



# Managing Seasonal Feeding Areas

## Introduction

Livestock seasonal feeding areas must be selected with care to ensure the well-being of the herd and the health of production areas are maintained, and to minimize the risk of environmental impacts.

Special considerations are required when feeding livestock on or near riparian areas. These diverse and productive zones, also sometimes referred to as riparian meadows, provide important environmental services. Concerns stemming from altered riparian ecosystems include degradation of water quality, altered water flows or storage, and impacts on biodiversity.



Some site risks cannot be changed through management. Refer to *Selecting Seasonal Feeding Areas* (Winter Feeding Stewardship Factsheet 1) for information on selecting low risk seasonal feeding areas. Beneficial management practices (BMPs) however, can help distribute animal impacts evenly across the feeding area and minimize or mitigate the risks of waste or contaminated water leaving wintering sites. Employing appropriate BMPs will ensure good environmental stewardship and will also contribute to healthy forage production areas the following growing season.

## Livestock Density

The number of animals using a wintering site directly affects the amount of manure generated, and the amount of hoof action on soils and vegetation. Always maintain a livestock density appropriate to the size of the feeding site. Densities should be kept lower than 10 animal units (AU)/ha in normal circumstances, and densities greater than 15 AU/ha should be avoided in all situations.

## Rotating Use

Rotating livestock between multiple wintering sites is an optimal strategy for minimizing negative impacts. Livestock should not stay at any given winter feeding location for longer than 3 months. And each site should not be used for more than 2–5 consecutive years. Ideally, rotate use such that each location is not used for more than one feeding season and then is rested.

Good animal distribution within winter feeding sites is also important to overall manure management and minimizing potential on and off-site impacts, such as increased soil erosion. Feeding locations should be moved weekly within the site, with feed placed a minimum of 30 meters from any surface water body to conform to the Agricultural Waste Control Regulations of the Environmental Management Act. If possible, bedding areas and watering points should also be relocated within the site at least weekly. Also, keep feeding, bedding and the water supply well separated from each other to reduce manure accumulations at any one location.

## Riparian Buffers



A healthy riparian zone plays a very important role in the overall stewardship of your wintering site. Riparian areas are natural filters and reservoirs for sediments and nutrients carried over these zones. Properly functioning riparian ecosystems

can also degrade disease-causing microorganisms. Complete and follow a riparian management plan for areas adjacent to your seasonal feeding areas. Establishing a fenced buffer between the wintering site and streams, lakes and wetlands is one way to ensure riparian services are maintained. Buffer fencing can be permanent or temporary electric fencing that can be moved once cattle are not using the area. Take appropriate actions, including replanting native shrubs and trees or controlling invasive plants, to restore and maintain healthy riparian buffers.

*Healthy riparian buffers play an important role in overall stewardship of winter feeding areas.*

## Nutrient Management

Managing the total amount and distribution of livestock manure and wasted feed is key to lowering the risk of environmental impacts, and also to capturing these nutrients on site to the benefit of the next season's forage production.

Without proper distribution, manure can build up in feeding, watering or bedding sites. If practical, manure accumulations should be removed, or broken up and spread around the site.

A build-up of nutrients in excess of what the forage crop can absorb can result in damage ('burning' or smothering) to the forage crop. It also elevates the risk that



*Avoid high livestock densities. Excess manure increases the environmental risk and can damage the next year's crop.*

leaching or runoff will carry the excess nutrients off-site with negative impacts on the surrounding and downstream environments.

If fertilizer, manure, compost or other soil amendments are added to production areas, develop and implement a nutrient management plan. This will help ensure that all nutrient sources (through fertilizers and winter feeding practices) are balanced with the crop uptake.

Refer to *Nutrient Management for Seasonal Feeding Areas* (Winter Feeding Stewardship Factsheet 3) for additional information on nutrient management for seasonal feeding areas.

## Livestock Watering

Livestock health and production depend on an adequate source of clean water. Uncontrolled access to surface water however, should be avoided. It greatly increases the potential for waste to be deposited directly into water bodies and cause pollution. Hoof action can also cause shorelines and stream banks to degrade, decreasing the effectiveness of riparian buffers and increasing the risk of soil erosion.

The best option for wintering site stewardship is to develop off-stream watering sources. These options are numerous, ranging from well-water or surface water delivered to frost-free troughs through electric, gravity-fed, solar, or cattle-powered pumps. Place water troughs a minimum of 30 meters from surface water bodies and on a concrete base for livestock comfort and sanitation

Controlled access watering points, utilizing strategic fencing with hardened or reinforced surfaces (with gravel or geotextiles), are lower-cost options to minimize the impacts of livestock watering practices.



*Off-stream and controlled access watering points minimize the potential for impacts to surface water and riparian buffers.*

Both off-stream and controlled access watering have the added benefits of maintaining clean water for livestock throughout the year to the benefit of animal health and production. When considering watering options, it is essential to ensure all surface water use is licensed in compliance with the Water Act.

## Runoff Control

Controlling water running onto or draining from the wintering site will further reduce the risk of manure or other waste being carried into adjacent water bodies. Berms can be used to hold runoff from entering adjacent areas.

Runoff from upland areas can be diverted from entering the wintering site with canals or ditches. Note that if ditches connect directly to a water course, they require the same 30-metre setback for feed placement and other potential sources of contamination.

## Managing Soil Tilth and Structure

Shallow, compacted soils resist infiltration and shed a high proportion of surface snowmelt as runoff. Uncompacted soils with good tilth (deep soils with high amounts of organic matter, good root networks and burrowing animal activity) allow greater infiltration of snowmelt and rainfall. Rip or chisel compacted soils in the growing season, and use soil amendments, good cropping and grazing practices to build organic matter and litter levels.

## Crop Management

The type and condition of vegetation on a winter feeding area will influence the ability of the site to capture and hold animal and feed wastes in runoff. Bare soil is not suitable for seasonal feeding sites. Greater than 95% of the site should be vegetated and perennial crops are superior to annual crops. Manage hay production or grazing in the growing season to maintain at least 10 cm of plant stubble.

## More Information

### Selecting Seasonal Feeding Areas

Winter Feeding Stewardship Factsheet 1.

Published in 2014 by the BC Ministry of Agriculture.

### Nutrient Management for Seasonal Feeding Areas

Winter Feeding Stewardship Factsheet 3.

Published in 2014 by the BC Ministry of Agriculture.

### Riparian Management Field Workbook

Published in 2005 by the BC Agriculture Council.

### Disclaimer

This document is intended to help assess the environmental risks and stewardship options associated with seasonal livestock feeding areas in British Columbia. Landowners have a responsibility to follow federal and provincial statutes that have been enacted to protect the environment.

The guidance and information presented in this publication is not a substitute for the requirements set out under the Fisheries Act, Public Health Act, Environmental Management Act, Drinking Water Protection Act, the Species at Risk Act, or any other legislation.

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