

User's Guide to the Beaver River Riparian Management Area Health and Integrity DVDs

The Beaver River Watershed Alliance is pleased to provide you with copies of the 2012 Beaver River DVDs.

We hope you will gain a whole new perspective of the Beaver River System with this unique bird's eye view of the river's shoreline, videoed by helicopter from a height of about 70 metres.

The footage was filmed by Walker Environmental and the film was then used to assess the ecological health and integrity of the Beaver River's riparian management areas. The accompanying DVDs, maps and charts show the results of this *riparian management area assessment*.

What are riparian areas?

Riparian is a term scientists use to refer to the biologically rich and productive zone at the edge of rivers, lakes and wetlands. The indicator plants that grow in these riparian zones are water loving or water tolerant. They are typically **willows, dogwoods, grasses, sedges, bulrushes, cattails and sometimes aspen, balsam poplar, and black spruce.**

Why are riparian areas important?

Healthy riparian vegetation fulfills some very important ecological functions:

1. The roots and stems of riparian plants are **living filters** that trap and absorb nutrients, sediments and pollutants carried by run-off from the surrounding land, thus **maintaining and improving water quality.**
2. The roots of riparian plants **stabilize the riparian soils** protecting the shoreline from erosion caused by water velocity or wave action.
3. Spongy riparian soils act as **buffers**, intercepting and **storing run-off and flood water** by recharging ground water and releasing it slowly back to the system during dry periods.
4. Riparian vegetation provides important **habitat for wildlife.**

Scientists call these **ecosystem services**. To benefit from these services, we need to ensure the natural shoreline vegetation in the riparian areas of these rivers is maintained in a healthy condition. Healthy riparian areas benefit us all, but some of the activities we undertake (e.g., clearing vegetation, adding or removing rocks and sand, extensive mowing or heavy grazing) damage riparian vegetation and **affect the riparian management area's natural ability to filter pollutants, prevent erosion and support fish and wildlife.**

How did we score the Beaver River's Riparian Management Area Health and Integrity?

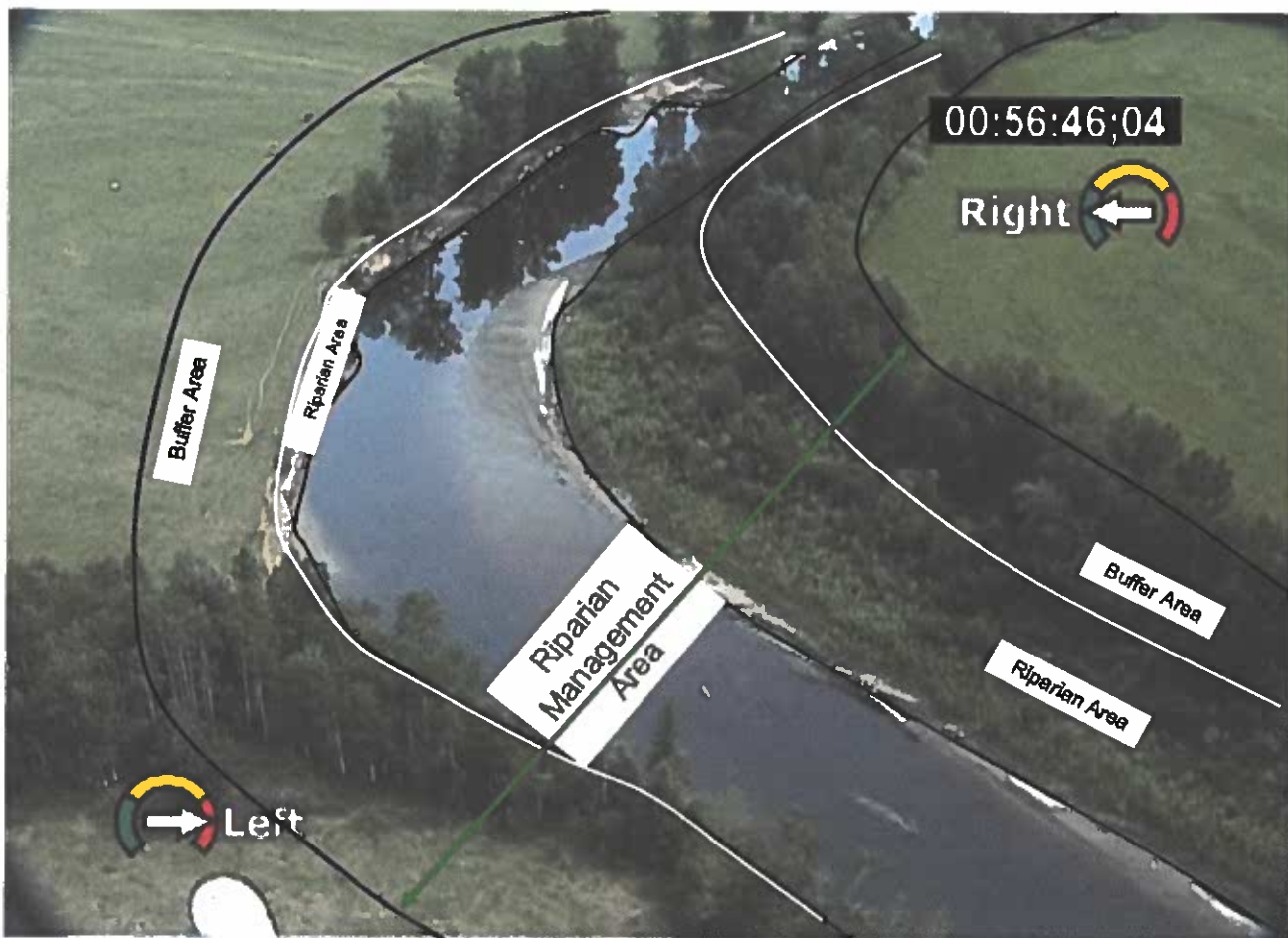
DVD Footage and Maps

On August 6, 2012, video of the Beaver River from Beaver Lake to the Alberta - Saskatchewan border was taken from a helicopter using a digital video camera that recorded both the GPS location and time of the footage. Using this information maps were produced showing the 207 km flight line of the helicopter to help the viewer keep track of where each video and assessment segment is located along the river. There are separate DVDs for the Upper and Lower Beaver River. The Sand River confluence is the end of Upper Beaver DVD and the start of the Lower Beaver DVD.

Riparian Health and Integrity Assessment

The low-level video footage of the riparian management area along the river was examined and assessed.

The photo below shows an example of a riparian management and assessment area on each bank. You can see the assessment area includes the riparian zone and a protective buffer. *Most land management agencies now recognize the need for this protective buffer (setback) in riparian area management and development planning.*



A standardized scorecard was then used to rate each of the river's left and right banks. The scorecard included the following criteria:

- Proportion of the area covered by vegetation
- Presence and abundance of trees or shrubs (woody species)
- Whether there is new growth of trees or shrubs
- Amount of human caused change or disturbance of native plants
- Amount of human caused physical alteration or disturbance of natural surfaces (e.g., addition or removal of sand or rock, ATV trails, livestock impacts, cabins, roads, etc.)
- Bank stability.

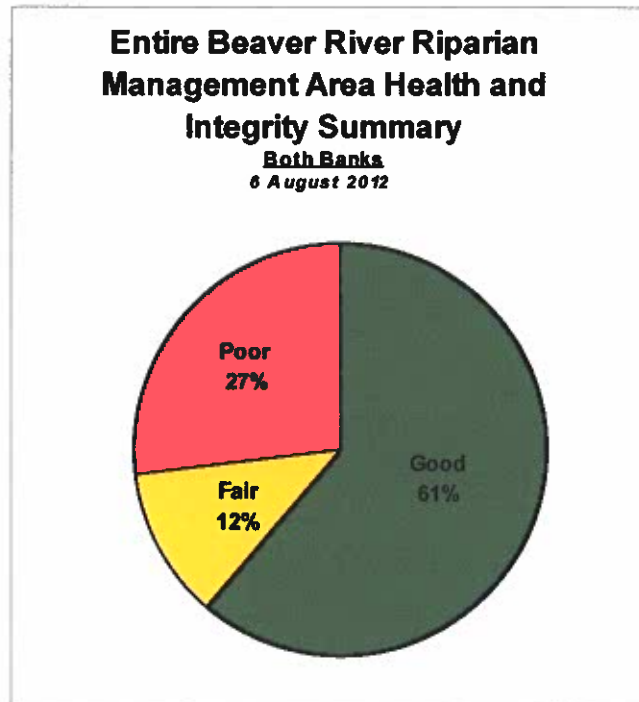
Next, the assessment scores were used to classify lengths of shoreline as:



These colour-coded shoreline classifications and their locations are shown on the accompanying river maps.

What did we find out?

The 2012 riparian management area assessment found that **61% of the Beaver River shoreline scored as Good, 12% scored Fair and 27% scored Poor.**



The good areas of the Beaver River were normally those with little or no development. **The poor areas** were primarily associated with agricultural development, roads and some gravel extraction. **The fair areas** tended to fall between these two classifications, either as minor disturbances to natural areas or agricultural areas with some of its riparian vegetation intact.

How to use this DVD

When viewing the DVDs you will see a **time code** in the upper right hand corner of the screen. You can match the time code on the videos with the time code on the Beaver River maps. (Note* there may be separate maps for the left and right banks.) Also note there are **riparian health meters** on the video that change in response to the changing assessment classification for each bank. (Bottom left for left bank and top right for right bank.)

Please take the time to view areas of the Beaver River shorelines that you are familiar with by fast forwarding, reversing, or pausing the DVDs or by using the embedded '2 minute interval' menu system. Then, as time allows, get the 'big picture' perspective by viewing the entire videos.

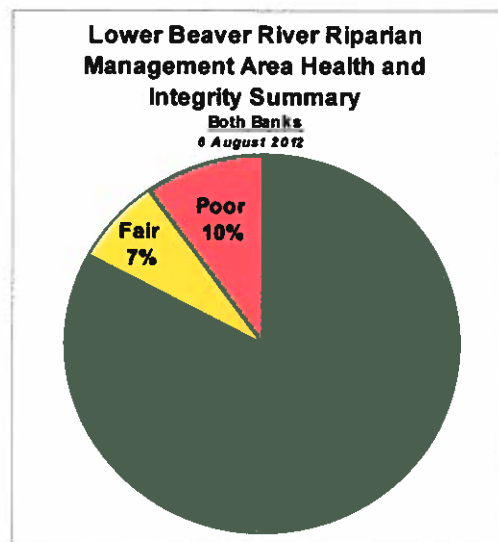
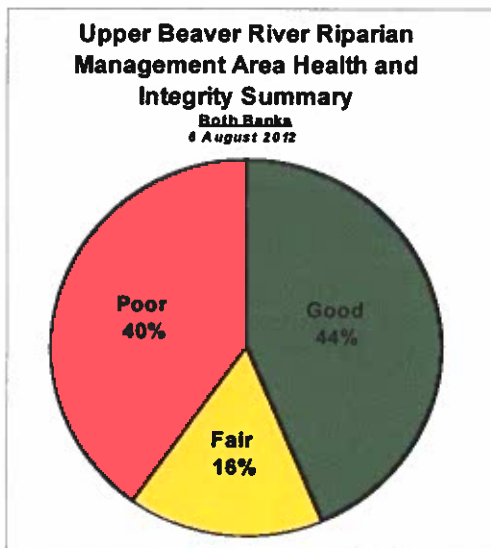
Where to go from here?

These 2012 DVDs are a permanent visual record of shoreline conditions that can be viewed by everyone. Knowing the status of the Beaver River's riparian habitats allows us to have intelligent discussions and puts us all in a better position to set future targets for how we manage this important public resource.

Maintaining a healthy riparian management area along the Beaver River watershed (ensuring the river's beauty, water quality, recreation, fish and wildlife are maintained now and into the future) should be a shared goal among residents, visitors, adjacent land owners, industry, municipalities and government resource managers.

The Beaver River Watershed Alliance would like to encourage you to do your part in maintaining or improving healthy riparian areas by;

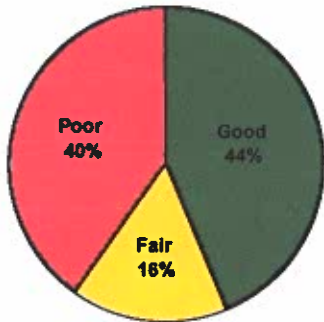
- learning more about the ecological function of the river's riparian management area, and sharing this knowledge with others,
- avoiding or minimizing damage to natural vegetation along the river banks,
- encouraging native plants (not introduced species) to thrive in riparian areas, and
- participating in discussions and activities that promote the well-being of the Beaver River shorelines.



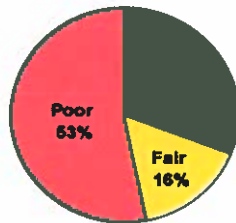
For more section charts see below.

More Beaver River 6 August 2012 Riparian Management Area Health and Integrity Assessment Charts

Upper Beaver River Riparian Management Area Health and Integrity Summary
Both Banks
6 August 2012



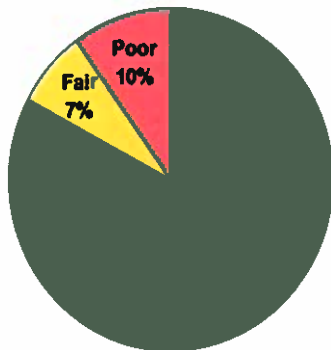
Upper Beaver River Riparian Management Area Health and Integrity Summary
Left Bank
6 August 2012



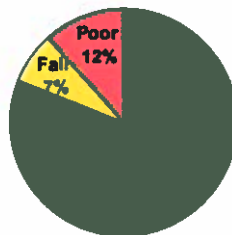
Upper Beaver River Riparian Management Area Health and Integrity Summary
Right Bank
6 August 2012



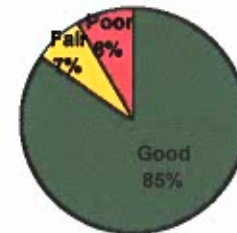
Lower Beaver River Riparian Management Area Health and Integrity Summary
Both Banks
6 August 2012



Lower Beaver River Riparian Management Area Health and Integrity Summary
Left Bank
6 August 2012



Lower Beaver River Riparian Management Area Health and Integrity Summary
Right Bank
6 August 2012



Beaver River Watershed Alliance