

BG-10 Animal Care and Handling Facilities



Photo Credit: Geoff Brosseau

Description

This category covers two types of animal care and handling facilities:

- Small animal facilities and facilities in urbanized areas including:
 - ✓ Kennels
 - ✓ Rescue centers
 - ✓ Veterinary facilities
 - ✓ Racetracks
- Horse keeping facilities including:
 - ✓ Boarding stables
 - ✓ Equestrian centers
 - ✓ Small farms
 - ✓ Suburban horse owners

Typically the second category of facilities will have access to pasture and will often be near or include waterways.

This category does not include concentrated animal feeding operations (CAFO) as defined by USEPA regulations.

Pollutant Sources

The following are sources of pollutants:

- Animal washing
- Feeding / grazing
- Urine / feces and manure deposits



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- Unpaved or non-vegetated areas

Pollutants can include:

- Coliform bacteria
- Nutrients
- Sediment

Approach

Minimize exposure of rain and runoff to animal care and handling areas by using cover and containment. In and around these areas, use good housekeeping to minimize the generation of pollutants. Make stormwater pollution prevention BMPs a part of standard operating procedures and the employee training program.

Source Control BMPs

The best management practices are listed by activity or typical areas.

Small Animal Facilities and Facilities in Urbanized Areas	<ul style="list-style-type: none">□ Regularly sweep and clean animal keeping areas to collect and properly dispose of droppings, uneaten food, and other potential stormwater pollutants.□ Do not hose down areas that may contain potential stormwater pollutants into storm drains or to streams or creeks.□ Do not allow any wash waters to be discharged to storm drains or to receiving water without proper treatment.□ If animals are kept in unpaved and uncovered areas, the ground must either have vegetative cover or some other type of ground cover such as mulch.□ If animals are not leashed or in cages, the area where animals are kept must be surrounded by a fence or other means that prevents animals from moving away from the controlled area where BMPs are used.
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<p>Horse Keeping Facilities</p>	<p>Site Layout Considerations</p> <ul style="list-style-type: none"> ❑ Site barns, corrals, manure storage, and other high-use areas on higher ground when possible or on the portion of property that drains away from creeks and channels. Do not site facilities or pasture on land where the slope is 30% or more. ❑ Locate the following areas at least 50 feet away from creeks, intermittent streams, drains, domestic wells, septic tank or leach field sites: <ul style="list-style-type: none"> ✓ Animal washing ✓ Arenas and riding rings ✓ Stalls, paddocks, and turnouts ✓ Pasture and equestrian courses ✓ Land application of manure and compost
	<ul style="list-style-type: none"> ❑ Locate feed storage bins and stockpiles at least 150 feet away from creeks, intermittent streams, drains, domestic wells, and septic tank or leach field sites. ❑ Separate barnyards, paddocks, and manure storage areas from waterways with vegetated buffers or pasture to act as a natural filter. ❑ Keep “clean water clean.” Use grassed ditches, berms, or subsurface drains and properly sized roof gutters and downspouts to divert clean runoff around barnyard manure and sediment. ❑ Divert contaminated runoff from manured areas away from waterways and to low-gradient vegetated buffers. ❑ Construct or repair trails, arenas, roads, parking areas, ditches, and culverts to drain water but not sediment. ❑ Use fencing to keep horses away from environmentally sensitive areas and protect stream banks. Keep fencing and gates in good repair at all times.
	<p>Horse Access to Waterways</p> <ul style="list-style-type: none"> ❑ Provide animals with other sources of water and shade. ❑ Design stream crossings to minimize erosion. ❑ Prevent trampling of streamside vegetation.
	<p>Grazing Management</p> <ul style="list-style-type: none"> ❑ Focus on protecting the pasture’s soil and vegetative cover. Prevent bare areas from forming. ❑ Establish healthy and vigorous pastures with at least 3 inches of leafy material present. ❑ Subdivide grazing areas into three or more units of equal size, which can be grazed in rotation.

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- Clip tall weeds and old grass to control weeds and stimulate grass growth.
- Rotate animals to clean pasture when grass is grazed down to 3-4 inches.
- Let pasture regrow to 8-10 inches before allowing regrazing.
- Manage grazing so that a cover of dry residual vegetation protects soil from the first rains.
- Keep animals away from wet fields when possible.
- During heavy rainfall, consider indoor feeding.
- Use manure and soiled bedding sparingly to fertilize pastures and croplands.
- Use turnout paddocks as “sacrifice areas” to preserve pastures.

Horse Waste Management

- Clean up manure and soiled bedding regularly, especially during wet weather.
- After cleanup, during the arid summer, water the areas where horses frequently deposit manure to promote decomposition.
- Store horse waste in sturdy, insect-resistant, and seepage-free units that have an impervious surface bottom and a cover to prevent leaching and runoff, such as:
 - ✓ Plastic garbage cans with lids
 - ✓ Fly-tight wooden or concrete storage sheds
 - ✓ Composters
 - ✓ Pits or trenches lined with an impermeable layer
- Do not dump horse waste on the edge or directly into stream channels.
- Compost. Keep compost piles moist, and well aerated to promote decomposition.
- Give away composted material to local greenhouses, nurseries and botanical gardens.
- Transport manure to topsoil companies or composting centers.
- Fertilize pastures, cropland, and lawns with manure and soiled bedding. Do not apply fertilizer just before or during rainstorms.

Chemical Management

- Use Integrated Pest Management (IPM) or less-toxic methods for insect and weed control.
- Use chemical insecticides and herbicides as a last resort. Always properly store and dispose of chemical pesticides.
- Do not let horse wash water drain directly into waterways.

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Treatment Control BMPs

If treatment controls are installed at the facility, see Section 4 of this Handbook for information on inspecting and maintaining the BMPs.

For information on designing treatment controls, see Section 5 of the New Development and Redevelopment Planning Handbook.

More Information

Alameda County Resource Conservation District, USDA Natural Resources Conservation Service. Undated website, Available on-line at

<http://www.acrcd.org/ForFarmersRanchers/EquineFacilities.aspx>

Equestrian-Related Water Quality Best Management Practices, A cooperative effort among private and public entities in Orange and San Diego Counties, California, June 2004, Available on-line at: <http://www.ci.laguna-hills.ca.us/civica/filebank/blobload.asp?BlobID=2745>

Fairfax County, Virginia, Undated website, *Earth Friendly Suburban Horse Farming*, Available on-line at: <http://www.fairfaxcounty.gov/nvswcd/horse.htm>

San Francisco Bay Area Resource Conservation & Development Council, 2001. *Horse Keeping: A Guide to Land Management for Clean Water*. Available on-line at:

http://www.cccleanwater.org/_pdfs/Horse_Keeping.pdf

Project Clean Water, 2007, *BMP Toolbox Clean Up Regularly Using Dry Methods - Animal Facilities*, Available on-line at:

http://www.projectcleanwater.org/index.php?option=com_sobi2&sobi2Task=sobi2Details&catid=123&sobi2Id=25&Itemid=168

References

City of Los Angeles, Department of Public Works. Undated pamphlet, *Stormwater Best Management Practices (BMPs), Horse Owners & Equine Industry, Safe Environmental Habits and Procedures for: Boarding Stables, Equestrian Centers, Small Farms, Urban Horse Owners*. Available on-line at: http://san.lacity.org/watershed_protection/pdfs/horse.pdf

City of Modesto, Undated pamphlet, *Stormwater BMPs: Horse Owners and Equine Industry*, Available on-line at:

<https://www.modestogov.com/pwd/utilities/wastewater/docs/Stormwater%20BMP%20Brochure%20Horse%20Owners%20and%20Equine%20Industry.pdf>

Florida Department of Agriculture and Consumer Services, 2011, *Water Quality/Quantity Best Management Practices for Florida Equine Operations*.

King County Department of Natural Resources and Parks, Water and Land Resources Division, Stormwater Services Section. 2009, *Stormwater Pollution Prevention Manual. Best Management Practices for Commercial, Multi-Family and Residential Properties. A-34 Keeping Animals in Controlled Areas. A-35 Keeping Livestock in Stables, Pens, Pastures, or Fields*. Available on-line at: <http://your.kingcounty.gov/dnrp/library/water-and-land/stormwater/stormwater-pollution-prevention-manual/SPPM-Jan09.pdf> .

Washington State Department of Ecology, 2012. *Stormwater Management Manual for Western Washington, Volume IV – Source Control BMPs*. Available on-line at:

<https://fortress.wa.gov/ecy/publications/publications/1210030part5.pdf>