

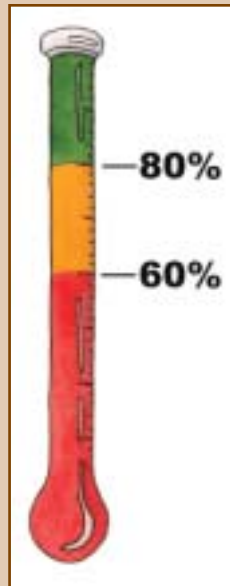


Take the Next Step

Link Measurement to Action

The step of measuring riparian health is really just the end of the beginning. When you look at the final score you might be pleasantly surprised to find your riparian areas are intact, mostly functioning, with just a few “hot” spots. You might also be surprised to find what you thought was intact and healthy isn’t and you face some real issues. The categories of health are the first level of diagnosis. Take a reading with the riparian thermometer.

For the next level of diagnosis, take a closer look at the scores for the individual questions.



If the reading is 80% or higher...

- ◆ Your riparian area is performing well - Congratulations!
- ◆ Ask yourself how you can maintain this condition.
- ◆ Make a record of your present management practices and share that information with others.

If the reading is between 60 and 80%...

- ◆ There are signs of stress, but many riparian functions are being performed - don't jump off the bridge!
- ◆ It is time to carefully watch and pay attention to management.
- ◆ Changing practices now will be relatively painless compared to later.

If the reading is below 60%...

- ◆ This riparian area needs attention - the red lights are flashing! Many riparian functions are impaired, or missing.
- ◆ Think about how to stabilize these areas to prevent their condition from worsening and management to improve them.

RIPARIAN HEALTH ASSESSMENT - FIELD SHEET					
Landowner/lessee: <i>South Fork</i>		Date: <i>1 June 02</i>		Reach No.:	
Stream/River: <i>Beaver Creek</i>					
Site Description: <i>Lower end of Bull Pasture</i>					
		Scores of N/A			
		Actual	Possible		
1. Vegetative Cover of Floodplain and Streambanks	6 4 2 0	4	6		
2. Invasive Plant Species	3 2 1 0	7	3	<i>Cane thistle</i>	
3. Disturbance-increaser Undesirable Herbaceous Species	3 2 1 0	2	3		
4. Preferred Tree and Shrub Establishment and Regeneration	6 4 2 0	7	3		
5. Utilization of Preferred Trees and Shrubs	3 2 1 0	1	3	<i>moderate use of willows by cattle and moose</i>	
6. Standing Decadent and Dead Woody Material	3 2 1 0	2	3		
7. Streambank Root Mass Protection	6 4 2 0	4	6		
8. Human-Caused Bare Ground	6 4 2 0	4	6		
9. Streambank Structurally Altered by Human Activity	6 4 2 0	0	6		
10. Pugging and/or Hummocking	3 2 1 0	1	3	<i>at crossing and watering site</i>	
11. Stream Channel Incisement (vertical stability)	9 6 3 0	6	9	<i>initial signs of downcutting</i>	
TOTAL		35	57		

Vegetation canopy is reduced (Q1) and weeds and disturbance species (Q2&3) have increased in abundance on the site.

Shrub species are regenerating well (Q4) but utilization may be too high to sustain them (Q5).

Questions 7 & 8 show the early stages of decline in deep-binding root mass and an increase in human-caused bare ground.

Livestock are exerting physical impact at crossings and watering points (Q10). The stream is still able to access it's floodplain (Q11), but early signs of downcutting are apparent.

What are the **immediate** issues?

- ◆ Utilization of shrubs is high and may be impeding regeneration and streambank rootmass protection. That may be resulting in the stream beginning to downcut, which if left untended may sever the riparian area from it's water supply.
- ◆ The amount of bare ground may indicate too much pressure. That is giving weeds and disturbance species a competitive advantage over native plants, including trees and shrubs.

$35/57 = 61\%$ Healthy, with problems.

If the stress on this reach continues, there is a risk of losing several riparian functions.

Medical Guidebook

A Key to Symptoms and Treatments

This purpose of this guide is to describe the **signs** and **symptoms** of riparian ailments. If riparian health is failing, recognizing a condition, through observations or evaluations, is a **first step** to treatment. Treatment options help you begin to **fight riparian ailments**, but the emphasis should always be on prevention and avoidance of poor riparian health rather than treatment.

The Riparian Doctor

Condition

Symptom Of...

Treatment Options

SOILS

- ◆ Sediment deposits on riparian area
- ◆ Too much bare ground
- ◆ Poor vegetation cover
- ◆ Compacted soils
- ◆ Excessive soil erosion or movement

- ◆ Annual floods
- ◆ High levels of disturbance or use
- ◆ High traffic volume: animals, people, vehicles
- ◆ Landscaping or cultivation

- ◆ Natural event; do nothing
- ◆ Reduce use and traffic
- ◆ Rest the site; allow recovery
- ◆ Redistribute animal, human or vehicle use
- ◆ Change timing or season of use
- ◆ Reduce or remove hard surfaces

PLANTS

- ◆ Many weeds and disturbance related plants
- ◆ Altered vegetation composition
- ◆ Low forage production

Above symptoms plus:

- ◆ Too many disturbances, too early in growing season, use too long, use too often

Above treatments plus:

- ◆ Spot treatment on invasive weeds
- ◆ Develop management plan for property

TREES & SHRUBS

- ◆ Few young trees and shrubs
- ◆ Mushroom-shaped willows
- ◆ Dead trees and shrubs
- ◆ Trees and shrubs missing

Above symptoms plus:

- ◆ Trampling and chronic, heavy browsing
- ◆ High beaver population
- ◆ Dewatering, diversions, damming

Above treatments plus:

- ◆ Temporary fencing to allow regeneration
- ◆ Limit livestock use in spring and fall
- ◆ Manage beaver population
- ◆ Examine water management for area

BANKS & SHORES

- ◆ Unstable shorelines
- ◆ Eroding streambanks
- ◆ Widening of channel
- ◆ Downcutting of channel

Above symptoms plus:

- ◆ Loss or removal of plants with deep, binding roots and emergent plants (e.g. cattails)
- ◆ Loss of large woody debris
- ◆ Excess energy in the system from watershed changes and channelization

Above treatments plus:

- ◆ Stabilization to allow natural recovery
- ◆ Reestablish natural meander and flow patterns
- ◆ Monitor for recovery

FLOW & DEPTH

- ◆ Altered flow or water levels

Above symptoms plus:

- ◆ Drought (natural)
- ◆ Diversion, drainage, flow control, modified flood timing and magnitude

Above treatments plus:

- ◆ Trap more runoff with greater plant cover
- ◆ Block drainage ditches and stop draining wetlands
- ◆ Examine water management in watershed

WATER QUALITY

- ◆ Poor water quality
- ◆ Increased suspended sediment
- ◆ More frequent and intense algae blooms

Above symptoms plus:

- ◆ Excess soil erosion, excess chemicals or nutrients in or near riparian area
- ◆ Lack of plant cover

Above treatments plus:

- ◆ Reduce nutrient inputs in or near waterbody
- ◆ Keep plant cover, including cattails and bulrushes for filtration and nutrient uptake
- ◆ Add buffer zones next to riparian area

FISH & WILDLIFE

- ◆ Declines in fish and wildlife

Above symptoms plus:

- ◆ Habitat changes
- ◆ Cumulative impacts of all land uses in area

Above treatments plus:

- ◆ Restore habitat by restoring vegetation communities, through changes in use
- ◆ Protect key habitat areas

If only it was that easy - to look up a riparian condition and find one solution.



Set Some Goals for Your Riparian Area

No matter what the score, or the category of health, taking the next step is about using riparian health evaluations to help you set some goals. These goals might look like this:

1



Prevent potential problems by maintaining the healthy reaches of stream or portions of shoreline; that way, you don't have to treat the symptoms.

3



Encourage, protect and promote native vegetation to enhance recovery, restoration and maintenance of health.

5



Monitor your progress, be patient with restoration and recovery efforts, and repeat what works.

2



Reduce the pressure or stress that is causing health to decline; don't let conditions get worse.

4



Fix the broken pieces to restore structure and function; do it while the problems are small, and before they become larger.

6



Work with your neighbours to make sure your efforts meld together, on a larger scale.

If we can recognize the stresses, reduce the pressures, be patient and let the system rebound, conditions will improve, assuming most key pieces are still intact. If some of those key pieces (e.g. woody vegetation) have gone missing, recovery will be more difficult and take more time.