

A history of the environmental impact of NZ's only mainland base: Vanda Station

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Vanda Station was built beside Lake Vanda in the Wright Valley, Victoria Land in 1968. It was occupied every summer field season, and occasionally over winter. In 1993 it was removed when the rising level of Lake Vanda threatened to flood the site. Vanda Station's lifetime spanned a period of transition from little concern over environmental impacts in the Dry Valleys, to the beginning of the stringent code of conduct that is in place today. The legacy of environmental consequences can now provide unique insights into the lasting impacts of this mode of human activity on the Antarctic environment, and the ability of time, environmental change and human endeavour to remediate or amplify those effects.

The assessment of environmental impacts began just prior to the removal of the station in which specific sites of soil contamination, including an area of routine greywater disposal in a gully beside the main buildings were identified. A second assessment was undertaken in 1997, on the partially remediated but still unflooded site, which identified discrete areas of residual chemical contamination particularly in "Greywater Gully". The lake level has continued to rise and now, just over 20 years after its remediation, the station site has almost completely flooded. "Greywater Gully" is now under 3 - 4m of lake water. In December 2014 we resampled and reanalysed these lake waters, flooded sediments and the few remaining exposed contaminated soils, to determine whether or not, the legacy of Vanda Station includes a lasting impact on its environment.