



## mining, oil & gas industry profile

**frc environmental has the expertise and experience to deliver insight across the full range of aquatic environments, from freshwater and estuarine to marine ecosystems. Our wide-ranging capabilities in survey, assessment, management, monitoring and reporting enable us to give you absolute clarity and the confidence for action.**

**If it involves water, it involves frc environmental.**

### Mining, Oil & Gas

From 'business case' to product shipment, **frc environmental** provides the experience, insight and expertise to help our clients achieve reduced lead times, increased productivity and cost-effective compliance with environmental regulation.

We understand mining, oil and gas production; their sheer scale and complexity. We understand what even a few days downtime can cost, and why getting it right the first time is the only option.

Rigorous environmental studies contribute to determining constraints and opportunities, the identification and assessment of likely impacts, how to cost-effectively minimise or mitigate those impacts, and the refinement of environmental management plans.

At each step, from planning, construction, operation and eventually decommissioning, environmental studies must provide a return on investment; a return measured in reduced time to production, reduced stoppages, reduced incidence of environmental 'non-compliance' and enhanced environmental reputation.

Few mining, oil or gas operations can be developed and operated without consideration of on-site and downstream aquatic (freshwater or marine) ecosystems. From desert waterways that flow for just a few weeks a year to inshore reef systems, **frc environmental** has the expertise to save your time, money *and* reputation.



*frc environmental's in-house laboratory facilities enable cost-effective and timely processing of field samples*



*Water quality monitoring commonly supplements the collection of key biological data*

**"frc environmental's** proposal to undertake the aquatic elements of our Clermont Coal Mine Project EIS wasn't the cheapest - but then it was important to us that the required studies were done by consultants who had the expertise and experience to 'get it right first time'. **frc** didn't disappoint. Their report was submitted on time and on budget, and passed all scrutiny by the relevant agencies. That's what I'm happy to call 'value for money'."

**Alan Irving,**  
National Environment Manager  
RioTinto Coal Australia

## Remediation Monitoring and Ecotoxicology Studies, CopperCo, Lady Annie Mine

Flooding in early 2009 resulted in mine process waters discharging to a tributary of the Gregory River. DERM issued EPOs requiring the assessment of environmental impact, and the development of remediation and environmental monitoring plans.

**frc environmental** was commissioned to undertake an assessment of in-stream and riparian impacts and to develop and implement a monitoring program. **frc environmental** also supported PB, the mine's consulting engineers in their development of an effective remediation strategy.

## Pre-Feasibility Study and EIS, Wandoan Coal, Xstrata Coal Queensland

**frc environmental's** team were able to work closely with PB, the lead EIS consultant to ensure an integrated response to the ToR was provided within Xstrata's strict time and budgetary constraints.

A staged approach to survey work provided both the scientific rigour demanded, and also strategic control of costs. Replicated, quantitative sampling was recognised as a strategic investment to support monitoring (reducing the need for independent baseline surveys). A combination of boat and back-pack electrofishing delivered credible results enabling the narrowing of scope for the environmental management of rare and threatened species.

## Coal Seam Gas Fields Impact Assessment, Santos

**frc environmental** undertook the aquatic ecology component for the impact assessment of this ground-breaking project. At short notice we mobilised field teams to survey the waterways of the Condamine-Balonne and Fitzroy catchments. Boggomoss springs of the Dawson River catchment were also investigated. Aquatic habitat, macrophytes, macroinvertebrates, fish (using electrofishing methods) and turtles were surveyed. The results were incorporated into a comprehensive yet easily readable document, that also considered the potential impacts to aquatic ecology; and practical measures to minimise and mitigate identified impacts.

“A combination of boat and back-pack electrofishing delivered credible results enabling the narrowing of scope for the environmental management of rare and threatened species.”



Our ecologists are experts at turtle surveys 'in situ' and using custom-designed turtle traps



Back-pack electrofishing offers the only practical means to survey waterways large woody debris

### industry experience

- Ports & Maritime Operations
- Mining, Oil & Gas
- Linear Infrastructure
- Power Generation & Distribution
- Waste Management
- Water Infrastructure
- Effluent Infrastructure
- Urban, Industrial & Agricultural Development
- Government
- International Development & Aid
- Fisheries & Aquaculture
- Wetland Construction & Rehabilitation
- Tourism
- Defence
- Forensic & Legal