



Appendix B
INCA Model Register



Category	Aspect	Theme	Metadata Abstract	Data Date	Custodian	Criteria	Performance Rating	Sensitivity Analysis Alternatives	Objective	Criteria Weight (NRW 21/6)
Environmental	Flora and Fauna	Regional Ecosystems	<p>Vegetation mapping at a map scale of 1:100,000 and 1:50,000 in part, based on surveys of vegetation communities. Regional ecosystem linework reproduced at a scale greater than 1:100,000, except in designated areas, should be used as a guide only. The positional accuracy of RE data mapped at a scale of 1:100,000 is 100 metres. The map scale of 1:50,000 applies to part of Southeastern Queensland and map amendments areas. The mapping includes regional ecosystems as described in Sattler & Williams (ed.) (1999) and updated in the Regional Ecosystem Description Database, on the EPA website: http://www.epa.qld.gov.au/nature_conservation/biodiversity/regional_ecosystems/ Related polygon coverages include: pre-clearing vegetation, 1995, 1997, 1999, 2001 remnant vegetation / regional ecosystem and remnant vegetation cover (RVC) for areas where regional ecosystem coverages have not been completed. Point coverage of survey sites for the region extracted from CORVEG. Complete site data are stored in the Queensland Herbarium CORVEG database. National Vegetation Information System - NVIS Audit</p>	2003 and certified amendments to 15th March 2007	EPA (ver 5 with latest amendments)	Non Remnant	1		Clearing of remnant vegetation is minimised Closer analysis may justify reducing Endangered RE to 3.	5
						Not of Concern RE	2			
						Of Concern RE (subdominant)	3			
						Of Concern RE (dominant)	3			
						Endangered RE (subdominant)	999	3		
						Endangered RE (dominant)	999	3		



Category	Aspect	Theme	Metadata Abstract	Data Date	Custodian	Criteria	Performance Rating	Sensitivity Analysis Alternatives	Objective	Criteria Weight (NRW 21/6)
		Essential Habitat	PR 1.5 of the Regional Vegetation Management Code for Broad-scale Clearing and Part A of the Regional Vegetation Management Code for Ongoing Purposes provide for exclusion of clearing in identified areas of essential habitat of vulnerable, rare, near threatened or endangered species through the following provision, i.e. 'PR 1.5 To prevent loss of biodiversity, clearing does not occur in an area which is identified in a map prepared for the purpose of this code as an area of essential habitat for a species of wildlife listed as vulnerable, rare, near threatened or endangered under the Nature Conservation Act 1992. The map is prepared by the chief executive of the agency that administers that Act and certified by the chief executive of the Department of Natural Resources & Water.' It is the responsibility of the EPA to provide this information on hard copy maps and digital layers at current best standards for the State.	Sep-06	EPA (ver 2)	Within mapped areas	3		Loss or degradation of essential habitat for rare, vulnerable and endangered species is minimised	5



Category	Aspect	Theme	Metadata Abstract	Data Date	Custodian	Criteria	Performance Rating	Sensitivity Analysis Alternatives	Objective	Criteria Weight (NRW 21/6)
		Fish Habitat Area	Fish Habitat Areas declared under Section 94 and Schedule 7 - Parts 1 & 2 of the Queensland Fisheries Act 1994. This is a composite of Boundary areas gazetted/regazetted in 1998-2003 (listed in Part 2) and previous DPI Fish Habitat Reserves digitised in 1996 (listed in Part 1). All FHAs are being redrawn/regazetted to a digital format, conforming to the DCDB as base defining an OUTER BOUNDARY. For EXCLUSIONS within these FHA areas - refer to referenced Gazettals	1/01/1996 - 2005-02-25	DPI (Feb 2005)	Within mapped areas	999	3	Risks of impacting upon fish habitat areas are minimised	1
		Conservation Estate	Protected Areas of Queensland. Warning note: (1) Estate is the master spatial layer and as such the derived product estateby must not be used in isolation. (2) Under the provisions of the Nature Conservation Act 1992, no entry is permitted to National Park (Scientific) reserves without a permit.	11/07/1964 - 31/9/2006	EPA (Ver.12.3 Sep 2006)	National Park Conservation Park State Forest Timber Reserve Forest Reserve Resource Reserve	999 999 1 1 1 1	3 2 / 3 2 / 3 2 / 3	Impacts on sites with legal conservation status are avoided or minimised (eg. National Park, Conservation Park, State Forest etc)	6



Category	Aspect	Theme	Metadata Abstract	Data Date	Custodian	Criteria	Performance Rating	Sensitivity Analysis Alternatives	Objective	Criteria Weight (NRW 21/6)
Environmental	Watercourses and Wetlands	Assessment of River Condition (ARC-E)	The Assessment of River Condition is the first attempt to report on river condition for key river basins across Australia. The integrated assessment provides a basin-wide context and a framework within which decisions and river management priorities can be considered. The assessment incorporates a range of attributes that are considered to indicate key ecological processes at the river reach and basin levels. The two indices developed are an Aquatic Biota Index using macroinvertebrates, and an Environment Index with four sub-indices: catchment disturbance; hydrological disturbance; habitat; and nutrient and suspended sediment load. A range of data types and approaches were used including direct measurements and modelling of nutrient and sediment loads.	Sep-01	NRLWA/CSI RO	< 200m of Largely Unmodified Reaches	999	The Environment condition index has been selected on the basis of having more consistent coverage of data that the Biota Index and a generally more conservative assessment level. A minimum rating of 2 has been applied to all watercourse buffers to minimise running parallel within 200m of these features and reduce the number of crossings	3	
						< 200m of Moderately Modified Reaches	3			
< 200m of Substantially Modified Reaches	3									
< 200m of Severely Modified Reaches	2									
< 200m of Unassessed Reaches	2									
	QLD Drainage Watercourses	Drainage 250k Geodata (Series 2) is a linear network of interconnected chains depicting the state's major watercourses. The majority of the chains represent canals or watercourses depicted as single lines on the source material. To ensure continuity of the network, connector features are used to bridge area features such as lakes, swamps and watercourses which are sufficiently wide to be shown as polygons on the source material.	May-06	GA (series 3)	Within 200m of mapped features	2	Minimise proximity to watercourses where possible, including minimising running parallel and reducing the number of crossings.	3		



Category	Aspect	Theme	Metadata Abstract	Data Date	Custodian	Criteria	Performance Rating	Sensitivity Analysis Alternatives	Objective	Criteria Weight (NRW 21/6)
		QLD Drainage Watercourse Areas		May-06	GA (series 3)	Within 200m of mapped features	3		Avoid crossing other water bodies where possible. Large storages will be eliminated as fatal flaws through the Dams and Waterbodies theme below.	2
		Directory of Important Wetlands	Wetland locations for Queensland wetlands described in Directory of Important Wetlands, 3rd Edition, ANCA 2001 by Wetland Inventory Team, Northern Region, DoE. Updated by Resource Assessment Unit, Qld. EPA	Jan-06	EPA (ver 3)	Within 200m of mapped areas	999	3	Impacts on wetland ecosystems are minimised. Potential reduction to 3, although limited occurrences within the study extent.	1



Category	Aspect	Theme	Metadata Abstract	Data Date	Custodian	Criteria	Performance Rating	Sensitivity Analysis Alternatives	Objective	Criteria Weight (NRW 21/6)
		Ramsar Wetlands	<p>The Convention on Wetlands of International Importance was the first modern inter-governmental treaty between nations aiming to conserve natural resources. The signing of the Convention took place in 1971 in the small Iranian town of Ramsar (since then, it has taken the common name of the Ramsar Convention). Australia was the first nation to become a Contracting Party to the Convention. The Convention's broad aims are to halt the worldwide loss of wetlands and to conserve, through wise use and management, those that remain. This requires international cooperation, policy making, capacity building and technology transfer. There are 5 Ramsar sites within Queensland (Administrators are shown in brackets): Moreton Bay (Queensland), Bowling Green Bay (Queensland), Currawinya Lakes (Queensland), Shoalwater and Corio Bays (Queensland/ Commonwealth), Great Sandy (Queensland).</p>	1/01/1970 - 29/11/2002	EPA (VER1.1 2002)	Within 200m of mapped areas	999		Impacts on wetland ecosystems are minimised	1



Category	Aspect	Theme	Metadata Abstract	Data Date	Custodian	Criteria	Performance Rating	Sensitivity Analysis Alternatives	Objective	Criteria Weight (NRW 21/6)	
Physical	Terrain	Slope	The GEODATA 9 Second DEM Version 2 is a gridded digital elevation model computed from topographic information including point elevation data, elevation contours, stream lines and cliff lines. The grid spacing is 9 seconds in longitude and latitude (approximately 250 metres). 9 Second DEM is a cooperative effort of the Australian Surveying and Land Information Group (AUSLIG), Australian Geological Survey Organisation (AGSO) and Centre for Resource and Environmental Studies (CRES) at the Australian National University.	Aug-00	GA (NRW)	> 10%	999		Construction and operation costs can be reduced and risks of stability issues minimised.	4	
		5 - 10%				3					
		< 5				1					
		Elevation					> 500m AHD	3	*	*Subject to specific sensitivity analysis.	1
						300 - 500m	2	*			
						< 300	1	*			
			Mining Claims	The boundaries of Mining Claims in Queensland. Display the boundaries and names of principal holders of all application and granted Mining Claims (MC)	May-07	NRW	Within mapped areas	2	1	Minimise impacts on mining activities	1
	Mining	Mineral Development Licences	The boundaries of Mineral Development Licences (MDL) for Minerals (includes coal) in Queensland. Display the boundaries and names of principal holders of all application and granted Mineral Development Licences (MDL)	May-07	NRW	Within mapped areas	999	3	Minimise impacts on mining activities	1	
	Mining	Mining Leases	The boundaries of Mining Leases in Queensland. Display the boundaries and names of principal holders of all application and granted Mining Leases (ML)	May-07	NRW	Within mapped areas	999	3	Minimise impacts on mining activities	3	



Category	Aspect	Theme	Metadata Abstract	Data Date	Custodian	Criteria	Performance Rating	Sensitivity Analysis Alternatives	Objective	Criteria Weight (NRW 21/6)
		Petroleum Leases	The boundaries of Petroleum Leases in Queensland. Display the boundaries and names of principal holders of all application and granted Petroleum Leases (PL)	May-07	NRW	Within mapped areas	2		Minimise impacts on mining activities	1
		Petroleum Pipeline Licenses	The theme depicts the centre lines of petroleum pipeline licences captured into the Department's MERLIN tenure system.	May-07	NRW	Within mapped areas	2		Minimise impacts on mining activities	2
	Soils	Queensland Acid Sulfate Soil Boundaries	A guide to the presence of acid sulfate soils throughout Queensland. Indicates areas of detailed mapping and provides a connection to reports. Detailed metadata is available for specific projects. Purpose: Indicates the presence or absence of acid sulfate soils throughout Queensland.	Not yet received	Not yet received	< 5m AHD or mapped presence	999		Construction of pipeline will not disturb Acid Sulfate Soils	3



Category	Aspect	Theme	Metadata Abstract	Data Date	Custodian	Criteria	Performance Rating	Sensitivity Analysis Alternatives	Objective	Criteria Weight (NRW 21/6)
Social	Habitation and Tenure	Property Boundaries and Tenure (DCDB)	The Digital Cadastre DataBase (DCDB) is the spatial representation of the property boundaries and the related property descriptions of Queensland. The DCDB provides the map base for systems dealing with land and land related information and provides data in order to generate hard copy map products. This dataset is a fortnightly copy of Queensland's Digital Cadastral Database (DCDB) updated with a monthly copy of selected information from the Tenure Attribute System. See http://131.242.63.117:8080/documents/pdf_files/cgm-143.pdf for a full description of this dataset and its contents. See NRM Meta record for: Digital Cadastral Data Base (DCDB)	May-07	NRW	Lot size < 0.25 ha in SEQ Regional Plan	999		Reduce the number of property owners affected, Costs and delays associated with land acquisition are minimised. Proposed pipeline does not affect residential areas or amenity in those areas.	4
						Lot size < 0.25 ha outside SEQ Regional Plan	3			
						0.25 - 1ha	3			
						1ha - 16 ha	2			
						> 16 ha	1			
		Builtup Areas	A concentration of buildings surrounding a network of roads and supported by other associated infrastructure. Extracted from the GEODATA TOPO 250K Series 3 Topographic Data product which contains a medium scale vector representation of the topography of Australia.	May-06	GA (series 3)	Within mapped areas	999		Avoid builtup areas	5
		Populated Places	A named settlement with a population of 200 or more persons. Extracted from the GEODATA TOPO 250K Series 3 Topographic Data product which contains a medium scale vector representation of the topography of Australia.	May-06	GA (series 3)	Within 5km	2		Avoid mapped regional locations where possible	3



Category	Aspect	Theme	Metadata Abstract	Data Date	Custodian	Criteria	Performance Rating	Sensitivity Analysis Alternatives	Objective	Criteria Weight (NRW 21/6)
Cultural Heritage		Prohibited Areas	Area into which entry is prohibited without permission from the controlling authority. Extracted from the GEODATA TOPO 250K Series 3 Topographic Data product which contains a medium scale vector representation of the topography of Australia.	May-06	GA (series 3)	Within the mapped area	999		Avoid defence and other restricted areas	4
		Native Title Claims	The Queensland Claim Activity Map (QCAM) spatial data set indicates the external boundaries of native title claims lodged over areas of lands and waters within the State of Queensland. The depictions of native title claims are approximate and are shown as general information only, based upon claimant applications filed with the Federal Court and registered with the National Native Title Tribunal. This data set may be overlaid with the DCDB to further indicate the relationship and approximate location of claims relative to cadastral data.	Feb-07	NRW	Multiple overlapping claims Single claim	3 2		Delays due to Native Title issues are minimised and the rights of Native Title claimants are respected.	2
		QLD Heritage Register	Spatial representation of listing boundaries for places entered in the Queensland Heritage Register. Places that are provisionally and permanently entered in the Queensland Heritage Register are protected under the provisions of the Queensland Heritage Act 1992. The Queensland Heritage Council has approved these places.	Jan 2001 - current	EPA	Within 100m of any registered site	999		Items of cultural heritage are not impacted	3



Category	Aspect	Theme	Metadata Abstract	Data Date	Custodian	Criteria	Performance Rating	Sensitivity Analysis Alternatives	Objective	Criteria Weight (NRW 21/6)	
Built Environment		Railway	A transportation system using one or more rails to carry freight or passengers. Extracted from the GEODATA TOPO 250K Series 3 Topographic Data Series 3 product which contains a medium scale vector representation of the topography of Australia.	May-06	GA (series 3)	Within 500m of railways	1		Existing infrastructure is not affected and future infrastructure development is not unnecessarily constrained	4	
						Other areas outside the buffer	2				
	Transport	Road	A route for the movement of vehicles, people or animals. Classified into Dual Carriageway, Principal, Secondary, Minor Roads and Tracks. Secondary and above are only considered in this study. Extracted from the GEODATA TOPO 250K Series 3 Topographic Data product which contains a medium scale vector representation of the topography of Australia.	May-06	GA (series 3)	Within 500m of Class 1 and 2 roads	1			4	
						Other areas outside the buffer	2				
	Utilities	Pipelines	Pipeline information defomed in the GEODATA TOPO 250K Series 3 Topographic Data Series 3 product which contains a medium scale vector representation of the topography of Australia.	May-06	GA (series 3)	Within 500m of pipelines	1		3	Co-locate along existing infrastructure corridors where suitable.	4
						Other areas outside the buffer	2				
	Powerlines	Power transmission line information defined in the GEODATA TOPO 250K Series 3 Topographic Data Series 3 product which contains a medium scale vector representation of the topography of Australia.	May-06	GA (series 3)	Within 500m of powerlines	1		3		4	
					Other areas outside the buffer	2					



Category	Aspect	Theme	Metadata Abstract	Data Date	Custodian	Criteria	Performance Rating	Sensitivity Analysis Alternatives	Objective	Criteria Weight (NRW 21/6)
Water Infrastructure		Irrigation Areas	The Queensland Irrigation Areas dataset contains polygons describing the boundaries of Gazetted Irrigation Areas in Queensland. The areas were regulated by the Department of Natural Resources and Mines and operated by SunWater. The boundaries ceased to exist under law on 20th September 2000. This dataset contains 8 major Irrigation Areas, Mareeba-Dimbulah, Burdekin, Eton, Emerald, Bundaberg, Dawson Valley, St George, & Lower Mary. The dataset was created by Natural Resource Sciences, Indooroopilly prior to the separation of Dept of Natural Resources and Mines and SunWater on 1st October 2000, and is current to that date. The dataset may have been updated by SunWater since then and in future will be updated as required by SunWater.	Sep-00	NRW	Within mapped areas	3		Impact on irrigation areas is minimised	3
		Queensland Dams and Waterbodies	The data is a polygon feature class containing all water bodies identified within Queensland, projected using GDA94. The water bodies were mapped using ERDAS Imagine to classify a time series of Landsat 5 & 7 images, ranging in date from 1986 to 2005, (typically winter imagery of 1988, 1991, 1993, 1995, 1997, and yearly from 1999 to 2005). Classification was based on thresholding a standardised multiple-regression water index, so that the number of pixels included with water was maximized, and errors of commission minimized.	Feb-06	NRW	Full supply level extents of 20 large supply storages	999		Avoid overpassing existing storages, but encourage local diversion to selected large supply storages.	4



Category	Aspect	Theme	Metadata Abstract	Data Date	Custodian	Criteria	Performance Rating	Sensitivity Analysis Alternatives	Objective	Criteria Weight (NRW 21/6)
						< 5km of large supply storages	1			
						> 5km of large supply storages	2			
		SunWater Pipelines	Locations and details of some SunWater pipelines – for GHD study of water from Burdekin to SEQ.	May-07	SunWater	Within 500m of pipelines	1		Co-locate along existing infrastructure corridors where suitable.	4
						Other areas outside the buffer	2	3		
		Damwalls	Dam wall locations defined in the GEODATA TOPO 250K Series 3 Topographic Data Series 3 product which contains a medium scale vector representation of the topography of Australia.	May-06	GA (series 3)	Within mapped areas	999		Existing infrastructure is not affected and future infrastructure development is not unnecessarily constrained	4
		Spillways	Spillway locations defined in the GEODATA TOPO 250K Series 3 Topographic Data Series 3 product which contains a medium scale vector representation of the topography of Australia.	May-06	GA (series 3)	Within mapped areas	999			
		Storage Tanks	Storage tank locations defined in the GEODATA TOPO 250K Series 3 Topographic Data Series 3 product which contains a medium scale vector representation of the topography of Australia.	May-06	GA (series 3)	Within mapped areas	999			1
		Water Tanks	Water tank locations defined in the GEODATA TOPO 250K Series 3 Topographic Data Series 3 product which contains a medium scale vector representation of the topography of Australia.	May-06	GA (series 3)	Within mapped areas	999			1