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The cottonwood ranch riparian management case study

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Introduction After years of grazing management by reducing numbers and maintaining long seasons of use ,the Cottonwood Ranch began using a Holistic Management Team to bring together people from various interests (Bureau of Land Management , Forest Service ,environmental ,ranching ,wildlife ,etc .) .The Team shares values ,ideas ,and views to develop a vision of how to effectively manage specific areas on the Ranch . The Team's landscape vision could be summarized as : environmental security ; abundance for life (healthy environment) ; sustainable secure high-quality life ; many products (e .g . ,healthy riparian areas) ; and sustainable people-living on the land . The Ranch consists of large pastures ,which were divided into use areas using natural barriers ,fences ,and low stress livestock handling . These are smaller more manageable units used to assure appropriate stock density ; allow proper timing for recovery ; evaluate the effectiveness of the grazing system ; and monitor resource objectives over time .

Methods In 1999 a group consisting of the authors (except Wyman) and others specializing in range ,soils ,vegetation ,or fish and wildlife biology split into two groups and assessed the perennial streams of the Ranch for proper functioning condition (PFC) . PFC occurs when adequate vegetation ,landform ,and coarse woody debris provides the functions described in Swanson and Wyman (this proceedings) . The group assessed 40 reaches on about 34 miles (55 KM) of stream in one and one half days . About 13 .5 miles (21 .7 Km) were functioning properly ; almost 19 .3miles (31 Km) were functional at risk ; and 1 .1 mile (1 . 8 Km) were nonfunctional .

Results and discussion The Holistic Management Team then focused on resource objectives for the at-risk reaches where improvement was achievable and important to avoid further degradation . Reach-by-reach objectives addressed stability of greenline herbaceous vegetation (woody ,herbaceous ,or both) to improve sediment catch ,soil quality ,and channel width . In some places the focus was cover and improved age class distribution of woody vegetation (willows ,aspen ,etc .) . Management actions began or continued in 2000 included grazing with about 200 Cows and 800 yearlings from early April until August but avoiding spring use of specific sage grouse nesting areas ,using time-controlled grazing according to a biological plan ,using temporary electric fence for hot spots where the use of low stress herding was difficult but animal control was important ; and using portable and permanent water troughs where needed . This plan was modified as needed in the years after a large wildfire burned across the middle of the Ranch . By monitoring the time cattle spend in each area before being moved to another use area and noting the intensity of use where it is a problem ,the Team has been better able to adjust the biological plan each year . This keeps the focus on the long-term objectives that are intended to be tracked through quantitative monitoring in the specific reaches identified as at-risk by the PFC assessment .

Conclusions After many years using PFC to help grasp riparian functions and management objectives ,the Rancher and the Team value the insight it provided . After struggling to survive the lean years following a fire and before grazing was again allowed on public land ,the Rancher is eager to make additional fence improvements that will allow enhanced grazing management of his private meadows to achieve PFC . The Team still envisions a whole watershed that captures ,stores ,and appropriately releases the water from precipitation ; properly functioning riparian systems that spiral up toward desired future conditions ; living systems across the landscape that sustain themselves ,creating value ; and sustainable people-living on the land .

Reference

Swanson ,S .and S .Wyman .2008 .Assess Physical Functioning of Riparian Systems with an Eye toward Management .