

# Riparian Management: The Future is in Our Hands

Hannah Kaufman  
Brooks, Alberta, Canada

Riparian areas are important because, when well managed, healthy, and productive on a ranch they can be used as a powerful tool for a rancher to get the most out of what he has and increase the worth of his land and livestock. It is now clear from three decades of research by range managers, biologists, and hydrologists, that the two percent of our rangelands which are riparian areas are disproportionately more important than their size would indicate.

Is riparian management a problem? Riparian areas need to be managed differently than uplands, and research has shown us that it is difficult to restore the functions and values of these areas' years of damage. If riparian areas are not well managed the destructive impacts of floods and droughts are alarming. Potential income is reduced since abundant water, shelter and forage translate into marketable value.

Animals prefer to graze and loiter in riparian areas. Damage then occurs because they will stay there unless they are moved or induced to seek desired nutrition. Before they will leave a riparian area the vegetation will become short stubble and the area becomes denuded. What can be done to improve this? Don't let cattle "settle" there in the first place. Move salt blocks and mineral away from riparian areas so cattle will traverse to uplands. One consideration would be to temporarily fence off any areas that the cattle won't leave alone. Give it a chance to repair and recover from grazing. Another option is to allow a type of grazing strategy that won't be as hard on that area.

An understanding of how stream valleys store and release water helps us to save more water and benefit from it, especially during those years of below average precipitation. Healthy flood plains, which are well vegetated slow the flow of water and allow it to spread and soak in effectively.

With poor vegetative health, water speeds over the flood plains and doesn't linger long enough to fill the underground "sponge". After water is "soaked up" in healthy riparian areas the stored water is released back into the stream. If the water hasn't had a chance to soak in then you may be short of water, and won't have an efficient supply for livestock, fish or wildlife.

Some areas that undergo harsh treatment are places where livestock water. The livestock may use a large area and trample fragile vegetation. Gravelling or hardening points that cattle naturally want to use, provides easy access for animals to get to water, therefore encouraging cattle to use a smaller area. This reduces trampling impact and risk of erosion.

Some other actions that contribute to riparian problems are straightening and widening stream channels. This increases horsepower of the stream often transferring flood erosion problems and/or risk to downstream neighbors. Beaver dams come and go naturally, but removal of too many all at once increases the stream gradient and increases its horsepower, thus increasing erosion. One significant contributor to riparian degradation is the excessive removal or alteration of vegetation by livestock. The "too soon, too long, too much and too often" type of grazing fails to protect riparian areas.

Allowing livestock to graze areas that are vulnerable to damage such as tree seedlings and shrubs in autumn or winter can have harmful effects on the land. Soft stream banks can also be ruined if grazed.

By including additional rest to the grazing cycle, we can enhance plant vigor and allow bank building to take place as well as allowing tree seedlings to grow and reach a more grazing resistant stage.

Grazing intensity is very important because this determines how long a particular number of cattle should graze a certain area. Lower intensity results in better plant diversity and species composition.

Fencing riparian areas into a separate pasture with specific management objectives allows for management of the area with increased control over the grazing process. Healthy riparian areas have a wide diversity of plants with strong root systems slowing the water down through friction. For example, a 5 cm deep rootmass resists erosion up to 20,000 times better than bare soil stream banks. A woody rootmat is the "re-bar" of stream banks.

On smaller, low gradient streams sod forming, deep-rooted grasses protect stream banks. For larger, higher gradient streams and rivers, brush and tree species are needed to stabilize stream banks. This is where willow trees can be beneficial. Allowing livestock to destroy or degrade these plants removes protection from erosion, and also deterio-



rates suitable habitat and shelter for animals. Degradation of riparian areas is significant because approximately 80% of Alberta's wildlife use riparian areas for all or part of their life cycle requirements.

A grazing system can utilize range management principles and practices and contribute to the productiveness of the landscape and watershed. Grazing strategies enhance livestock production and maintain or improve plant communities. With proper rest and deferment, a good grazing system can offset the impact of cropping and trampling. Deferred rotation, rest rotation and time controlled systems all are good "tools" to put into practice.

When dealing with high risk or chronic problem areas the best thing to do may be to exclude livestock from grazing the area until it can once again sustain animals and not suffer unwanted damage. Giving that piece of land a chance to

"heal" itself will prove to be beneficial to everyone in the long run.

Riparian areas sustain us, our life styles, and our businesses. The importance and significance of riparian areas is far greater than their area size suggests. Ignoring or avoiding riparian problems will not serve us well in the long run and these problems will only get worse. We can work with our neighbors and begin now to build back and protect an important part of our ranch. All of us will reap the rewards. Start now and look for the results. The future is in our hands!

**Editor's Note**

This is the 3rd Place winner of the High School Youth Forum presentations at the SRM Annual Meeting in Rapid City, South Dakota.

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