

Xstrata-managed operations in or adjacent to protected areas

Operation	Location	Protected area	Area (ha) of operation lease	IUCN category	Ecological sensitivity
Rolleston Mine (coal)	Queensland, Australia	Albinia National Park	5,632	II	Adjacent to Albinia National Park and operating in areas with endangered bluegrass community
Gaspé smelter (closed copper mine and smelter)	Quebec, Canada	Parc de la Gaspésie	2,397	II	Adjacent to a provincial park
Magnola (closed magnesium plant)	Quebec, Canada	Étang Burbank	800	III	Adjacent to a wetland
San Juan de Nieva (zinc smelter)	Asturias, Spain	El Espartal Natural Monument	56	III	Adjacent to a littoral protected area
Nordenham (zinc smelter)	Germany	Protected area (directive 79/409/EC)	20	IV	Jarosite waste pond surrounded on three sides by the protected area

Xstrata-managed operations in or adjacent to areas of high biodiversity value

CBU	Operation	Location	Ecological sensitivity
Alloys	Thornccliffe and Helena chrome mines and Mototolo platinum JV	Steelpoort, South Africa	Endemic IUCN Red List species within or adjacent to the lease area: Short stem carnation weed; Sekhukhune (Bushman's-tea); Blue Shield Fruit; Red Ivory (Rooi-ivoor); Sekhukhune Elephant-root (<i>Sekuhunebasboontjie</i>); and Data deficient: <i>Cicada Pycna Sylvia</i>
Alloys	Horizon chrome mine	Pilansberg, South Africa	Protected species or species of concern: <i>Gladiolus</i> , <i>Scadoxus</i> , <i>Sclerocarya</i> and <i>Euphorbia</i> spp. Data deficient: <i>Lemniscomys rosalia</i> (single-striped mouse)
Alloys	Kroondal chrome mine	Rustenburg, South Africa	Adjacent to wetlands area (although not a protected area or listed in RAMSAR convention on wetlands of international importance)
Alloys	Rhovan vanadium operation	Brits, South Africa	Endangered species that may potentially occur within Rhovan area were identified by using National Botanical Institute Research information and the IUCN Red List Endangered: one bird species. Near threatened: six plant species, 15 bird species. Rare: three plant species, two mammal species Vulnerable: ten bird species, five mammal species. Least concern: one plant species
Coal	Beltana mine	New South Wales, Australia	One endangered ecological community (Warkworth Sands Woodland) has been identified within the project area
Coal	Bulga mine	New South Wales, Australia	Multiple conservation areas with high aboriginal heritage significance including numerous artefacts in Loders creek. Habitat for several threatened species such as the eastern bent-wing bat, eastern free-tail bat, grey-crowned babbler, speckled warbler, hooded robin, diamond firetail, brown tree creeper and masked owl
Coal	Mount Owen mine	New South Wales, Australia	Ravensthorpe State Forest (IUCN category VI). Expansion will impact 35 hectares of, State Forest and 56 hectares of native woodland; the established biodiversity offset strategy will protect 415 hectares for conservation purposes

CBU	Operation	Location	Ecological sensitivity
Coal	Ulan mine	New South Wales, Australia	Ulan mine is located adjacent to the Goulburn River National Park and the operation maintains significant biodiversity value. The 2008 Biodiversity Monitoring Program noted that variations in population numbers will occur from year-to-year. With respect to the expanding presence of threatened species at the site it is apparent that some improvements in the biodiversity and habitat condition are evident
Coal	United mine	New South Wales, Australia	207 hectares are of high habitat value; a 30 hectares biodiversity offset area has been established for five species of conservation significance, with six mammals and four bird species listed under NSW Threatened Species Conservation Act and an additional seven migratory species listed under the EPBC Act. Fauna assemblages and listed species have also been identified in an additional 177 hectares. The offset also allows a linkage between the Wollemi National Park and Wollombi Brook
Coal	West Wallsend mine	New South Wales, Australia	The 'Sugarloaf State Conservation Area' is located above the current West Wallsend mining area. It provides habitat for eight threatened flora species, approximately 30 threatened fauna species and one endangered ecological community over an area of 3,937 hectares. In 2008, a corridor of high biodiversity value was identified which is a possible future offset or conservation area
Coal	Westside mine	New South Wales, Australia	Threatened species: <i>Tetratheca juncea</i> , Endangered ecological community: Sydney Coastal Estuary Swamp Forest Complex; a biodiversity offset has been established
Coal	Wollombi, Oaky Creek, Newlands and Collinsville mines	Queensland, Australia	4,300 hectares has been established as the Newlands Nature Reserve by Xstrata Coal, including 520 hectares as an offset for mining operations at Wollombi. Significant flora species include: Rare: <i>Atalaya calcicola</i> ; <i>Macropteranthes leiocaulis</i> , <i>Actephila sessilifolia</i> Vulnerable: <i>Croton magneticus</i> , <i>Cadellia pentastylis</i> , <i>Marsdenia pumila</i> Significant fauna species include: Red goshawk (<i>Erythrotriorchis radiatus</i>), Troughton's sheath-tail bat (<i>Taphozous troughtoni</i>), ghost bat (<i>Macroderma gigas</i>), eastern long-eared bat (<i>Nyctophilus timoriensis</i>), yakka skink (<i>Egernia rugosa</i>), ornamental snake (<i>Denisonia maculata</i>) Brigalow scaly-foot (<i>Paradelma orientalis</i>), grey goshawk (<i>Accipiter novaehollandia</i>), square-tailed kite (<i>Lophoictinia isura</i>)
Coal	Tweefontein mine	Witbank, South Africa	Vulnerable species: Giant bullfrog; Bald ibis
Copper	Frieda River project	Papua New Guinea	The site is in an undisturbed part of PNG surrounded by tropical rainforest which has high biodiversity value. The area is not protected
Copper	Gaspé – closed mine & smelter	Quebec, Canada	Within one kilometre Chic-Chocs fauna reserve (Category VI IUCN); at more than 10 kilometres, Gaspé provincial park (Category II IUCN); at 10 kilometres north of Murdochville, Madeleine salmon river (Category VI IUCN); and 10 kilometres south of Murdochville, York salmon river (Category VI IUCN)
Copper	Las Bambas project	Peru	No protected areas but project area of influence includes several Andean habitats, such as puna grasslands, Andean wetlands (bofedales), scrubs, rocky terrains, lagoons, isolated forested and river vegetation. IUCN Red List species: three amphibians, one bird, one mammal. Other international and national regulations per endangered and endemic species cover 24 species of flora and 22 of fauna.

Environment *continued*

CBU	Operation	Location	Ecological sensitivity
Copper	Lomas Bayas mine	Chile	The Lomas Bayas mine site's water intake is located within the Loa River basin in the Atacama Desert, one of the driest regions in the world. The Loa River and its flood plains are of significant ecological sensitivity due to the water they provide to the local communities as well as the diversity of flora and fauna found within the desert region. This is not a protected area
Copper	Tampakan project	Philippines	Baseline study cited three endangered fauna: Philippine Eagle (<i>Pithecophaga jefferyi</i>), Rufous Hornbill (<i>Buceros hydrocorax</i>), Gian Scops Owl (<i>Mimizuku gurneyi</i>); and two vulnerable fauna: Blue-naped parrot (<i>Tanygnathus lucionensis</i>), and Malay Monitor Lizard (<i>Varanus salvator</i>) A Biodiversity and Land Management Plan will be developed as part of the project this year to manage biodiversity risks
Copper	Tintaya mine	Peru	Endangered: Puya (<i>Puya raimondii Harms</i>) Near threatened: Chilean flamingo (<i>Phoenicopterus chilensis</i>), Giant Gallareta (<i>Fulica gigantean</i>) Vulnerable: Parihuana or Andean flamingo (<i>Phoenicoparrus andinus</i>), Common Bandurria (<i>Theristicus melanopsis</i>)
Nickel	Araguaia project	Brazil	The project area encompasses large areas of intervened or overgrazed land and smaller areas at higher elevation which include remnant forest and endangered or vulnerable bird and mammal species. A comprehensive baseline study commenced in 2008, to supplement preliminary studies in 2007. The study has not been completed due to the suspension of the project in 2008
Nickel	Koniambo project	New Caledonia	The project is within a region containing endemic species, and ecosystems including moist evergreen forest, swamp forest, savannah, mangroves and coral reefs. IUCN Red List species identified include three freshwater fish species, 50 plant species, two vulnerable reptiles, seven birds, three mammals, one shark, two marine fish, two vulnerable marine mammals, and four endangered or critically endangered turtles
Nickel	Montcalm mine	Canada	Montcalm treated effluent is discharged to the Groundhog River Provincial Waterway Park. An area of 22 hectares along the riverbanks in the vicinity of the Montcalm operation is classified as a forest reserve. One IUCN Red List species is listed for the Groundhog River. Least concern: Freshwater sturgeon (<i>Acipenser fulvescens</i>)
Zinc	Nordenham zinc smelter	Germany	Nordenham's jarosite waste pond is located inside an area proposed as a protected area under the European Union directive for protection of birds. One near-threatened species and six least concern species have been identified
Zinc	San Juan de Nieva zinc smelter	Asturias, Spain	Significant flora species: Sensitive to habitat alteration: <i>Crucianella maritime</i> . Endangered: <i>Linaria supina</i> Significant fauna species: Vulnerable: <i>Hyla arborea</i> , <i>Rana perezi</i> , <i>Numenius arquata</i> Sensitive to habitat alteration: <i>Haematopus ostralegus</i> . Special interest: <i>Hydrobates pelagicus</i> , <i>Riparia riparia</i>
Zinc	McArthur River lead zinc mine	Northern Territory, Australia	Species identified in areas potentially affected by or adjacent to the conversion to open cut operations include: Endangered: Freshwater sawfish Near threatened: Carpentaria grass wren; spectacled hare wallaby; purple-crowned fairy wren; white-browed robin; grey falcon; Worrell's turtle Vulnerable: Australian bustard