

# Information sheet

## Environmental Protection Act 1994

### Regional ecosystem mapping overview for environmental assessments

This information sheet provides general advice regarding the regional ecosystem mapping relating to undertaking environmentally relevant activities as defined in the Environmental Protection Act 1994.

#### 1 Defining regional ecosystems

Regional ecosystems (REs) are vegetation communities associated with a particular combination of geology, landform and soil. Each RE is classified by a three-part code (e.g. 12.11.3) comprised of:

- Bioregion: The first part refers to the bioregions and represents the primary level of biodiversity classification in Queensland.
- Land zone: The second part refers to the land zone that the RE occurs on. The land zone is a simplified geology / substrate-landform classification for Queensland.
- Vegetation: The third part is the ecosystem number and denotes the vegetation type. The vegetation is described by the predominant strata, the strata contributing the most above-ground biomass.

There are 1,435 REs distributed across Queensland. RE descriptions can be searched using the Queensland Herbarium REDD lookup tool at <https://apps.des.qld.gov.au/regional-ecosystems/>

#### 2 Regional ecosystem framework

The RE framework provides foundational ecosystems related mapping and information and defines the class of each of the State's REs under the *Vegetation Management Act 1999* (VMA).

The 'pre-clearing' vegetation is the vegetation or REs present before clearing, sometimes referred to as 'pre-1750' or 'pre-European'.

'Remnant vegetation' is vegetation that has either not been cleared or has been cleared in the past but has regenerated such that it meets the remnant criteria stated in the VMA. Remnant woody vegetation will form the predominant canopy of vegetation –

- (a) covering more than 50% of the undisturbed predominant canopy; and
- (b) averaging more than 70% of the vegetation's undisturbed height; and
- (c) composed of species characteristic of the vegetation's undisturbed predominant canopy.

'High-value regrowth' vegetation means vegetation located—

- (a) on freehold land, indigenous land, or land subject of a lease issued under the *Land Act 1994* for agriculture or grazing purposes or an occupation licence under that Act; and
- (b) in an area that has not been cleared (other than for relevant clearing activities) for at least 15 years, if the area is—



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- (i) an endangered regional ecosystem; or
- (ii) an of concern regional ecosystem; or
- (iii) a least concern regional ecosystem.

'Non-remnant vegetation' is vegetation that fails to meet the structural and/or floristic characteristics of remnant vegetation. It includes regrowth, heavily thinned or logged and significantly disturbed vegetation.

### 3 Biodiversity status of regional ecosystems

The biodiversity status of an RE is based on an assessment of the condition of remnant vegetation. The biodiversity status is used:

- for assessment of environmentally relevant activities; and
- for a range of planning and management applications including Biodiversity Planning Assessments; and
- to determine environmentally sensitive areas (ESAs) (category A and B ESAs as defined under Schedule 19 of the Environmental Protection Regulation 2019, and category C ESAs as defined in a relevant model conditions document or ERA standard) that are used for regulation of the resource industry.

A RE is listed with a biodiversity status of '**endangered**' if:

- less than 10% of its pre-clearing extent remains unaffected by severe degradation and/or biodiversity loss<sup>1</sup>; or
- 10–30% of its pre-clearing extent remains unaffected by severe degradation and/or biodiversity loss and the remnant vegetation is less than 10,000ha; or
- it is a rare regional ecosystem<sup>2</sup> subject to a threatening process.

A RE is listed as '**of concern**' if:

- remnant vegetation is 10–30% of its pre-clearing extent across the bioregion; or
- more than 30% of its pre-clearing extent remains and the remnant extent is less than 10,000ha; and
- 10–30% of its pre-clearing extent remains unaffected by moderate degradation and/or biodiversity loss<sup>3</sup>.

Though not part of an ESA or environmental authority consideration, a RE is listed as '**no concern at present/ least concern**' if:

- remnant vegetation is over 30% of its pre-clearing extent across the bioregion, and the remnant area is greater than 10,000ha; and
- the degradation criteria listed above for 'endangered' or 'of concern' REs are not met.

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<sup>1</sup> Severe degradation and/or biodiversity loss is defined as:

- floristic and/or faunal diversity is greatly reduced but unlikely to recover within the next 50 years even with the removal of threatening processes; or
- soil surface is severely degraded, for example, by loss of A horizon, surface expression of salinity, surface compaction, loss of organic matter or sheet erosion.

<sup>2</sup> Rare regional ecosystem defined as pre-clearing extent (less than 1,000ha).

<sup>3</sup> Moderate degradation and/or biodiversity loss is defined as:

- floristic and/or faunal diversity is greatly reduced but unlikely to recover within the next 20 years even with the removal of threatening processes; or
- soil surface is moderately degraded.

## 4 Regional ecosystem mapping

RE maps are produced using remotely sensed data (aerial photography and/or satellite imagery) combined with soil, geology and climate maps, and site-based vegetation survey data. The delineation of vegetation boundaries uses imagery interpretation influenced by landform elements and patterns, substrate (soil and/ or geology); reflectance from imagery influenced by vegetation and substrate, combined with ecological knowledge. Mapping methodology is available at: [Methodology for surveying and mapping regional ecosystems and vegetation communities in Queensland \(www.qld.gov.au\)](http://www.qld.gov.au)

## 5 Why consider regional ecosystem mapping early in preparation for applying for or amending an application?

Any application that results in impacts to remnant (as defined by state mapping) REs will need to include consideration of the impacts to land in accordance with the guideline [Application requirements for activities with impacts to land \(ESR/2015/1839\)](#). This may include ground-truthing surveys which can identify discrepancies between on-ground environmental values and mapped values.

The benefits of considering environmental requirements early in the application process include:

- ensuring compliance with statutory obligations;
- avoiding delays during any environmental authority assessment process;
- adequately resourcing activities at the appropriate stages in a project — e.g. by knowing when to engage expert advice to assist with compiling application documents or plans; and
- cost savings, as project costs are significantly higher where activities are located in vegetation/ habitat types with high ecological value.

The Herbarium's [regional ecosystem map assessment kit](#) describes the appropriate information required to have the mapping assessed. It contains explanatory notes, worked examples and forms that set out the information necessary for a map assessment. This kit should form the basis for any information supplied with the map assessment.

The earlier that potential discrepancies between on-ground values and the mapped values can be identified, including the need for any RE mapping amendments, the more likely that the applicant and the department can discuss and refer the ground-truthing to the Herbarium without any impacts on the application timeframes and subsequent planned activities.

## 6 How often are the RE maps updated?

State-wide RE mapping releases occur approximately every two years. Updates include the temporal currency of the remnant vegetation extent for the previous two years, and improvements in the delineation of RE polygons. RE mapping for South-East Queensland is released annually but the temporal currency is updated every two years along with the rest of the state.

## 7 How can resource development proponents seek amendments to the RE mapping?

Applicants can submit ground-truthing survey data in support of environmental authority and environmental impact statement applications to the department. A RE Map Assessment Kit describes the appropriate information required to have the mapping assessed by the Queensland Herbarium and Biodiversity Science. When validated, the Herbarium updates the mapping database with the new on-ground values. The Herbarium's validation process may take from six to eight weeks. The department manages the process of proponent referred changes to state RE mapping directly with the Herbarium. The Herbarium will communicate any issues on the map assessment through the department and the department will ensure communication back to the

applicant around the process.

## 8 Accessing regional ecosystem maps

You can request a map of REs at this link:

<https://www.qld.gov.au/environment/management/environmental/environmental-reports-online>

You can request a map of REs coloured by Biodiversity Status or Broad Vegetation Group at this link: <https://apps.des.qld.gov.au/map-request/re-broad-veg-group/>

You can also interactively explore RE maps online via the regional ecosystem mapping layer in the “Biota” globe theme at this link: <https://qldglobe.information.qld.gov.au/>

## 9 More information

For further information on this topic or to discuss how to request a map change, please contact the relevant business centre as outlined in the Enquiries section below.

### Disclaimer

While this document has been prepared with care it contains general information and does not profess to offer legal, professional or commercial advice. The Queensland Government accepts no liability for any external decisions or actions taken on the basis of this document. Persons external to the Department of Environment, Science and Innovation should satisfy themselves independently and by consulting their own professional advisors before embarking on any proposed course of action.

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