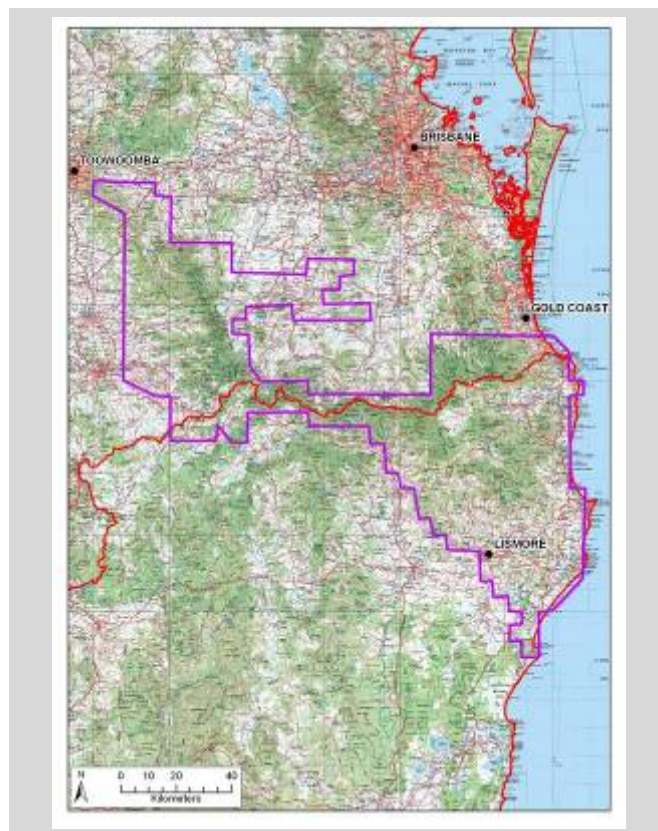


Border Ranges

MAINLAND ISLAND CHARACTERISTICS

Jurisdictions	New South Wales Queensland
NRM Regions	Condamine Northern Rivers South East Queensland
LGAs	Ballina, Byron, Gold Coast city, Ipswich City, Kyogle, Lismore, Lockyer Valley Regional, Logan City, Richmond Valley, Scenic Rim Regional, Southern Downs Regional, Tenterfield, Toowoomba Regional, Tweed
Size	848, 000 hectares
Dominant Type	Cleared, non-native vegetation, buildings
Land Tenure	Agriculture Crown Land National Park
Surrounding Issues	Land use Lack of native vegetation Pest density Weed density



Overall Priority	Conservation Value	Threat Status
Very High	Very High	Very High

Key Biodiversity Values

Key biodiversity and conservation values of BORDER RANGES

- 106 threatened species
- 18 threatened communities
- 28 migratory species
- Very high species richness
- Very high endemism
- Gondwana Rainforests of Australia World Heritage Area
- Canungra Land Warfare Centre Training Area (part), Gondwana Rainforests of Australia National/Commonwealth Heritage Places
- 9 nationally important aquatic ecosystems
- Native vegetation present
- Vertebrate pest species present

CONSERVATION VALUE

Categories	Ranks/Scores
1 Biodiversity values	Very High (16)
2 Uniqueness	Very High (4)
3 Representativeness	High (3)
4 Adjacency	Very High (4)
5 Area to perimeter ratio	Very High (4)

THREAT STATUS

Categories	Ranks/Scores
1 Density of pest species	Very High (8)
2 Pest impact level	Very High (8)
3 Invasion fronts/range boundaries	Very High (4)
4 Land use risk	Very High (5)
5 Weed density	Very High (4)
6 Area without statutory protection	High (3)



Key Threats and Impacts

Pest Species Present or Potentially Present

<input checked="" type="checkbox"/>	Cane toad	<input checked="" type="checkbox"/>	Feral cat	<input checked="" type="checkbox"/>	Feral pig	<input checked="" type="checkbox"/>	Rodents
<input checked="" type="checkbox"/>	Carp, European carp	<input checked="" type="checkbox"/>	Feral deer	<input type="checkbox"/>	Feral water buffalo	<input type="checkbox"/>	Tilapia, Mozambique Tilapia
<input checked="" type="checkbox"/>	European red fox	<input checked="" type="checkbox"/>	Feral donkey	<input checked="" type="checkbox"/>	Indian Myna, Common Myna	<input type="checkbox"/>	Weather loach; Oriental weather loach
<input checked="" type="checkbox"/>	European wild rabbit	<input type="checkbox"/>	Feral goat	<input checked="" type="checkbox"/>	Mosquito fish, Plague Minnow	<input type="checkbox"/>	Wild dog
<input type="checkbox"/>	Feral camel	<input checked="" type="checkbox"/>	Feral horse	<input checked="" type="checkbox"/>	Red-eared slider turtle	<input type="checkbox"/>	Other

Potential impacts of pest species on matters of National Environmental Significance

Cane toad <i>Litoria aurea</i> <i>Litoria longiburensis</i>		European red fox <i>Caretta caretta</i> <i>Chelonia mydas</i> <i>Dasyornis brachypterus</i> <i>Dermochelys coriacea</i> <i>Erythrorhynchus radiatus</i> <i>Gallinago hardwickii</i> <i>Litoria aurea</i> <i>Macronectes giganteus</i>		<i>Merops ornatus</i> <i>Neochmia ruficauda ruficauda</i> <i>Petrogale penicillata</i> <i>Potorous tridactylus tridactylus</i> <i>Pseudomys oralis</i> <i>Rostratula australis</i> <i>Sterna albifrons</i> <i>Xeromys myoides</i>	
Feral cat <i>Apus pacificus</i> <i>Dasyornis brachypterus</i> <i>Litoria aurea</i> <i>Macronectes giganteus</i> <i>Macronectes halli</i> <i>Petrogale penicillata</i> Brigalow (<i>Acacia harpophylla</i> dominant and co-dominant)		<i>Neochmia ruficauda ruficauda</i> <i>Potorous tridactylus tridactylus</i> <i>Pseudomys oralis</i> <i>Pterodroma neglecta neglecta</i> <i>Puffinus leucomelas</i> <i>Xeromys myoides</i>		Mosquito fish, Plague Minnow <i>Litoria aurea</i> <i>Litoria longiburensis</i>	
Wild dog <i>Merops ornatus</i> <i>Petrogale penicillata</i>		<i>Potorous tridactylus tridactylus</i> <i>Sterna albifrons</i>		Feral pig <i>Cadellia pentastylis</i> <i>Caretta caretta</i> <i>Chelonia mydas</i> <i>Dasyornis brachypterus</i> <i>Dermochelys coriacea</i> <i>Diuris sheaffiana</i> White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	
European wild rabbit <i>Diuris sheaffiana</i> <i>Lepidium peregrinum</i> <i>Macronectes giganteus</i> <i>Macronectes halli</i> <i>Petrogale penicillata</i>		<i>Poephila cincta cincta</i> <i>Pterodroma neglecta neglecta</i> <i>Rutidosia heterogama</i> <i>Thesium australe</i> <i>Xanthomyza phrygia</i>		<i>Litoria longiburensis</i> <i>Mixophyes fleayi</i> <i>Mixophyes iteratus</i> <i>Phaius australis</i> <i>Pouteria eerwah</i>	

Other threatening processes

- Situated on pest invasion front / range boundary
- High risk land use
- High density of Weeds of National Significance
- Lack of statutory protection

Highest priority biodiversity issues

Pest impacts on *Litoria aurea* and *Petrogale penicillata*

Pest management actions identified in recovery plans listed below

Impacts of feral cats, pigs, foxes and rabbits



CRITICAL SYNOPSIS OF VERTEBRATE PEST MANAGEMENT REGIME

Need for vertebrate pest management	<p>Management of vertebrate pests is required in order to protect and conserve the natural heritage values of the Gondwana Rainforests of Australia World Heritage Area in order to meet Australia's international obligations as a signatory nation to the World Heritage Convention. Management is further required to ensure the Australian World Heritage management principles are met as prescribed under the <i>Environment Biodiversity and Conservation Act 1999</i>.</p> <p>The likelihood and consequence of pest species impacts on the Area are considered high (EA, NSW PWS, QLD PWS, 2002).</p>
Planning instruments	<p>The following management plans and policies are relevant to the management of vertebrate pests within the Border Ranges mainland island:</p> <ul style="list-style-type: none"> World Heritage Central Eastern Rainforest Reserves Strategic Overview for Management (DEH 2000) Recovery plans for marine turtles, <i>Litoria longburnensis</i>, <i>Mixophyes fleayi</i>, <i>Nannoperca oxleyana</i>, <i>Poephila cincta cincta</i>, <i>Pseudomys oralis</i> and <i>Xanthomyza phrygia</i>.
Management actions	<p>Pest management actions identified as necessary within the Gondwana Rainforests of Australia WHA include (DEH 2000):</p> <ul style="list-style-type: none"> Develop a coordinated approach to rehabilitation within the WHA, including the control of pest species Develop an inventory of pest species infestations and identify priority pest control sites Undertake research into pest species effects and controls Include pest species issues into education and interpretation programs
Monitoring regimes	<p>The Central Eastern Rainforest Reserves of Australia: A Monitoring Strategy (Chester & Bushnell, 2005) details monitoring programs undertaken within the Border Ranges mainland island and the broader World Heritage Area. The report recommends monitoring regimes which should be undertaken within this area, including monitoring of pest animal species.</p>
Management responsibility	<p>Queensland (Environment Protection Agency) Queensland Parks and Wildlife Service New South Wales (National Parks and Wildlife Service)</p>
Cost-benefit analysis	<p>The NSW Invasive Species Plan highlights that pest management will be prioritized in areas where it provides the best cost to benefit ratio in protecting biodiversity, productivity and community most threatened by invasive species. Additionally, the Qld Pest Animal Strategy states that decisions regarding pest management must be made based on reliable information. The Strategy further indicates that part of the information gathering stage should include a cost/benefit analysis of various management options.</p>
Special features	<p>The potential for threats to degrade the World Heritage values of this mainland island is exacerbated by the property's mostly rugged terrain, fragmented nature and complex boundaries. These make on-ground management measures, such as fire management, pest animal and weed control, and the regulation of access, extremely difficult. The diverse tenures within the WHA hinder consistent and integrated management of the property.</p>
Summary / comments	<p>One of the listing criteria for World Heritage status of this mainland island is that the site "contains the most important and significant habitats where threatened species of plants and animals of outstanding universal value from the point of view of science and conservation still survive". Given that many of these species are potentially impacted by pests, pest management should be given a high priority and should be coordinated across the very large WHA.</p>

References:

Chester, G. and Bushnell, S. (Eds) (2005) *Central Eastern Rainforest Reserves of Australia: A Monitoring Strategy*. Department of Environment and Conservation and Queensland Environmental Protection Agency, New South Wales. http://www.jcu.edu.au/rainforest/publications/cerra_monitoring.pdf

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NSW Department of Primary Industries (DPI) (2008) *NSW Invasive Species Plan 2008-2015*, NSW DPI, Orange. Available on-line at: <http://www.dpi.nsw.gov.au/agriculture/pests-weeds/nsw-invasive-species-plan>

Queensland Government (2002) *Queensland Pest Animal Strategy 2002-2006*, Queensland Government, Brisbane.

