



coal seam gas fields case study

Coal Seam Gas Fields Impact Assessment

October 2008 - August 2009

Santos proposed the development and expansion of its existing Coal Seam Gas (CSG) fields in the Bowen and Surat Basins, near Roma, Western Queensland. As part of the project planning and approvals process, a detailed assessment was required of the potential impacts of the proposed expansion on the biodiversity and ecosystem health of the region's waterways and artesian springs. A consideration of opportunities to avoid, minimize and mitigate potential impacts was also required, together with advice on the project's likely compliance with state and commonwealth legislation.

Project requirements overview

Reflecting the significance of the resource, Santos readily accepted URS's advice to appoint **frc environmental**, respected and authoritative aquatic ecosystems specialist. **frc environmental**'s track record provided the confidence that the work would be completed to schedule and readily accepted by the relevant agencies.

The study's objective was to determine the likely constraints to development posed by aquatic features (through developing a sound appreciation of potential and likely impacts), and to determine a scope for future detailed investigations. The scope of studies reflected the diversity of country the project covered, and demanded a significant breadth of experience.



In a harsh landscape, only the very toughest live through the 'dry'

Project Performance

- Rapid mobilization of a specialist field team
- Survey and sampling methodologies guided by over 2 decades of experience, and knowledge of the region
- Timely feedback of issues from the field to URS/Santos
- Critical flexibility of approach in respect of weather, waterway flows and on-the-ground conditions
- Field work underpinned by a genuine 'safety culture'; our field teams are well trained, experienced and understand the requirement for on-going risk assessment
- Effective integration with the client's terrestrial ecologists and hydrologists
- Completion of both field and reporting components to schedule and at an 'exemplary' standard



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Our tailored approach and methodology

The timeframe allowed for this investigation and report was ambitious, however **frc environmental** had the resources available to mobilise a dedicated project team to Roma at very short notice.

While in the field, the team liaised effectively with stakeholders on the ground, and completed a thorough investigation over the project area. Previous experience with CSG environments, and a knowledge of the Roma area helped in streamlining the study timeframe, allowing the team to focus on the critical areas, thereby optimizing both the time and the available budget.

frc environmental used AusRivAS protocols to describe the physical habitat and macrophyte communities of ephemeral and perennial streams, dams, billabongs and wetlands. Macroinvertebrate communities were described using indices enabling comparison between sites of existing stressors and stream health. Whilst fin-fish communities were surveyed using a combination of nets, traps and electrofishers; and turtles were surveyed using purpose-built traps.

Throughout the field and reporting phase, both onsite and back in Brisbane, **frc environmental**'s scientists and project manager were able to provide status updates and further support URS in their discussions with Santos, often outside of 'business hours'.

The final report presented by **frc environmental**, delivered on time and to budget, described the physical and biological characteristics of the region's waterways and artesian springs, their key ecological, fisheries and conservation values, critical environmental flows and connectivity. It further detailed the potential impact that Santos' expansion might have on key ecological communities, recreational and indigenous fishing, and rare and threatened species and ecosystems.

This report empowered URS and Santos with a comprehensive and rigorous understanding of the constraints imposed by aquatic environmental issues, contributing to confident planning, budgeting and legal certainty.



Results that contribute to critical understanding come from well planned and rigorously implemented field work



Our ecologists are at home in the field – collecting valuable data with confidence and accuracy



Standardised assessment protocols ensure data that's compatible with data collected by agencies – leveraging the value of field work

industry experience

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