

Hawkeswood Mining Ltd 2024, RM23.819: Summary of Vegetation and Biodiversity Values across Proposed Gold Mine land at Millers Flat

This survey was carried out during March 2024 with assistance from Simon Johnstone. A complete circuit of the planned mine site was made on foot and most of the adjacent Clutha Gold Trail was also walked. The majority of the land within the 68 ha mining boundary is currently farmed and has an extended history of pastoral agriculture, the ground being intensively modified via fencing, tilling and drilling, and some of it by historical gold mining.

Vegetation was noted and recorded during the walkover but it was not deemed necessary to establish permanent plots/transects across the area as it was composed virtually wholly of exotic pastoral grasses, legumes and brassica greenfeed. There may be value in establishing several assessment plots/transects post-rehabilitation to ensure that groundcover is adequately restored within a reasonable time period.

The bulk of the area to be mined currently comprises exotic pastoral grasses (browntop, sweet vernal, cocksfoot, tall fescue, ryegrass and many annual grasses), legumes (white and red clover, lucerne) and brassica greenfeed. Areas previously disturbed by mining exhibited a mixed cover of scrub (mainly brier rose, barberry, broom, elderberry and gorse) with annual grasses (bromes, hairgrass etc) underneath. While exotic biodiversity across the site might be considered moderate, given the area has such a long history of mining and pastoral farming it largely consists of exotic monocultures with indigenous biodiversity virtually completely lacking.

The enhancement of biodiversity and ecological values can be improved in tandem with the mined land rehabilitation process. The mined land is to be progressively returned to a productive pastoral and/or agricultural ecosystem thus the logical opportunity for any ecological enhancement exists in the removal of exotic species and subsequent indigenous planting along the adjacent Clutha Gold Trail corridor. The berm land adjacent to the Clutha Gold Trail and the Clutha Mata-au River generally has similar biodiversity values to the area to be mined, however scattered examples of indigenous shrubby *Coprosma*, *Olearia*, *Meuhlenbeckia* and *Rubus* species were evident among the numerous crack willows and other exotics.

Dr BJ Wills, Central Environmental Services, March 2024