



curragh north coal case study

Curragh North Coal Project

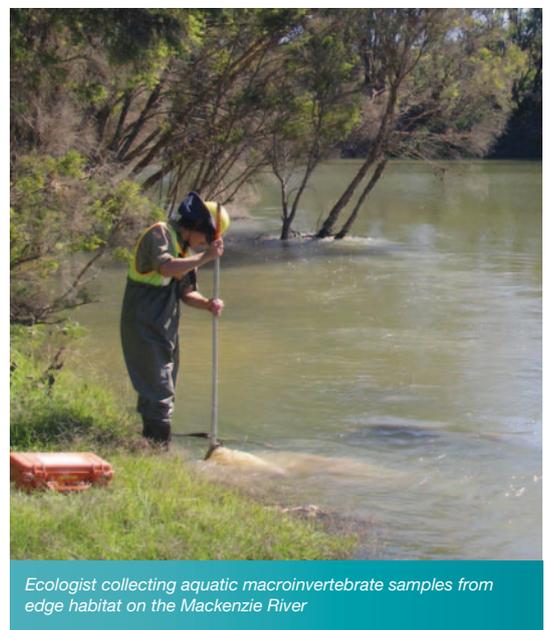
June 2008 - October 2008

Wesfarmers Curragh Pty Ltd required a post-development survey for the Curragh North Coal Project to detect any impacts to aquatic ecology that may be attributable to its development. frc environmental was ideally placed to undertake the aquatic component of the study and determine if the development was having a discernible impact on the Mackenzie River or Blackwater Creek. Due to frc environmental's highly focused expertise, Westfarmers Curragh Pty Ltd were provided with a comprehensive report that reached sound conclusions they could strategically act upon.

Project requirements overview

frc environmental were commissioned by Wesfarmers Curragh Pty Ltd, owners of the Curragh Coal Mine, to undertake the aquatic component of the post-development survey for the Curragh North Coal Project Pre-After Control-Impact study. The study was required under the mine's Environmental Authority (EA).

The Mackenzie River system is not recognised as valuable habitat under Commonwealth or State legislation. However, several species found in the Fitzroy Basin are listed under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 and/or the Queensland Nature Conservation Act 1992 as listed in the Nature Conservation (Wildlife) Regulation 2006.



Ecologist collecting aquatic macroinvertebrate samples from edge habitat on the Mackenzie River

Project Performance

- Experience of the region and of relevant guidelines ensured a practical, focused survey
- Understanding of the ecology of the flora and fauna of the region enabled the narrowing of scope for field sampling
- Understanding of the influence of the seasons enabled optimal timing and efficiency of field work
- Experience and understanding enabled the defensible interpretation of a complex data set
- Agency expectations were exceeded; Curragh's environmental reputation was enhanced



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frc environmental operates a purpose-built ecological laboratory – here an ecologist is collecting aquatic macroinvertebrate samples which will be brought back to the lab for quick and accurate processing



Krefft's river turtle captured during the survey

Our tailored approach and methodology

Underpinned by recent experience of the region, **frc environmental** designed a survey program in accordance with the Department of Natural Resources and water sampling and analysis guidelines and AusRivAS protocols. A combination of replicated, quantitative sampling and targeted methodology (including extensive electrofishing) ensured rigour, agency-acceptance and strategic value.

We drew upon our understanding of current legislation including the Fisheries Act 1994, the Environment Protection and Biodiversity Conservation Act 1999, the Queensland Nature Conservation Act 1992 and the Nature Conservation (Wildlife) Regulation Act 2006 to focus surveys, ensuring an appropriate acknowledgement of rare and threatened species and ecosystems.

frc environmental implemented the survey once wet season flood waters had receded, collecting data to support; a description of water quality, Habitat Condition Index, River Bioassessment Score, and an assessment of abundance, structure and health of macrophyte, macroinvertebrate, fish and turtle communities. Macroinvertebrate samples were processed in our in-house laboratory by AusRivAS accredited taxonomists.

Through an understanding of ecological processes, **frc environmental** was able to intelligently interpret the results of pre- and post-surveys, taking account of altered environmental conditions, and concluding that the mine had not impacted the aquatic ecosystems or processes of the river. **frc environmental's** comprehensive and rigorous approach to this study was critical to the effective interpretation of a complex data set and the development of defensible conclusions.



frc environmental follows strict codes of practice for the ethical treatment of animals, here an ecologist is carefully examining a Krefft's river turtle which will soon be released unharmed

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