



Monitoring work

Construction sites and grazing workshops are just the beginning - monitoring is an ongoing and integral part of the Herbert Gully and Grazing Project.

With monitoring work comes an understanding of the real versus modelled world of engineered structures. It also helps with design optimisation in the future and provides important data for landholders making grazing management changes. While monitoring takes a considerable amount of time, especially given the distances travelled to access sites, it is essential for the continuous improvement cycle.

TYPES OF MONITORING

- Routine site assessments of completed structures

- Routine land and paddock inspections, including use of the Land Condition Assessment Tool (LCAT)
- Photography points, time-lapse camera footage, drone footage
- Botanical surveys
- Photos, drone footage

Land and aerial images are captured annually at rock chutes, tailings dam spillways, whoa boys, diversion bunds and remediated gully complexes. The images are taken at the same time each year and at set locations.

By using time lapse cameras during the wet season, the project team has seen rock chutes in full flood - at a time when vehicle access is not possible. The footage has shown the team that structures are holding up to conditions and performing as per design.

At Tirrabella Station, images at a rock chute showed floodwater engulfing the entire structure during a rain event where the Herbert River was backed up throughout the catchment. Covered in several metres of water, the chute continued to perform as designed during this event, later rain events and subsequent wet seasons.



ON-SITE ASSESSMENTS

Annual inspections are an important follow-up. Sites are monitored several times each wet season, as access permits, to assess structural integrity. Each structure is inspected in its entirety, along with the surrounding area. Camera and drone photos are also taken. Landholders are often part of the inspections, to gain their perspective on remediation sites and how they are performing.

As a result of inspections there has been minor maintenance work on four structures, including adding a little more rock to chutes and bund wall aprons.



BOTANICAL SURVEYS

Surveys are conducted annually at and around construction sites, where revegetation work was undertaken, and in paddocks to see the effect of grazing management changes.

Botanical surveys are undertaken in April/May when plants are flowering and seeding and are easy to identify. Terrain NRM engaged a botanist to work with the team's grazing specialist. Two to three transects,

50m in length, are set up near each project site. Key ground cover parameters are measured including the percentage of perennial and annual grass cover, legumes, shrubs, leaf litter and bare soil.

RESULTS OF BOTANICAL SURVEYS

Improved grazing management practices have generally been coupled with improvements in ground cover and perennial grass cover. With pre-existing issues such as a high percentage of annual grasses, recovery is slower as more planned grazing intervention is required.

At Woodleigh Cattle Station, improvements have included a comeback for once rank kangaroo grass, a highly valued native pasture grass. Black spear grass, another

favourable perennial, has also improved on most sites.

ABOUT THE HERBERT GULLY AND GRAZING PROGRAM

Terrain NRM is helping Wet Tropics landholders in the Herbert River catchment with erosion control and grazing management practice changes. This five-year program is funded through the Australian Government's Reef Trust IV program. It combines engineered erosion solutions with fencing, off-stream watering alternatives and learning opportunities.

For more information contact Terrain NRM at **(07) 4043 8000**, email info@terrain.org.au or visit www.terrain.org.au

