

Guide to using the encroachment code

Accepted Development Vegetation Clearing Code
Managing Encroachment

Effective 21 June 2019

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About this guide

This guide has been developed to help landholders operate under the Accepted Development Vegetation Clearing Code: Managing Encroachment. It refers to the *Vegetation Management Act 1999* and the *Planning Act 2016*, which jointly regulate the clearing of native vegetation in Queensland.

The guide is not intended to be exhaustive. It only deals with operating under the encroachment code. It provides supplementary information, and is designed to be read in conjunction with the encroachment code, and with the *General guide to accepted development vegetation clearing codes* (which provides information about the notification process, landholder obligations, and technical information that applies to all codes).

Landholders are also encouraged to familiarise themselves with the local, state and federal Acts and Regulations that apply to their operations.

Common abbreviations and definitions used in this document

- Act = *Vegetation Management Act 1999*
- Code = accepted development vegetation clearing code
- DNRME = Department of Natural Resources, Mines and Energy
- Encroachment code = Accepted Development Vegetation Clearing Code: Managing Encroachment
- RE = regional ecosystem
- All terms in this guide have the meaning provided in the encroachment code or the [Vegetation Management Act 1999](#).

Further information

For more information call **135 VEG (135 834)**
email vegetation@dnrme.qld.gov.au
or search 'Vegetation Management' on www.qld.gov.au.

Links to other documents

[Accepted development vegetation clearing codes](#)

[General guide to accepted development vegetation clearing codes](#)

Managing Encroachment

The current Accepted Development Vegetation Clearing Code: Managing Encroachment (the encroachment code) became effective on 21 June 2019.

TIP *Notifications made under the previous code (dated 2 December 2013) are no longer valid. To manage encroachment, you can lodge a new notification under the current encroachment code.*

You can also apply for a development approval to clear encroachment under the *Planning Act 2016*. Further information on development approvals is available online at www.qld.gov.au (search for 'development approvals to clear native vegetation').

Scope

The encroachment code applies only to specific REs that are contained within category B areas, category C areas or category R areas on the regulated vegetation management map. Note that the encroachment code does not apply to some land tenures, such as roads. Refer to the encroachment code for more information on applicable REs, vegetation categories and land tenures.

What is encroachment?

Native grassland ecosystems occur over vast areas of western Queensland. Some of these native grasslands contain trees and shrubs (woody vegetation) as part of their natural species composition. Prior to European settlement, the woody vegetation in native grasslands naturally expanded and contracted over time, due to seasonal conditions and periodic burning.

Since European settlement, land management has largely removed fire from the environment and the introduction of sheep and then cattle, has resulted in the progressive expansion of woody vegetation onto some grassland ecosystems. This has seen the expansion of woody vegetation onto native grassland ecosystems far exceeding their previous natural range. This process is referred to as 'encroachment'.

Managing encroachment assists in restoring grassland ecosystems to a more natural state and in turn, improves biodiversity, reduces soil erosion and provides for better grazing potential.

The first step in managing encroachment is clearing the invading native woody species causing the issue. Clearing of encroachment may involve any of the following methods:

- manual clearing of small areas using a chainsaw or other tool (hand felling)
- mechanical clearing using a tractor with a stick rake, thinning bar or other implement
- herbicides in certain circumstances
- controlled burning, by carefully planning the timing, intensity, interval, timing, and lighting pattern of the fire.

After the initial clearing, you may choose to use fire or another ongoing practice to effectively manage encroachment in the long term.

TIP *Subsequent regeneration of encroaching woody vegetation in cleared areas may later be treated under the same notification (until it expires) or a new notification.*

Encroachment code notification area limits


The encroachment code limits clearing in a category B area, category C area or category R area to 400 hectares per notification. There is no limit on the number of notifications you may lodge per lot however, to lodge a subsequent notification over a lot, you will need to conduct a self-audit of clearing done under the previous notification to ensure it was compliant.

TIP *You are not required to submit self-audit results to DNRME but you must retain the audit and make it available to DNRME upon request.*

TIP *For more information about the notification and self-audit process, refer to the [General guide to accepted development vegetation clearing codes](#).*

Encroachment regional ecosystems

The encroachment code lists the REs in which encroachment is known to occur in Section 4, Table 1 (below). The encroachment code only permits clearing within Table 1 REs.

 *A full description of each ecosystem is available on the **Regional Ecosystem Description Database**—download the database at www.qld.gov.au (search for ‘regional ecosystem description database’).*


 *Regional ecosystem mapping can also be viewed through the **Queensland Globe** at www.qld.gov.au (search ‘Queensland globe’).*

Table 1: Regional ecosystems to which this code applies

3.3.56	4.3.20	5.7.9	9.8.5	11.3.31
3.3.60	4.9.7	5.7.10	9.12.42	11.4.11
3.3.61	4.9.8	6.7.17	10.3.7	11.8.11
3.12.32	4.9.9		10.3.8	11.9.3

The grassland regional ecosystems listed in Table 2 (below) are not regulated by the Act and clearing for any purpose may be carried out without a permit or notification from DNRME.

Table 2: Exempt grassland regional ecosystems

1.3.10	1.5.12	1.5.15	1.7.3	1.9.1	1.11.13
1.12.5	2.3.3	2.3.4	2.3.32	2.3.58	2.4.2
2.9.1	2.9.2	3.1.7	3.3.57	3.5.29	3.8.4
3.9.8	3.11.19	3.12.30	4.3.14	4.3.15	4.3.16
4.3.17	4.3.18	4.3.19	4.4.1	4.4.2	4.9.1
4.9.2	4.9.4	4.9.5	4.9.20	5.9.3	5.9.4
6.3.14	6.3.15	7.3.32	7.11.39	9.3.25	9.3.26
9.8.13	10.4.8	11.3.21	11.3.24	11.4.4	11.8.10
12.8.27					

TIP It is strongly recommended you contact other relevant agencies to discuss their proposed activities prior to clearing to determine if the activity is permitted under other local, State and Commonwealth laws. Contact information for other agencies is provided in Appendix 1 of the encroachment code.

Locating the regional ecosystem

A general explanation for regional ecosystems is provided in the [General guide to accepted development vegetation clearing codes](#). However, regional ecosystems in heavily grassed bioregions have a unique set of considerations.

Grassland regional ecosystems are often located in a patchwork like pattern amongst open woodland regional ecosystems. It is these open woodland areas from which the encroaching woody species usually come from.

For example, Gidgee stands encroaching into RE 4.9.8 will usually spread out of nearby Gidgee woodland such as 4.9.11.

When clearing to manage encroachment, you need to be sure that you are operating in one of the relevant grassland dominated regional ecosystems listed in the encroachment code, and not in the neighbouring open woodland (which often have grassy components as well).

On the ground, the boundary between a grassland RE and a neighbouring woodland RE is often a mix of the two REs over a transitional area. The RE map can only help in-so-far as pointing out where REs are likely to occur on ground. The actual location must be determined on site, ensuring the vegetation is consistent with the relevant RE description.

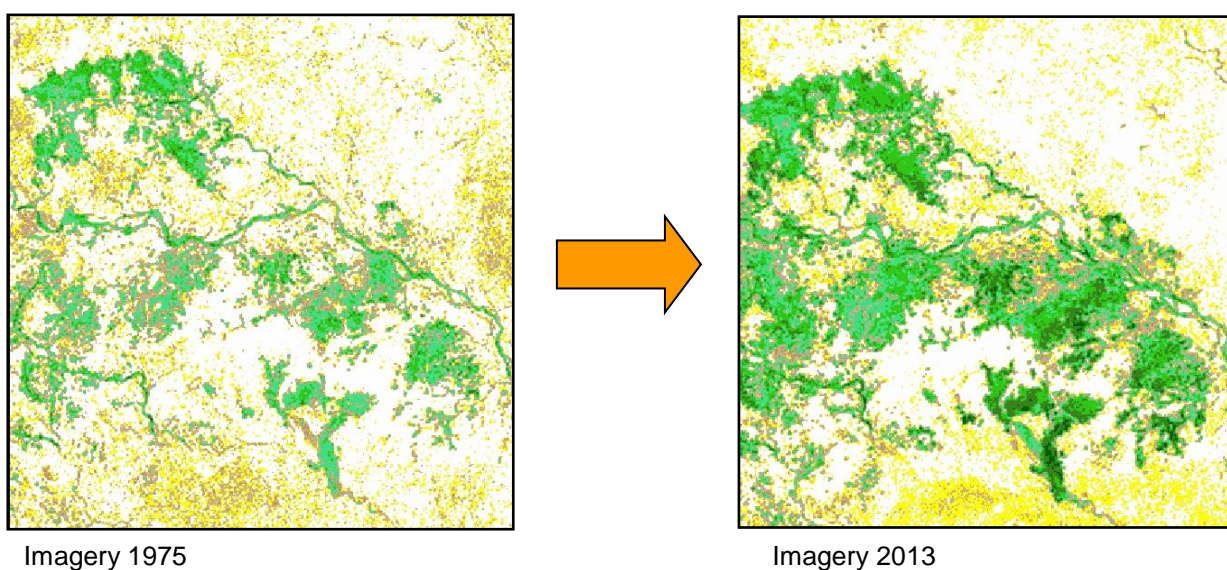
For more information about how to read RE maps refer to the [General guide to accepted development vegetation clearing codes](#).

Demonstrating encroachment

Under Section 4 of the code, encroachment must be demonstrated before any clearing can be conducted. As encroachment involves a change in structural formation from grassland or very sparse RE to native shrubland or woodland, it is readily detectable on aerial imagery. A comparison of historical and recent imagery can identify encroachment of a woody species.

Step 1: imagery comparison

The first step required to demonstrate encroachment is about identifying the presence of woody vegetation expansion. This is done by comparing historical imagery to recent imagery over the area mapped as a Table 1 RE, in accordance with section 4.1 of the encroachment code. If woody vegetation can be clearly identified as present in recent imagery, and absent in historical imagery, this indicates woody vegetation has expanded.



TIP *While undertaking the imagery comparison, you should use the **recent imagery** to estimate the REs current canopy cover. This will come in handy when assessing whether the encroachment has changed the RE and made it inconsistent with the expected natural floristic composition and vegetation structure (Step 2: RE assessment).*

Imagery standards

The encroachment code stipulates that recent imagery must not be older than 15 years (i.e. taken less than 15 years ago), and the historical imagery must be older than 15 years (i.e. taken more than 15 years ago).

To clarify, there is no maximum age ceiling for the historical imagery (it could be 20 years old, 50 years old, or even older).

If there are multiple photos of different ages for either recent imagery or historical imagery, you can choose which images you want to use for your imagery comparison.

Images can be aerial photography or satellite imagery. Regardless of what kind of imagery you use, the encroachment code requires that it meets certain minimum standards of quality.

Rectified images are the recommended option. You can access rectified imagery on Google maps. Alternatively, you can obtain both recent and historical imagery free of charge from the Queensland Government QImagery resource on the website [Queensland Government business website](#).

TIP *You do not need to submit any of this information with your notification, but must keep it for compliance purposes in accordance with section 3 of the encroachment code.*



Native trees developing on grassland areas

Step 2: Estimate current density

An RE's description contains the characteristics which make the vegetation community unique, and describes what you should expect to see on the ground. These characteristics are primarily split into **floristic composition** and **vegetation structure**.

Floristic Composition

Floristic composition means the variety and abundance of plant species within the RE. This is generally provided in RE descriptions. While these lists are not exhaustive, they provide a good indication of what to expect.

Vegetation Structure Categories

The REs to which the encroachment code applies are either 'grassland' or 'very sparse' in vegetation structure. This is provided in the Regional Ecosystem Description Database (REDD). An RE with a 'grassland' vegetation structure category, is one which should exhibit less than 10 per cent canopy cover. An RE with a 'very sparse' vegetation structure category is one which should exhibit between 10 and 20 per cent canopy cover.

Is the RE consistent with its description?

To be inconsistent with its description, the RE must exhibit either:

- a) a different floristic composition or
- b) a different vegetation structure than what is listed in the Regional Ecosystem Description Database (REDD).

Floristic composition should be assessed by undertaking an on-ground survey of the RE area and listing the species variety and abundance. This can be as simple as making a species list, and an estimation of which are the dominant species.

Example

You have confirmed that the RE is 4.9.8. In accordance with section 4.1 of the encroachment code, you have demonstrated that there are new or expanded areas of woody vegetation within the RE. After locating these additional areas of woody vegetation on ground and assessing the surrounding area, you find that gidgee (*Acacia cambagei*) is the dominant species in expanded areas of woody vegetation. Gidgee is not listed as a dominant species in the RE description, and therefore, the natural floristic composition expected for that RE has been compromised. In this situation you should notify under the encroachment code and manage the encroachment issue in accordance with all requirements in the code.

Step 3: Take pre-clearing photographs

The encroachment code requires that you take and retain four pairs of on-ground photographs as evidence of the encroachment density before any clearing is undertaken. Once the encroachment boundary is located, mark out four points representing the four points of a compass.

Standing at each marked point, take one photograph facing towards the encroachment area and then move 180 degrees and take another photograph facing away from the encroachment area.

Facing into the encroachment area, your photograph should show broad communities of thin juvenile trees or shrubs spreading across the landscape, and only the odd mature tree. This is very different from a healthy grassland or very sparse RE and the encroachment should be obvious in comparison.

These photographs serve to confirm your conclusions that there is an invading woody species and that this has made the RE inconsistent with its natural floristic composition and vegetation structure.

TIP For more information about record keeping requirements under the code, refer to the [General guide to accepted development vegetation clearing codes](#).



Mitchell grassland area

Clearing to manage the encroachment

Once the encroachment has been demonstrated, section 4 of the encroachment code refers to each of the following subsections, all of which must be complied with when clearing:

- general limitations (section 4.2)
- mechanical clearing (section 4.3)
- chemical clearing (section 4.4)
- encroachment management burning (section 4.5)
- soil and water quality protections (section 4.6).

These clearing practices ensure that clearing is done in a way which restores the regional ecosystem to a more typical, pre-European, floristic composition and vegetation structure, while maintaining biodiversity, preventing land degradation and protecting water quality.

Clearing method selection

Clearing of encroachment can involve a series of operations and a range of methods. Before commencing clearing, you should use your knowledge of the local landscape or seek local advice about the effectiveness of the clearing method in your area. For example, some woody species are very difficult to kill and mechanical clearing can make encroachment worse.

General clearing limitations

Section 4.2 of the encroachment code contains a range of clearing limitations which apply regardless of the clearing method. The following information provides information to help interpret these limitations.

Targeting the invading species

The code requires that clearing targets the woody species causing the encroachment issue (the encroaching species).

What is the 'encroaching' species?

An encroaching species is one which either is not a natural part of the RE (i.e. not in the REs description), or is one which is a natural part of the RE but has unnaturally dominated the area.

Every effort should be taken to leave non-encroaching species alive and standing. For example, if the encroaching species is standing in a monoculture patch of immature individuals, two machines linked by a chain may be appropriate to remove the patch (provided there is no collateral clearing of mature or habitat trees). If the invading woody species contains mature and habitat trees, or is standing amongst a range of other non-encroaching species, more selective methods will be the safer option, such as hand felling with a chain saw or cut and stump chemical clearing.

Mature trees and habitat trees

Mature trees and habitat trees must be left standing with no debris pushed up against the trunks as this can result in the death of the trees. You should conduct a thorough investigation to identify trees within the proposed clearing area before operations begin.

The way to identify mature trees is relatively straight forward, requiring you to measure their trunk diameter at 1.3 metres above the ground. If a 'gum' or 'box' tree with a single trunk it must have a **diameter** of 30 centimetres or more, while a 'wattle' species with a single trunk should have a **diameter** of 20 centimetres or more. If trees have multiple trunks, add the diameters of the largest two trunks at 1.3 metres above the ground to determine if it is a mature tree.

You may have noticed where habitat trees are on your property. A habitat tree is a living or dead standing native tree that contains either one or more visible hollows positioned at least two metres above the base of the tree¹ or an active bird's nest or the nest of a raptor or other bird that uses the same nest each year. It is important to retain these trees as they play an essential ecological function in the landscape.

In later sections of the encroachment code, you will be required to exclude clearing within certain distances of the trunks of mature trees and habitat trees.

TIP *For more information on habitat trees, watch the [video on identifying habitat trees](#).*

Groves

The encroachment code prohibits the application of some clearing methods within groves. Groves are extremely important parts of open REs like grasslands and very sparse woodlands, providing island-like refuges for wildlife and seed banks for a variety of woody species.

You can identify a grove in the landscape by looking for clumps of woody vegetation that contain multiple generations of 'over-mature' trees (large and old mature trees that can be dead or alive and prone or standing), mature trees, habitat trees and regeneration.

However, younger groves in development may not exhibit these same traits. For this reason, the encroachment code takes a conservative approach to protecting both mature groves, and potential development groves in the landscape.

To assess whether a clump of woody vegetation is a grove for the purposes of the encroachment code, you should identify any woody vegetation clumps that are present in historic imagery used to demonstrate encroachment. If these clumps still exist, they must be considered a grove.

TIP *If you are unsure whether a clump of woody vegetation meets the definition of a grove, the safest way to ensure you meet this practice is to leave the woody vegetation standing.*

Mechanical clearing

Mechanical clearing refers to clearing of vegetation by using methods such as a tractor, blade and/or clearing bar, cutter bar, or chopper roller.

Section 4.3 of the encroachment code prohibits mechanical clearing in a number of situations, including within riparian areas, near unstable areas (soil erosion and instability), near mature trees and habitat trees, within groves, and on steep slopes.

To help identify wetlands, watercourses, drainage features, soil erosion and instability, or slope, see the [General guide to accepted development vegetation clearing codes](#).

¹ **Habitat trees** are used, or potentially used, by hollow-dwelling fauna.

Chemical clearing

Chemical clearing refers to clearing of vegetation by using methods such as basal bark, cut stump, stem injection techniques, or root-absorbed broad-spectrum herbicides. The encroachment code prohibits chemical clearing in a number of situations.

Aerial application

Section 4.4 of the encroachment code prohibits clearing by way of aerial application of any chemical. This means the chemical cannot be released from an airborne vehicle (for example drones, aeroplanes or helicopters).

Root absorbed broad-spectrum herbicides

Section 4.4 of the encroachment code does not allow the use of root absorbed broad-spectrum herbicides in a range of situations, including in particular REs, within groves, within 30 metres from the trunk of mature or habitat trees or 50 metres from riparian areas.

Section 4.4 also requires that the product label of the root absorbed broad-spectrum herbicide be taken into account, and used as the limit if it contains more stringent restrictions. For example, if the product label states that the herbicide should not be used within 150 metres of a riparian area, then this overrides the 100 metres buffer in the encroachment code, and must be complied with. To help identify wetlands, watercourses and drainage features, see the [General guide to accepted development vegetation clearing codes](#).

Section 4.4 of the encroachment code also requires that root absorbed broad spectrum herbicides are applied in accordance with safety and use conditions specified by the [Australian Pesticides and Veterinary Medicines Authority](#) (APVMA).

The APVMA provides a range of helpful information about chemical product regulation, safety, and how to use and interpret product labels correctly.

All other chemical clearing methods

For all other forms of chemical clearing (excluding root absorbed broad spectrum herbicides), the encroachment code prohibits their use in groves, and requires you to stay more than five metres away from the trunks of mature and habitat trees.

Encroachment management burning

Encroachment management burning involves strategically burning to manage encroachment. The encroachment code allows burning to manage encroachment where it is done in accordance with a number of practices, which require you to obtain a fire permit, retain mature and habitat trees, and undertake activities in accordance with fire guidelines for the RE.

To obtain a fire permit contact your local fire warden, [Rural Fire Service Queensland](#).

TIP *Under Schedule 21 of the Planning Regulation 2017 controlled burns to reduce hazardous fuel loads is exempt clearing work under the vegetation management framework. See www.qld.gov.au and search 'exempt clearing work' for further information on exemptions.*

Regional Ecosystem fire guidelines

Section 4.5 of the encroachment code requires encroachment management burning to be undertaken in accordance with fire guidelines relevant to the RE. It further requires that you use guidelines mentioned in the [REDD](#).

Example fire guideline for the RE 11.8.4 (taken from REDD)

SEASON: Late wet to early dry season when there is good soil moisture. Early storm season or after good spring rains.

INTENSITY: Low to moderate with occasional high intensity fire, particularly where seedlings or saplings are overabundant.

INTERVAL: 1-3 years.

STRATEGY: Apply a mosaic across the landscape at a range of intervals to create varying stages of post-fire response. Burn 30-60% at the property level.

ISSUES: A significant issue to the retention of open grasslands is invasion of trees and shrubs following long periods of fire absence, low frequency of fire or fire applied repeatedly too early in the burning season. Woody thickening is exacerbated by stock grazing combined with repeated early season burns. Crimson finch, star finch and golden-shouldered parrot may be threatened by woody thickening. To mitigate against the impact of late dry season fires, commence burning early in the season and continue through the dry to break up continuity of fuels across the landscape. Invasive high biomass grasses can promote fire and increase severity. Variation in burn seasons and short fire frequencies promote bird diversity.

Conserving mature and habitat trees

Section 4.5 of the encroachment code requires that mature trees and habitat trees are not destroyed by encroachment management burning. This can be achieved by ensuring the timing, intensity and fire lighting pattern are implemented appropriately.

The fire guidelines for each RE can be used to identify an appropriate burning regime that will retain mature and habitat trees. The guidelines also highlight sensitive woody species known to occur in the RE.

For example, the fire guideline for the RE 5.7.9 mentions “Some Acacias can be fire sensitive (e.g., *A. shirleyi*, *A. aneura*) and may be killed by high intensity fire”. In these situations, careful planning is required to ensure mature individuals of sensitive species are retained.

Soil and water quality protections

Soil and water quality protections are applied by section 4.6 of the encroachment code. Please see the [General guide to accepted development vegetation clearing codes](#) for further information.