

Several studies of flora and fauna have been undertaken for the Project, including ecological and biodiversity issues associated with the surface facilities.

Seven broad vegetation communities have already been identified within the study area. These are:

- Scribbly Gum/Red Bloodwood Woodland;
- Scribbly Gum/Red Bloodwood Open Woodland;
- Scribbly Gum/Smooth-barked Apple/Red Bloodwood Open Forest;
- Blackbutt/Brown Stringybark Tall Open Forest;
- Swamp Mahogany/Red Mahogany Open Forest;
- Melaleuca Low Open Forest; and
- Heathland.

The proposed mining area, covering an area of approximately 37 km², contains a wide variety of habitats with relatively high biodiversity. Habitats include forest, woodland and heathland communities, upland streams, lowland rivers and wetlands. Approximately 61 per cent of the study area remains forested.

The western portion of the study area comprises a large block of upland forest contained within Jilliby State Conservation Area and Wyong State Forest. Although logged, the forest habitats are extensive and in relatively good condition. The valley floors of the Wyong River and Jilliby Jilliby Creek represent more suitable land for agriculture and have been extensively cleared. As a consequence, the majority of the remnant vegetation occurs along the watercourses.

A number of threatened species and endangered ecological communities, as listed under the NSW *Threatened Species Conservation Act 1995* (TSC Act) and nationally threatened and migratory species, as listed under the Commonwealth's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), are known or likely to occur within the study area.

A preliminary assessment of the likelihood of significant impacts on threatened species and endangered ecological communities has been prepared. This ecological assessment builds upon site specific information for the direct impact areas gathered by ERM, Parsons Brinkerhoff, Patterson Britton & Partners, and OzArk EHM (2006). Threatened species known to occur in the vicinity of the Buttonderry and Tooheys Road sites include:

- Squirrel glider (*Petaurus norfolkensis*);
- Little bent-wing bat (*Miniopterus australis*);
- Yellow-bellied sheath-tail-bat (*Saccolaimus flaviventris*);
- Large-footed myotis (*Myotis adversus*);
- Greater broad-nosed bat (*Scoteanax rueppellii*) / Eastern false pipistrelle (*Falsistrellus tasmaniensis*)¹;
- Wallum froglet (*Crinia tinnula*);
- Powerful owl (*Ninox strenua*); and
- Masked owl (*Tyto novaehollandiae*).

Analysis of amphibian calls is currently being undertaken which may increase the number of threatened frogs known to occur within the Tooheys Rd direct impact area. Additional species were noted as having the potential to occur but were not recorded within the boundaries of the direct impact areas.

Application of results to date has indicated that some species will require more detailed assessment to determine the potential impacts of subsidence in the mining area.

These additional assessments will be undertaken by OzArk EHM, which will specifically focus on areas to be most affected by changed flood regimes or mine subsidence resulting from the project. A sustainability package will also be developed to offset direct and indirect impacts resulting from the project.

¹Calls of these microbats are very similar such that it is wise to consider the call being from either threatened species.



▲ Grass Trees and pink tetragona

▲ Top to bottom: Dwarf tree frog; Broad palmed frog; Dwarf tree frog

▲ Top: Acacia sp with beetle
Bottom: Echidna

▲ Glider

▲ White double tail