Heavy Use Areas for Livestock

Why Manage Mud?
Muddy conditions can make chores more difficult and expose livestock to animal health risks that often bring higher feed and veterinarian bills. Mud is also damaging to the environment—runoff of sediment contaminates surface water and is detrimental to water quality, fish and aquatic wildlife.

Create a Confinement Area
A confinement area is a gravel or hogfuel area that is used to contain animals and keep them off pasture from late fall through early spring (October through March). During the rainy months, soils become soggy and easily compacted by the weight of livestock. Plant roots then suffocate and which reduce the soil’s capacity for holding water. Keeping livestock off pastures during the wet winter months keeps grass healthy and prevents mud.

A sacrifice area is a small enclosure, such as a corral, run or pen that is meant to be your animal’s outdoor living quarters. It is called a sacrifice area because you are giving up the use of that small portion of your grazing area to benefit the rest of your pastures. Animals should be confined to the sacrifice area(s) during the rainy season and when your pastures become overgrazed. Separating or confining animals is also useful and helps control the amount of grass consumed on a daily basis.

Keeping animals off saturated and rain soaked pastures is critical during winter months in the Pacific Northwest as they simply cannot survive continuous grazing and compaction.

Horses can be particularly hard on pastures because the pounding of their hooves compacts the soil and suffocates plant roots (even trees). In addition, their hooves act like plungers by loosening fine particles of topsoil which are then washed away by the rain. Even cattle, sheep and goats can compact soil. And pigs can do significant damage to grass and other plants and trees just by the nature of the way they forage.

Choose the Right Location
Careful consideration should be given to the location of the confinement area. The sacrifice area should be located on higher ground and away from wetlands or any surface water flows. For chore efficiency, it should be convenient to your barn, manure storage, and feeding area to make it easy for you to care for your animals and maintain. You may want to locate your sacrifice area so grassy strips, lawn or pasture or other vegetative buffers surround it. The vegetation in these buffer areas will act as a natural filtration.

TIPS
After Footing

Before Footing

After Footing
system to reduce sediment and contaminants washed from the sacrifice area.

The size of a sacrifice area can vary from that of a generous box stall, such as 20’ x 20’, to a long, narrow enclosure where animals can move about to get some exercise. The size and shape of a sacrifice area will depend on the types of animals needing to be confined and their temperament. The amount of land you have available and your soil type(s) may also affect the size of your sacrifice area.

Remember, smaller enclosures increase the chances of animals bringing injured or testing/damaging the confinement area fencing. Choose the very safest fencing for your sacrifice area and whatever choice you make, you may want to reinforce it with some type of hot wire. Horses can be hard on fences and may test most types, but they do tend to have more respect for electric fencing. Gates on fences should be adequately sized for the types of equipment that needs to access the area. Trucks to deliver footing or feed and tractors for maintaining the area. See the Fences and Gates Fact Sheet on KCD’s website for more information on considerations for your situation. Make sure that corners are safe and no protruding objects like bolt ends, nails, boards, or the tops of metal t-posts are present. Also watch out for the corners of roofs and the bottom edges of metal buildings. No wires or hanging cords should be present and absolutely no junk, garbage, or machinery in the sacrifice area.

Add Footing Materials

Footing is an important consideration for sacrifice areas. Mud management is an important aspect for the health of your livestock and the health of the environment as well as for your convenience. Animals standing in mud for long periods of time can develop fungal and bacterial problems.

Hogfuel or wood chips provide an excellent surface and can be good environmental controls. Through the composting process, this footing can contribute to the breakdown of the nitrogen in urine and manure.

Gravel or sand work well in some situations. Avoid feeding animals on these surfaces as ingesting sand or mud with hay may cause digestive problems and result in expensive vet bills.

A combination of footing types may also work well, such as using gravel in the high traffic areas and hogfuel in the rest. Hogfuel on top of sand or pea gravel may also work. Both hogfuel and a roof runoff system reduce mud.

Footing such as gravel (3/8” or 5/8”), hogfuel and sand can be used to help keep confinement areas dry. Different site preparations and footing materials are appropriate for different soil and livestock types. For assistance in choosing the best option for your situation. contact KCD Farm Conservation Planning Staff.
**Keep It Clean**

Use of a sacrifice area confines manure and urine to a smaller area where you manage it better. Picking up the manure every day to couple of days will help reduce your animals’ parasite load, as well as reducing habitat for flies, as well as helping prevent runoff from becoming contaminated with manure. Manure can then can be composted and applied to your pastures in the dry months. Composting of manure helps prevent parasite reinfestation.

Cleaning manure out of confinement areas every one to three days is one of the simplest and most important things you can do to prevent mud. Most livestock manure contains 70-80 percent moisture. If manure is left to be trampled into the livestock it will quickly turn to mud. Cleaning manure from confinement areas is also important for preventing parasite reinfestation.

For more information about manure management and composting, see KCD’s website for other fact sheets on *Manure Management*, *Composting Livestock Waste* and KCD’s *Manure Match* program.

**Divert Clean Water Away**

Installing gutters and downspouts on barns and shelters to collect and divert clean rain water away from animal confinement areas, stall entryways and other high traffic areas will help clean water stay clean. This technique will reduce the amount of manure and urine washed from the sacrifice areas and it will prevent clean rainwater from becoming contaminated by manure. Ideally the outlet for the gutters will be in a well-vegetated area that does not receive a lot of use, such as an unused section of pasture. Clean water can also be diverted to stock watering tanks, rain barrels, dry wells or rain gardens. For more information about rain gardens, see the [12000raingardens.org](http://12000raingardens.org) website.

**Filter Runoff**

Even with regular manure removal, water that runs through confinement areas will often pick up sediment from bare soil and bacteria and nutrients from urine and manure. Surrounding your confinement area with vegetation such as grass or other plants will help to intercept and filter out these contaminants.

**Paths and Walkways**

Creating gravel or hogfuel lanes of travel to move the animals between the barn and pastures will help in areas with high animal traffic that might be more susceptible to mud. Placing a footing material in these areas will help minimize mud. Keeping those walkways as clean as possible, just like a sacrifice area, will be aesthetically pleasing as well as helping to maintain animal health.
Dealing with Boredom
Depending on their breed and temperament, animals in sacrifice areas will still need exercise. For equine species, you may want to provide them with some “horse toys” like large rubber balls. Planning to maintain a regular exercise schedule is also beneficial. Goats and sheep can be easily entertained with climbing toys such as large wooden spools or logs and stumps.

Reap the Rewards
Once your sacrifice area is ready, integrating it into your pasture management program is as easy as taking your animals off the pasture when the majority of the grass is grazed down to about 3” or when pastures are saturated and rain soaked. By utilizing the sacrifice area, you will be creating a healthier pasture. Healthier pastures mean more productivity, which equals less money spent on supplemental feed. An added benefit is making your animals happier and a prettier place for you and your neighbors to enjoy, as well as a healthier environment.

More Help and Ideas
If you need additional help and ideas on pasture management and renovation, weed management, building fences, designing roof runoff systems, or manure composting, visit kingcd.org for more information and additional fact sheets.