



## Riparian Grazing – Strategies for Success

### Why a factsheet specific to grazing riparian areas?

Riparian areas, those areas next to a stream, river, lake, wetland, or spring have soils and vegetation influenced by water. These moist soils and water-loving plant communities require some special consideration when grazing these areas. Healthy, functioning riparian areas help filter and trap runoff, recharge groundwater, reduce erosion, support biodiversity, and often produce abundant primary production, production that provides grazing opportunities. These grazing opportunities, can be maintained, as can riparian functions, with sound grazing management. The grazing strategies outlined below focus on relevance to riparian areas, but need to fit into the entire livestock grazing operation.



### Like all grazing lands, grazing riparian areas involves 4 range management principles:

1. Balance grazing use with available forage – stay within the carrying capacity and productivity of the site, while allowing plants to remain healthy and vigorous.
2. Provide effective rest - rest during the growing season enables plants to re-grow roots and above ground leaves and shoots, following grazing.
3. Avoid use during vulnerable periods – vulnerable periods include when soils are saturated with moisture and most prone to compaction, as well as when trees and shrubs are most sought after, such as when grasses are dormant or no longer available.
4. Provide even or planned distribution - livestock will tend to return to favourite areas, so using distribution tools is key to spreading grazing impacts to where use is desired and to minimise impacts in sensitive areas.

### Considerations for riparian grazing:

- Apply range management principles
- Modify your grazing strategies or practices to suit your situation
- Monitor the impact of grazing and adjust management as needed
- Riparian areas are particularly sensitive and important for many reasons, and thus may require more active, careful management than upland areas
- Not all riparian areas are suitable for grazing, due to their natural characteristics (eg. Non-palatable species, too wet, etc).
- Riparian areas can be extremely productive, with 3-10 times as much forage produced compared to surrounding uplands.
- Riparian forage productivity is highly variable, and this variability needs to be factored into grazing planning. Flood waters deposit and build deep rich soils, creating high productivity in the long-term, but sites may be covered with water or buried from new sediment deposits, resulting in no useable forage in some years.
- Riparian areas are diverse and thus no single grazing strategy or approach is suitable for all riparian areas.
- Consider using off-site watering systems wherever possible in riparian grazing situations, as this improves livestock distribution, increases livestock health and minimizes negative impacts to the waterbody, banks and shoreline.
- Highly disturbed areas are at risk of expansion of non-native, disturbance-caused plants as well as more invasive plants (weeds), including when the disturbance is removed. Weed management may be necessary during recovery.

### Grazing Strategies to Consider

#### Riparian Pasture

**Strategy:** create a pasture entirely or mostly made up of the riparian area, rather than fencing based on quarter section or landownership lines, and factor this site into a rotational grazing system.

**Benefits:** Widely useful because it allows grazing timing and intensity specifically suited to the riparian area. Riparian plant species are often different than surrounding upland areas, and thus, fencing 'like with like' allows targeted



grazing timing to best suit each pasture. Riparian pastures can be used in complex landscapes, such as areas comprised of a mixture of topography and plant communities, such as open grassed pasture or meadows, forested areas, and a mixture of riparian plant communities.

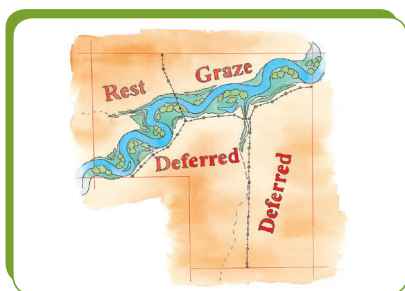
**Considerations or Limitations:** Not well suited to very small riparian areas because pasture units may be too small to be practical. Additional fencing (temporary or permanent) is required to develop new pasture units. Creation of riparian pastures may result in adjacent upland pastures not having access to surface water, which needs to be addressed.



### Rest rotation

**Strategy:** using a rotational grazing system (2 or more pastures fenced separately), one pasture unit is rested and not grazed for one full grazing year, or more. The pasture unit that is rested is then grazed in the coming year(s), while another pasture unit is rested. Rest rotation may be used for one or a few years (such as to recover a pasture's health), or it may be a long-term strategy.

**Benefits:** Providing one or more years of rest is particularly beneficial to provide a significant boost to recovery of a very unhealthy or heavily impacted site, or to provide one or more years of rest to allow for seedling or sapling trees or shrubs to grow to a larger size which are more browsing resistant, speeding the regeneration of woody plants.



**Considerations or Limitations:** Rest rotation requires having a large enough total area of pasture and low enough stocking rates that you can rest a specific area for the year. If all pasture units were used previously and are needed to meet existing stocking rates, rest rotation will require either adding new pasture or reducing stocking rates. New fencing or watering systems may be required if new pasture units are created, and that changes access to water.

### Deferred rotation

**Strategy:** Using a rotational grazing system (2 or more pastures fenced separately), one pasture unit is rested throughout the spring (and sometimes later), while other pastures are grazed. The pasture unit that is deferred in one year may be grazed in the coming year(s) earlier, while another pasture unit receives delayed use, if it is suited to early use (such as a tame pasture). Alternatively, you may always delay early season grazing in a riparian area to avoid wet conditions or minimise negative impacts on nesting waterfowl or song birds. Deferred rotation may be a strategy used for a few years (such as to recover a pasture's health), or it may be a long-term strategy.

**Benefits:** Delaying spring use allows the soft, wet and compactable soils to dry out somewhat, reducing physical impacts and compaction issues that can occur. Delaying grazing in the spring is often also beneficial for waterfowl and songbirds, reducing the likelihood of physical damage or loss of cover (because of forage being eaten) to nests. Deferral dates can be predetermined (such as July 15, a common date for waterfowl nest protection) or variable, depending on the goal of deferral, such as varying based on the moisture conditions of the year.



**Considerations or Limitations:** Deferral of a given pasture assumes you either continue winter or supplemental feeding longer or have other pastures to move cattle to instead of the

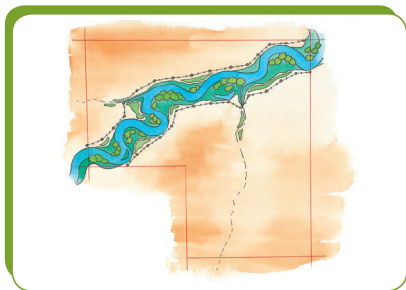




deferred field. Not all pasture units may be suited to either being the deferred or non-deferred field equally well, due to logistics, location relative to wintering or calving sites, forage type, etc. If new fencing is required to create new pasture units, and that change results in some pastures being separated from former water sources, then alternate watering systems will be needed.

#### Grazeable riparian corridor

**Strategy:** A grazeable corridor is essentially a small (usually narrowly) fenced area adjacent to a waterbody. Sometimes it is an area that was fenced with the intent of fully excluding livestock, and then some grazing was determined as desirable or necessary. It is grazed, like a riparian pasture, when the area is best suited, such as when soils are not soft and compactable, or when the forage is most suited for use. It may be grazed each year, or only in some years.



**Benefits:** A grazeable corridor is a highly controlled area, usually with limited diversity of topography or plant communities, making it well suited to a defined timing and type of use. Because it is a relatively small area, moving livestock in or out can be quite easy and efficient.

**Consideration or Limitations:** It is generally too small to be considered a regular pasture unit, and it may not be suited to grazing every year because of the limited forage available. It is particularly sensitive to overuse and physical impacts because of the small area and requires careful monitoring. It can be useful as a source of stockpiled forage in drought periods.

#### Riparian Exclusion Fencing

**Strategy:** Livestock exclusion can be done for all or part of a riparian area, usually to protect the riparian area and adjacent waterbody, allow healing or recovery, or sometimes to make management of livestock more practical (such as keeping them on one side of a river and preventing movement to adjoining properties). The site may be excluded from grazing for permanently, or after many years of rest, become part of your grazed areas again.

**Benefits:** One of the main benefits to exclusion fencing is that riparian areas and waterbodies are protected from physical damage and unwanted nutrients or contaminants (eg. bacteria) from livestock manure. In addition, since many riparian areas have extensive trees and shrubs, exclusion can reduce damage to or loss of trees and shrubs from excessive rubbing, browsing or trampling of root zones, thus maintaining deep rooted species to protect banks and shores, as well as maintaining fish and wildlife habitat and shelter opportunities for livestock (if adjacent to another pasture). Exclusion fencing creates more control of livestock distribution which can be beneficial during grazing (in adjacent areas) as well as when gathering livestock.



**Consideration or Limitations:** If a waterbody that was a livestock water source is fenced off, then an alternate watering system must be used. Exclusion fencing adds additional costs in fencing and maintenance, as well as reduces access to forage and shelter resources for livestock. Weed management is still often required in an exclusion area, as it is in other pasture units. Generally, fencing as far back as possible, in straight lines, reduces fence maintenance and construction costs, including avoiding damage by flood waters and flood debris.



## Continuous Grazing

Continuous, season long-grazing is challenging for any pasture, particularly areas that include riparian areas, because livestock tend to re-graze favourite areas and spend a lot of time around water and shelter. Careful distribution and stocking rate planning is required to ensure that riparian areas are not overgrazed when included in a pasture that has continuous grazing.



## When should you consider changing your riparian management?

Often a riparian area will change so slowly over a long period of time that we may not notice it has changed. Signs to watch for that you may need to consider adjusting your riparian grazing approach:

- unreliable or highly variable forage production
- change in plant species from water-loving to drier, upland species
- trees and shrubs are heavily browsed, flat-topped or mushroom shaped, all old or missing
- loss of wildlife and fish from the area
- extensive bare soil from livestock



- abundant undesirable or noxious weed invasion
- extensive bank and riparian damage and erosion from hoof action
- water quality or water quantity issues

**Riparian area management does require an investment but it can be worth it. Benefits of sound riparian pasture management include:**

- increased animal performance and weight gain resulting from cleaner water
- better nutrient management (keep it on the land to enrich soils)
- reduced disease, vet bills (eg. foot rot) and death (drowning)
- increased forage production
- maintain or restore animal shelter
- reduced maintenance costs



- drought and flood proofing
- greater stability and lower risk
- better distribution and utilisation
- reduced bank erosion and loss of land

Your riparian grazing goals should aim to maintain or restore riparian functions to ensure long-term grazing opportunities. To understand the pieces of your riparian area better, you may wish to conduct a Riparian Health Assessment.

Contact Cows and Fish for more information on riparian grazing or riparian health ([www.cowsandfish.org](http://www.cowsandfish.org); [riparian@cowsandfish.org](mailto:riparian@cowsandfish.org); 403-381-5538).

Illustrations and photos provided by Cows and Fish.