 Severe - 5
Lot Runoff	No runoff from area, 50-100 ft. of well established grass; covered structures have roof runoff management	Runoff management outlets to grassed waterway or diversion, 25-50 ft. of well established grass surrounds lot or area	No runoff management, 25-50 ft. of well established grass surround lot or area	No runoff management. less than 25 ft. or grass surrounds lot or area	Low - 0 Mod - 2 High - 4 Severe - 5
Manure Management	Manure is collected daily for compost, farm use, or disposal using nutrient management guidelines	Manure is collected weekly for compost, farm use, or disposal using nutrient management guidelines	Manure is collected every 4 weeks or more; nutrient management guidelines are not used	Manure accumulates; nutrient management guidelines are not used	Low - 0 Mod - 2 High - 4 Severe - 5
High Traffic Area					
General Location	Located at least 100 ft. downslope from well; 100 ft. from surface water	Located 50 to 100 ft. downslope from well; 100 ft. from surface water	Located upslope and at least 100 ft. from well; 50 ft. away from surface water	Located upslope and within 100 ft. of well; within 25 ft. of surface water; lack of heavy use area	Low - 0 Mod - 2 High - 4 Severe - 5
Construction	Used established guidelines to construct heavy use area in all high traffic areas	Used established guidelines to construct heavy use areas in some high traffic areas	No heavy use pads in some high traffic areas	High traffic areas have significant erosion and bare soil; no heavy use area in use	Low - 0 Mod - 2 High - 4 Severe - 5
Runoff	No dirty runoff from area; 50 to 100 ft. of well established grass surrounds heavy use area	Runoff managed with diversions or at least 25 ft. of grass surrounds heavy use area	10 to 25 ft. of sparse grass surrounds heavy use area	Less than 10 ft. of sparse grass surrounds heavy use area; no runoff management	Low - 0 Mod - 2 High - 4 Severe - 5
Maintenance	Collect and store manure twice a week and replace stone/ surface material to maintain level as installed	Collect and store manure monthly; area is inspected every 1 to 2 years	Manure is allowed to build up; maintenance is minimal	Manure is not removed; no replacement of stone/surface material	Low - 0 Mod - 2 High - 4 Severe - 5

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Surface Water - Ponds, Streams, Ditches, and Adjoining Areas					
Condition of Vegetative Strip along Surface Water	90% grass ground cover within 25 ft. of surface water; adequately designed crossing of surface water	75 to 90% grass ground cover within 25 ft. of surface water; a few bare areas and manure deposits are evident	60 to 75% grass ground cover within 25 ft. of surface water; some signs of bank erosion are evident and numerous manure deposits	Less that 60% grass ground cover within 25 ft. of surface water; bank erosion evident; numerous manure deposits	Low - 0 Mod - 2 High - 4 Severe - 5
Horse Access to Surface Water for Water Supply	Horse access to surface water is restricted; alternative water supply sources are provided for water needs; horses are excluded from surface water	Horses are allowed controlled access to surface water; stream banks with animal access protected with geotextile cloth and stone	Horses are allowed occasional access to designated areas between late spring and early fall; condition of stream banks with animal access is not routinely inspected	Horses are allowed unlimites access throughout the year; condition of stream banks with animal access is not routinely inspected	Low - 0 Mod - 2 High - 4 Severe - 5
Wetlands					
Horse Access to Wetland Areas	Horses are excluded from wetland areas	Horses are allowed managed access during periods of seasonal low water table	Horses are allowed managed access during periods of seasonal high water table	Horses are allowed unlimited access to wetland areas	Low - 0 Mod - 2 High - 4 Severe - 5

ACTION PLAN

A tool that allows you to take steps to modify the areas of concern as identified by your assessment. The scoring guideline is a basic blueprint for developing an action plan. Consult your local soil conservation district office for assistance.

SCORING	
90-100: Severe Impact	Your equine operation has a severe impact on the environment. Contact your soil conservation district for help.
86-75: High Impact	Your equine operation has a high impact on the environment. Contact your local soil conservation district for help.
74-60: Moderate Impact	Your equine operation has a moderate to high impact on the environment. Contact your local soil conservation district for help.
59 & below: Low Impact	Congratulations! Your equine operation is well manages and has a low impact on the environment.

For more information on horse manure management and other soil conservation and water quality practices, contact your local Soil Conservation District. Addresses and phone numbers can be found through mda.maryland.gov/HOW.

The Horse Outreach Workgroup (HOW) provides information to horse owners on pasture and manure management. HOW consists of representatives from local Soil Conservation Districts, the Maryland Department of Agriculture, USDA Natural Resource Conservation Service, University of Maryland Extension, and the Maryland Horse Industry Board.

Reviewed by Dr. Amy Burk, University of Maryland Extension, September 2024.

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