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# Managing vegetation clearing in the South East Queensland urban footprint

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*South East Queensland (SEQ) is the fastest growing metropolitan region in Australia with rapid urban expansion responsible for much vegetation loss. Legislation exists to manage vegetation clearing in the SEQ Urban Footprint (SEQUF); however, exemptions still allow clearing of remnant and regrowth vegetation. This article is based on evaluating documentary evidence to assess vegetation protection in the South East Queensland Urban Footprint (SEQUF) (as defined by the South East Queensland Regional Plan 2009-2031). It focuses on the Vegetation Management Act 1999 (Qld) (VMA) and its application in the Urban Footprint. It recommends amending or removing exemptions for clearing to increase protection for regulated regrowth and for Of Concern and Least Concern Regional Ecosystems in the Urban Footprint. It also recommends improving vegetation mapping at fine resolution for assessing <2ha areas.*

## INTRODUCTION

SEQ is the most densely populated area of Queensland and the fastest growing metropolitan region in Australia.<sup>1</sup> The population of SEQ is expected to grow to 4.4 million by 2031.<sup>2</sup> The rapid population growth in SEQ requires extensive development to service the increased need in housing and employment.<sup>3</sup> Rapid urban expansion and vegetation clearing within South East Queensland (SEQ)<sup>4</sup> and the SEQ Urban Footprint (SEQUF),<sup>5</sup> as defined in the SEQ Regional Plan (SEQR), are significant causes of biodiversity and habitat loss.<sup>6</sup> Whilst legislation is in place to manage vegetation

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<sup>1</sup> Department of State Development, Infrastructure and Planning, <http://www.dsdiq.qld.gov.au/regional-planning> viewed 19 November 2012.

<sup>2</sup> Queensland Government, Department of State Development, Infrastructure and Planning (DSDIP), *South East Queensland Regional Plan 2009-2031*, p 15, <http://www.dsdiq.qld.gov.au/resources/plan/seq/regional-plan-2009/seq-regional-plan-2009.pdf> viewed 7 November 2012.

<sup>3</sup> Queensland Government, Department of Infrastructure and Planning, *Queensland Housing Affordability Strategy*, [http://www.dlqp.qld.gov.au/resources/publication/housing\\_affordability\\_strategy\\_updated210608.pdf](http://www.dlqp.qld.gov.au/resources/publication/housing_affordability_strategy_updated210608.pdf) viewed 20 March 2011.

<sup>4</sup> Australian Bureau of Statistics, *Regional Population Growth, Australia 2010-2011*. The region of SEQ covers Brisbane, Gold Coast, Sunshine Coast and West Moreton: <http://www.abs.gov.au/ausstats/abs@.nsf/Previousproducts/3218.0Main%20Features62010-11?opendocument&tabname=Summary&prodno=3218.0&issue=2010-11&num=&view=#PARALINK6> viewed 19 November 2012.

<sup>5</sup> The Urban Footprint, the 13% of land for which urban development is zoned. Inclusion of land in the Urban Footprint does not imply that all such lands can be developed for urban purposes: Queensland Government, Department of State Development, Infrastructure and Planning, *Land Use Categories*, <http://www.dlqp.qld.gov.au/regional-planning/land-use-categories.html> viewed 14 August 2011; Queensland Government, Department of Infrastructure and Planning, *South East Queensland Regional Plan* (Brisbane, 2009) p 12.

<sup>6</sup> Weld MJ, *Invitation to Help Develop the Natural Resource Management and Conservation Strategy for South East Queensland* (Department of Natural Resources, Brisbane (DERM), 1998. Note in March 2012 DERM was replaced by the Department of Environment and Heritage as a result of the government restructure. In this article the acronym DERM will be retained as it is the name under which various references are listed) p 44; Rolfe J, "Economics of Vegetation Clearing in Queensland" (2002) 24 *The Rangeland Journal* 152 at 152-169; Waters L, *State and Federal Biodiversity Laws in Action* (Queensland Environmental Defenders Office, Brisbane, 2006) p 2; Australian Government, Department of Sustainability,

clearing<sup>7</sup> in the SEQUF, certain situations still permit clearing.<sup>8</sup> However the SEQRP notes that remnant vegetation is protected under the *Vegetation Management Act 1999* (Qld).<sup>9</sup>

This article focuses on identifying issues related to vegetation clearing in the SEQUF and aims to provide recommendations for strengthening the *Vegetation Management Act 1999* (Qld) (VMA). The specific aims are to: (1) outline the state of and issues associated with vegetation clearing in SEQ, (2) provide an overview of the VMA and other instruments relating to the VMA, especially related to clearing of remnant and regulated regrowth<sup>10</sup> vegetation in the SEQUF and (3) recommend how the VMA can be strengthened to increase protection for remnant and regulated regrowth in the SEQUF.

Data is sourced from government documents, policy reports by government and consultancy groups, conference papers, scholarly journal articles and scholarly books. The VMA and related policies and instruments are the main sources. The article also considers aspects of, for example, the SEQRP, the *Sustainable Planning Act 2009* (Qld) (SPA) and other legislative instruments that are relevant to vegetation clearing in the SEQUF.

## Overview of the VMA

The main law regulating native vegetation clearance is the VMA, which is administered by the Department of Environment and Resource Management (DERM).<sup>11</sup> For an overview of the history of the Act and a critique refer to Kehoe.<sup>12</sup> The VMA applies on privately owned land (freehold land), leasehold and unallocated State land.<sup>13</sup> The purpose of the VMA is to regulate the clearing of vegetation in a way that:

- (a) conserves remnant vegetation that is—
  - (i) an endangered regional ecosystem; or
  - (ii) an of concern regional ecosystem; or
  - (iii) a least concern regional ecosystem; and
- (b) conserves vegetation in declared areas; and
- (c) ensures the clearing does not cause land degradation; and
- (d) prevents the loss of biodiversity; and
- (e) maintains ecological processes;
- (f) manages the environmental effects of the clearing to achieve the matters mentioned in paragraphs (a) to (e); and
- (g) reduces greenhouse gas emissions.<sup>14</sup>

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Energy, Water, Population and Communities, *Biodiversity Assessment – South Eastern Queensland* (2009), <http://www.anra.gov.au/topics/vegetation/assessment/qld/ibra-south-eastern-queensland.html> viewed 14 May 2011).

<sup>7</sup> The term “clear” under the VMA means to “remove, cut down, ringbark, push over, poison or destroy in any way including by burning, flooding or draining”: *Vegetation Management Act 1999* (Qld), s 5(2)(a). Under s 8 of the *Vegetation Management Act 1999* (Qld), vegetation is defined as “(a) grass or non-woody herbage; (b) a plant within a grassland regional ecosystem prescribed under a regulation; (c) a mangrove”. Remnant vegetation is defined as vegetation not cleared since European settlement and which is “covering more than 50 per cent of the undisturbed predominant canopy, averaging more than 70 per cent of the vegetation’s undisturbed height, composed of species characteristic of the vegetation’s undisturbed predominant”: *Vegetation Management Act 1999* (Qld), s 2(a).

<sup>8</sup> McGrath C, “Editorial” (2007) 24 EPLJ 12; Queensland Environmental Defenders Office (EDO), *Queensland Vegetation Protection Laws* (June 2010), <http://www.edo.org.au/edoqld/edoqld/factsheets/10.06.30%20QldVegProtectionLaws.pdf> viewed 1 December 2010.

<sup>9</sup> Queensland Government, DSDIP, SEQRP 2009-2031, n 2, p 15.

<sup>10</sup> *Vegetation Management Act 1999* (Qld), Sch, s 5, *Regulated regrowth vegetation* is vegetation (a) identified on the regrowth vegetation map as high value regrowth vegetation; or (b) located watercourse; or (c) contained in a category C area shown on a PMAV within 50 m of a watercourse identified on the regrowth vegetation map as a regrowth. See *Vegetation Management Act 1999* (Qld), s 3(1)(g).

<sup>11</sup> The Department is now the Department of Environment and Heritage as a result of the government restructure in March 2012. In this article the acronym DERM will be retained as it is the name under which various references are listed.

<sup>12</sup> Kehoe J, “Land Clearing in Queensland” (2006) 23 EPLJ 149; Kehoe J, “Environmental Law Making in Queensland: The *Vegetation Management Act 1999* (Qld)” (2009) 26 EPLJ 392.

<sup>13</sup> Waters, n 6.

<sup>14</sup> *Vegetation Management Act 1999* (Qld), s 3(1)(a) to s 3(1)(g).

The VMA applies to a wide range of areas excluding only, eg national parks, conservation parks and resources reserves (s 7). Although it does not explicitly refer to urban environments in the Act, Pt 14 of the *Urban Land Development Act 2007* (Qld) (ULDA) has amended s 22A of the VMA to include urban development areas under the ULDA so that the VMA has some application in the SEQUF. The SEQUF is the focus of this article because development associated with urban settlement is the largest cause of vegetation clearing in the SEQ Bioregion and the urban footprint is the area for which urban development is zoned.<sup>15</sup> The majority of land within the SEQUF is freehold and therefore strong regulations for this class of land are necessary if there is to be an increase in the management and protection of vegetation.<sup>16</sup>

## ISSUES ASSOCIATED WITH VEGETATION CLEARING

This section addresses the importance of remnant and regrowth vegetation, the impacts of clearing and aspects of vegetation clearing in SEQ.

### Importance of remnant and regrowth vegetation

Vegetation has social, economic and environmental qualities that are threatened by vegetation clearing. These include historical, recreational, cultural, horticultural values including, specifically for Brisbane, contributing to a city's landscape character and property values and defining "Valued Urban Vegetation".<sup>17</sup> Vegetation has ecosystem service values that include the cycling of water and nutrients, soil formation and maintaining the productivity of soils, pollination and dispersal of plants, natural pest control, flood and hydrology control (through deep-rooted riparian vegetation breaking down pollution and reducing salinity and erosion).<sup>18</sup> Ecosystem service values associated with vegetation can have substantial financial benefits. Eucalypt trees in the Melbourne catchment, for example, provided an estimated \$250 million in water purification in 2001.<sup>19</sup> Regional ecosystems with remnant and regrowth vegetation have a number of important ecological functions and their preservation is important.

### Impacts of vegetation clearing

SEQ is a highly biodiverse region with diverse nature conservation values such as Ramsar wetlands and World Heritage properties.<sup>20</sup> However, rapid population growth is placing increasing pressure on those values and leading to the degradation and fragmentation of native species and their habitat through the introduction and spread of feral animals and weeds and changes in catchment hydrology and water quality. The negative impacts of land clearing are extensive and include habitat destruction, species loss, salinity, land degradation and climate change issues.<sup>21</sup> Vegetation clearance associated with development in Queensland is a cause of biodiversity loss, as stressed in the Queensland *State of the Environment Report 2011*.<sup>22</sup> A study by McAlpine et al.<sup>23</sup> found that the intensity and duration of droughts and high temperatures in Queensland are likely to have increased due to vegetation clearing.

<sup>15</sup> Queensland Government, DSDIP, SEQR 2009-2031, n 2, p 15.

<sup>16</sup> Department of Infrastructure and Planning, *SEQ 2021 – Issues & Options for Regional Landscape* (Brisbane, 2003).

<sup>17</sup> Brisbane City Council, *A Guide to the Natural Assets Local Law: Protecting Our Valuable Natural Assets* (Brisbane, November 2003), [http://www.brisbane.qld.gov.au/documents/Local%20laws/guide\\_to\\_nall.pdf](http://www.brisbane.qld.gov.au/documents/Local%20laws/guide_to_nall.pdf) viewed 25 July 2012.

<sup>18</sup> Cripps E, Binning C and Young M, *Opportunity Denied: Review of the Legislative Ability of Local Government to Conserve Native Vegetation*, Research Report 2/99 (National R&D Program on Rehabilitation, Management and Conservation of Remnant Vegetation, Environment Australia, Canberra, 1999) p 199.

<sup>19</sup> Bateson P, *Incentives for Sustainable Land Management: Community Cost Sharing to Conserve Biodiversity on Private Lands* (Revised ed, Environment Australia, Canberra and Environs Australia, Melbourne, 2001) p 10, <http://www.environment.gov.au/land/publications/pubs/incent.pdf> viewed 7 November 2012.

<sup>20</sup> Queensland Government, Environmental Protection Agency, *Regional Nature Conservation Strategy for South-East Queensland 2003-2008* (Brisbane, 2003) p 54; Weld, n 6, p. 4.

<sup>21</sup> *State of the Environment Queensland 2011, Summary*, <http://www.environment.gov.au/soe/2011/report/pubs/soe2011-report-summary.pdf> viewed 7 August 2012.

<sup>22</sup> *State of the Environment Queensland 2011, Summary*, <http://www.environment.gov.au/soe/2011/report/pubs/soe2011-report-summary.pdf> viewed 19 November 2012.

Vegetation clearing has been a major contributor to Queensland's greenhouse gas emissions.<sup>24</sup> Increasing vegetation fragmentation and habitat loss associated with urban growth will further damage essential ecosystem and ecological processes and reduce biodiversity.<sup>25</sup>

### Vegetation clearing in the Southeast Queensland bioregion

To establish the extent of vegetation clearing in the southeast Queensland bioregion it is necessary to explore when and where vegetation clearing has occurred. In 2008-2009, 3,916 ha of woody vegetation<sup>26</sup> was cleared in the SEQ Bioregion,<sup>27</sup> and this contributed to 9.57% of all vegetation clearing in Queensland.<sup>28</sup> In the SEQ Bioregion, in the 2008-2009 Statewide Landcover and Tree Survey reporting year, 29% of all remnant vegetation clearing in the 2008-2009 period was exempt from needing approval under the vegetation management framework.<sup>29</sup>

In 2008-2009, 1,544 ha of woody vegetation was cleared within the South East Queensland Catchments Natural Resource Management region that was replaced by settlement (urban development). This was 39% of all woody vegetation clearing (3,916 ha).<sup>30</sup> Vegetation clearing specifically within the SEQUF is classified as settlement clearing that is "land cleared for imminent urban development".<sup>31</sup> Vegetation clearing for infrastructure development in 2007-2008 was over 500 ha, with mining resulting in the clearing of 200 ha in the SEQ Bioregion. Vegetation cleared for infrastructure is classed as clearing that includes roads, railways and water storage.<sup>32</sup> The rates of clearing for infrastructure development have increased sharply since 2006, in response to the increase in settlement development in SEQ. This shows that clearing for urban purposes in the SEQUF has been the most significant cause of vegetation clearing in the SEQ Bioregion and thus is the area where there is the greatest need for improving regulatory protection to manage vegetation clearing.

With notable areas of remnant vegetation remaining within the SEQUF it is important that the VMA provides adequate assessment and monitoring of vegetation clearing to protect the remaining remnant vegetation. Vegetation protection has increased since the introduction of the SEQ Regional Plan (SEQR), which places restrictions on where development is permitted and only allows urban development within the SEQUF. Nonetheless, with 13% of SEQ zoned for urban development, an estimated 754,000 new dwellings to be built by 2031 and 40,000 ha of greenspace currently investigated for development,<sup>33</sup> there will be extensive areas of vegetation cleared across the SEQUF.

Major types of development within the SEQUF include:

<sup>23</sup> McAlpine CA, Ryan JG, Seabrook L, Thomas S, Dargusch PJ, Syktus JI, Pielke Sr RA, Etter AE, Fearnside PM and Laurance WF, "More than CO<sub>2</sub>: A Broader Paradigm for Managing Climate Change and Variability to Avoid Ecosystem Collapse" (2010) 2 *Current Opinion in Environmental Sustainability* 1 at 1-13.

<sup>24</sup> Henry BK, Danaher TJ, McKeon GM and Burrows WH, "A Review of the Potential Role of Greenhouse Gas Abatement in Native Vegetation Management in Queensland's Rangelands" (2002) 24 *Rangeland Journal* 112.

<sup>25</sup> Weld, n 6, p 4.

<sup>26</sup> SLATS refers to woody vegetation in its reporting as including remnant and regrowth native vegetation, plantations of native and exotic species and domestic woody vegetation: Queensland Government, Department of Environment and Resource Management (DERM), *Land Cover Change in Queensland 2008-09 – Statewide Landcover and Trees Study Report*, (2011) p 8 [http://www.derm.qld.gov.au/slats/pdf/slats\\_report\\_and\\_regions\\_0809/land\\_cover\\_change\\_qld08\\_09.pdf](http://www.derm.qld.gov.au/slats/pdf/slats_report_and_regions_0809/land_cover_change_qld08_09.pdf) viewed 25 July 2012.

<sup>27</sup> Queensland Government, Department of Environment and Resource Management (DERM), *Land Cover Change in the South East Queensland Catchments Natural Resource Management Region – Statewide Land Cover and Trees Study* (2010) pp 1-2.

<sup>28</sup> Queensland Government, DERM, *Land Cover Change in Queensland 2008-09*, n 27, p 49.

<sup>29</sup> Queensland Government, Department of Environment and Resource Management, *Analysis of Woody Vegetation Clearing Rates in Queensland – Supplementary Report to Land Cover Change in Queensland 2008-09* (2009) p 6. [http://www.derm.qld.gov.au/slats/pdf/slats\\_report\\_and\\_regions\\_0809/slats-sup-rpt-08-09-w.pdf](http://www.derm.qld.gov.au/slats/pdf/slats_report_and_regions_0809/slats-sup-rpt-08-09-w.pdf) viewed 25 July 2012.

<sup>30</sup> Queensland Government, DERM, *Land Cover Change in Queensland 2008-09*, n 27, p 80.

<sup>31</sup> Queensland Government, DERM, *Land Cover Change in Queensland 2008-09*, n 27, p 11.

<sup>32</sup> Queensland Government, DERM, *Land Cover Change in Queensland 2008-09*, n 27, p 11.

<sup>33</sup> SEQ Regional Plan 2009-2031, p 9; The Hon Anna Bligh, Queensland Premier, *Major New Park and Draft Greenspace Strategy Announced* (Media Statement, 27 March 2010) <http://statements.cabinet.qld.gov.au/MMS/StatementDisplaySingle.aspx?id=69121> viewed 27 July 2012.

- Urban Development Areas (UDAs) where development is planned and assessed in accordance with the *Urban Land Development Authority Act 2007* (Qld) (ULDAA). UDAs are exempt from requiring a clearing permit.<sup>34</sup> There are a number of current UDAs within SEQ and four planned Greenfield UDAs.<sup>35</sup>
- Master Planned Communities, which are typically Greenfield sites and may be rezoned from rural or non-urban land to urban land.<sup>36</sup> Since the introduction of the ULDAA, all Major Development Areas are now identified as master planned areas.
- Structure Plans are also important and provide the development framework, strategic intent and land use constraints of developments.<sup>37</sup> The SEQRP requires structure plans to be developed for Major Development Areas and master plans for individual precincts.<sup>38</sup> Developments with a structure plan are exempt from requiring a clearing permit.<sup>39</sup> Nineteen Major Development Areas were proposed in 2006,<sup>40</sup> with many to be Greenfield developments, creating potential for large amounts of remnant and regrowth vegetation to be cleared.

The many developments planned within the SEQUF will result in the loss and conversion of thousands of hectares of greenspace and further reduce remaining remnant and regrowth vegetation in the SEQ bioregion. It is thus important that there is sufficient review and assessment of the developments proposed and the resultant vegetation loss in order to minimise the impact to the environment and society.

## THE VEGETATION MANAGEMENT ACT 1999 (QLD)

The mechanisms that the VMA uses for achieving its purposes include the requirement for clearing permits, creating regional codes and phasing out broadscale clearing of remnant vegetation.<sup>41</sup> A number of amendments to the VMA since its introduction have created stricter regulations for protecting vegetation, including ending broadscale vegetation clearing and protecting regrowth vegetation and riparian vegetation in high-priority reef catchments.<sup>42</sup> The end of broadscale clearing in rural Queensland came into force on 31 December 2006 and has been the greatest factor contributing to the reduction in greenhouse gas emissions in Queensland and the largest contributor towards Australia meeting its Kyoto Protocol targets.<sup>43</sup> The VMA has been highly effective in reducing vegetation clearing across Queensland as a whole, however it has not focused upon decreasing vegetation clearing rates in urban areas. The effectiveness of the VMA at reducing vegetation clearing demonstrates its power as a legislative tool. Potential exists to further implement and strengthen its capacity to protect remnant and regrowth vegetation in the SEQUF.

<sup>34</sup> Waters, n 6, p 5.

<sup>35</sup> Greenfield lands are undeveloped areas of land within the SEQUF suitable for urban development: Department of Infrastructure and Planning, *Delivering the Queensland Housing Affordability Strategy – Greenfield Land Supply in South East Queensland*, <http://www.dlqp.qld.gov.au/statewide-planning/greenfield-land.html> viewed 15 July 2011; URBIS, *ULDA SEQ Greenfield UDAs – Residential Price Review and Analysis*, (Urban Land Development Authority, 11 April 2011) p 3.

<sup>36</sup> Master Planning is addressed in the *Sustainable Planning Act 2009* (Qld), Pt 1, Div 2.

<sup>37</sup> For Structure Plans refer to the *Sustainable Planning Act 2009* (Qld), Pt 2.

<sup>38</sup> Redland City Council, *Local Growth Management Strategy for the Redlands*, <http://www.redland.qld.gov.au/PlanningandBuilding/Planning/Strategies/Pages/LocalGrowth.aspx> viewed 16 June 2011.

<sup>39</sup> Waters, n 6, p 4.

<sup>40</sup> Persijn S, *MDAs to MPAs to Development Areas – Shifting the Goalposts for Development Area Planning in SEQ* (HopgoodGanim Lawyers, Brisbane, 2009) p 3.

<sup>41</sup> Waters, n 6, p 1.

<sup>42</sup> McGrath C, *Synopsis of the Queensland Environmental Legal System* (Environmental Legal System Environmental Law Publishing, Brisbane, 2011), p 28.

<sup>43</sup> Queensland Government, Department of Environment and Resource Management, *Queensland's Emissions Profile National Greenhouse Gas Inventory* (August 2011), <http://www.ehp.qld.gov.au/climatechange/pdf/qld-emmission-profile.pdf> viewed 8 November 2012.



## Vegetation regulations under the VMA

The VMA classifies and maps vegetation into regional ecosystems (REs) that are either Endangered REs (ERE), Of Concern REs (OCREs) or Least Concern REs (LCREs), as explained in Table 1 (derived from DERM<sup>44</sup>) and listed in s 20A of the VMA. REs are defined as “a vegetation community in a bioregion that is consistently associated with a particular combination of geology, landform and soil”.<sup>45</sup>

**TABLE 1 Classification of Regional Ecosystems**

<b>Endangered Regional Ecosystem (ERE)</b>	Less than 10% of its pre-clearing extent remaining, or 10% to 30% of its pre-clearing extent remaining and the remnant vegetation remaining is less than 10,000 ha.
<b>Of Concern Regional Ecosystem (OCRE)</b>	Either 10% to 30% of its pre-clearing extent remaining, or more than 30% of its pre-clearing extent remaining and the remnant vegetation remaining is less than 10,000 ha.
<b>Least concern Regional Ecosystem (LCRE)</b>	Has more than 30% of its pre-clearing extent remaining and the remnant vegetation remaining is more than 10,000 ha.

The VMA has a system regulating vegetation clearance whereby if clearing is not for an exempt purpose (as listed under the Queensland *Sustainable Planning Regulations*, Sch 3, 7, 24 and 26) then a permit is required and will only be provided if the clearing is for one of the 11 relevant purposes listed under the VMA, s 22A. This system is illustrated in Figure 1. The approval of permits is based on adherence to the relevant regional vegetation management codes and their acceptable solutions. Where the acceptable solutions listed in the regional vegetation management codes cannot be met, offsets are required as an alternative method for achieving the performance requirements of the regional vegetation management codes.<sup>46</sup> Under the SEQ regional management code clearing is permitted in most areas of OCREs and LCREs on freehold land.<sup>47</sup> In order to formulate recommendations to address the greatest gaps in vegetation protection, it is necessary to have an understanding of the exemptions and relevant purposes most used to allow vegetation clearing.

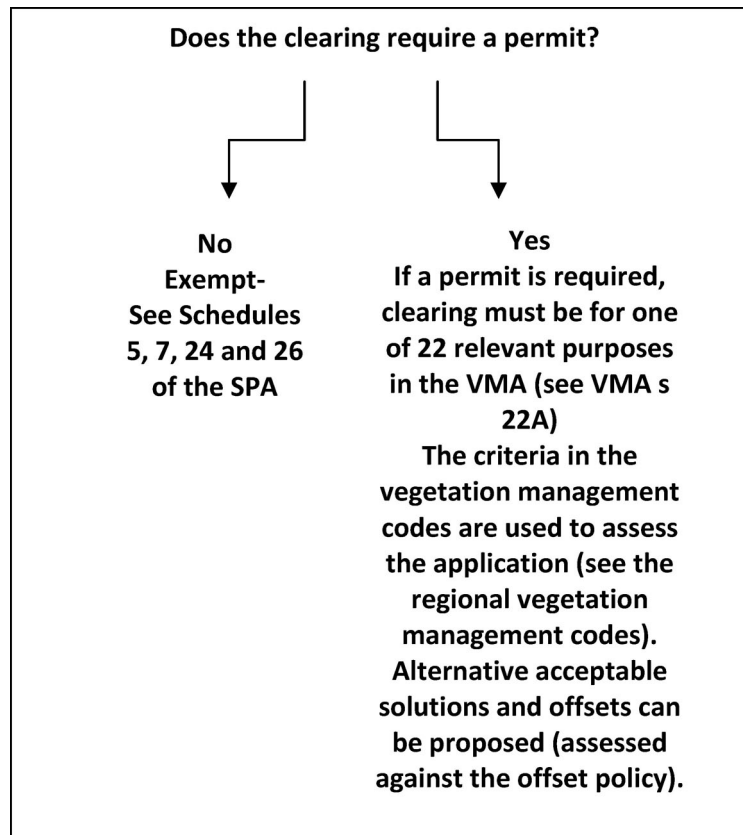
<sup>44</sup> Queensland Government, Department of Environment and Resource Management, *Vegetation Communities* (March 2011) <http://www.derm.qld.gov.au/vegetation/bioregions.html> viewed 27 July 2012.

<sup>45</sup> *Vegetation Management Act 1999* (Qld), Sch, Dictionary, s 5.

<sup>46</sup> Queensland Government, Department of Environment and Resource Management, *State Policy for Vegetation Management – Version 2* (21 October 2009) [http://www.derm.qld.gov.au/vegetation/pdf/state\\_policy\\_nov\\_2009.pdf](http://www.derm.qld.gov.au/vegetation/pdf/state_policy_nov_2009.pdf) viewed 5 June 2011.

<sup>47</sup> Queensland Government, Department of Environment and Resource Management, *Regulations for Clearing Regrowth Vegetation* (14 September 2011) [http://www.derm.qld.gov.au/vegetation/regrowth\\_vegetation\\_regulations.html](http://www.derm.qld.gov.au/vegetation/regrowth_vegetation_regulations.html) viewed 27 July 2012.

**FIGURE 1** Example of clearing query under the *Vegetation Management Act 1999* (Qld) Regulation



On freehold land (private property) clearing requires a permit unless one of the following exemptions applies:

- where structure plan arrangements (a requirement for master planned communities) or a development control plan or a special facilities zoning apply (Sch 3, SPA and s 74(1), VMA);
- for residential clearing;
- for urban purposes in an urban area that is not an ERE (urban developers rely heavily on this exemption);
- for routine management in regulated regrowth or a LCRE (full definition in Sch 26, SPA Regulations);
- for a subdivision (Reconfiguration of a Lot) where the lot contains remnant vegetation and the lot before subdivision is less than 2 ha or the size of the lots created are bigger than 25 ha (per Sch 7, Table 2, Item 4, SPA Regulations);
- for rezoning land (Material Change of Use) with remnant vegetation where the lot is less than 2 ha (per Sch 7, Table 3, Item 10, SPA Regulations);
- in an urban development area under the *Urban Land Development Authority Act 2007*;
- clearing of regulated regrowth in accordance with the regrowth vegetation code, except if the vegetation is in a Category A area;
- for a forest practice (regulated by the *Forestry Act 1959*);
- for essential management (eg firebreaks and burning off, removing dangerous vegetation and necessary clearing for infrastructure maintenance) (Sch 26, SPA Regulations);

- for a “specified activity” under the SPA (including mining or petroleum activities, geothermal exploration, lawful fire activities, activities for electricity provision, road works on State-controlled roads, routine transport corridor management, on airport land) (Sch 24, Pt 1, Item 1, SPA Regulations); and
- clearing regulated regrowth (except Category A vegetation) for an extractive industry in a Key Resource Area; or for a significant community project (as defined in the VMA, s 10(5)).<sup>48</sup>

Further information on exemptions is contained in the DERM guide.<sup>49</sup> The exemptions mean that developments do not require assessment by DERM in order to clear vegetation. Indeed in 2008-2009 in the SEQ NRM 77% of clearing of woody vegetation was carried out on private land, possibly for settlement purposes and hence exempt.<sup>50</sup> Recommendations to prevent vegetation clearing would need to focus on removing or amending at least some the exemptions to vegetation clearing. The relevant purposes under s 22A of the VMA, the offset policy, regional vegetation management codes and regulated regrowth code still allow for vegetation clearing but require the proposed clearing to undergo assessment, restrictions and regulations for what vegetation can be cleared, with offsets calculated for unacceptable clearing. Increasing regulation of vegetation clearing by removing exemptions would provide increased protection for vegetation under the VMA.

Within urban areas the VMA regulations provide protection for vegetation that is an ERE or in a restricted area of high value regulated regrowth, but very little protection is provided for OCREs and LCREs.<sup>51</sup> Vegetation within the SEQUF and within an area that is zoned for urban purposes is most at threat from development, as exemptions apply for clearing vegetation for urban purposes in an urban area and in an area for which a structure plan applies (SPA Regulations, Sch 3). Development is permitted to occur in the urban footprint and does not require a permit from DERM when it is to occur in an area zoned for urban purposes.<sup>52</sup> This is shown in Figure 2.

**FIGURE 2 Development Regulations for Different Zones in the South East Queensland Regional Plan**

		SEQRP	
		SEQUF	SEQ Regional Landscape
<b>Zoning</b> (Controlled by council)	<b>Urban Zoning</b> (Residential, Commercial or Industrial)	Development permitted: <u>Vegetation at high risk</u>	No urban zonings permitted in Regional Landscape
	<b>Non Urban Zoning</b> (Conservation, Rural or Open space)	Development restricted	Development restrictedMichael

Adapted from Michael Stephen, *How to Save Bushland from Developers: A Guide for South East Queensland*, p 24.

The highlighted boxes in Figure 3 show the circumstances under which the clearing of OCREs and LCREs is exempt from requiring clearing permits (and thus is non-assessable development). Exemptions to vegetation clearing in an urban area or for an urban purpose, apply for OCREs and LCREs that are shown as Category B areas: 1) on a Property Map of Assessable Vegetation (PMAV);

<sup>48</sup> Waters, n 6, pp 4-6.

<sup>49</sup> Queensland Government, Department of Environment and Resource Management, *Guide to Exemptions under the Vegetation Management Framework* (February 2010) <http://www.derm.qld.gov.au/vegetation/pdf/exemptions-guide-vmf.pdf> viewed 26 July 2012.

<sup>50</sup> Calculated from data obtained from the Department of Environment and Resource Management: *Land Cover Change in the South East Queensland Catchments – Natural Resource Management Region* (2010). [http://www.derm.qld.gov.au/slats/pdf/slats\\_report\\_and\\_regions\\_0809/slats08\\_09\\_seqc.pdf](http://www.derm.qld.gov.au/slats/pdf/slats_report_and_regions_0809/slats08_09_seqc.pdf) viewed 26 July 2012.

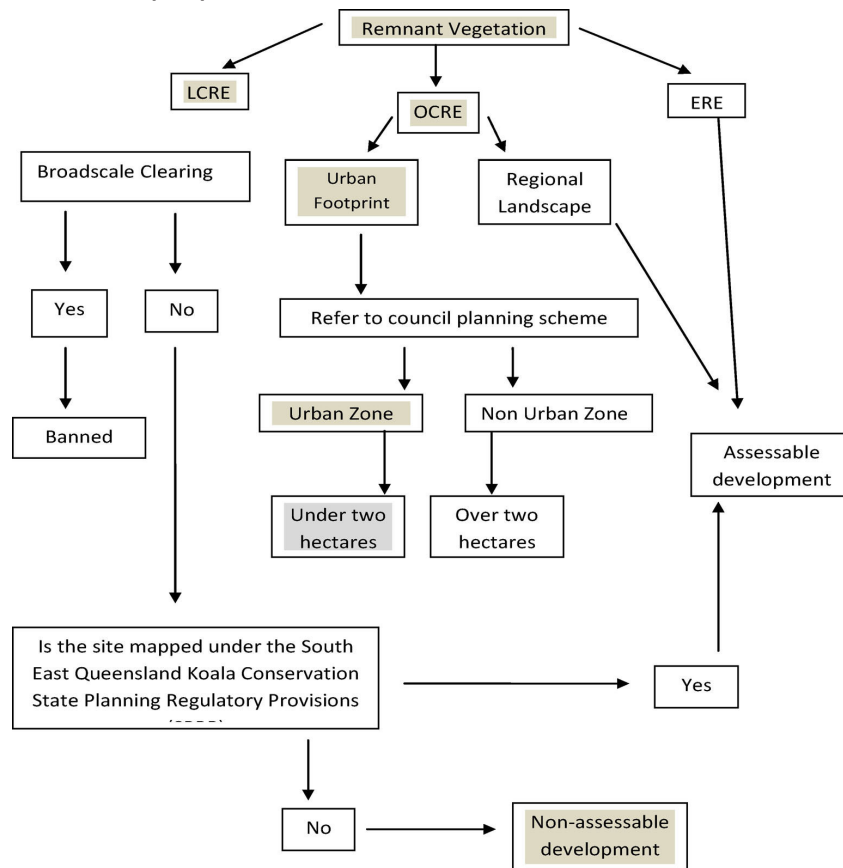
<sup>51</sup> Stephen M, *How to Save Bushland from Developers: A Guide for South East Queensland* (Nature Conservation Books, Brisbane, 2006); Waters, n 6, p 9; McGrath, n 8, p 12.

<sup>52</sup> Waters, n 6, p 4.



or 2) if there is no PMAV, then in an OC or LCRE that is shown as remnant vegetation on a RE or remnant map; or 3) regulated regrowth vegetation on a regrowth vegetation map.<sup>53</sup> Figure 3 shows that if clearing is proposed for an OCRE in an urban area (within the SEQUF) and is larger than 2 ha, then it is assessable development under the SPA<sup>54</sup> and requires a permit from DERM.<sup>55</sup> Vegetation proposed for clearing that is less than 2 ha is not assessable development unless it requires a permit through the Koala Conservation State Planning Regulatory Provision,<sup>56</sup> which is of statutory force. The lack of protection for LCREs and OCREs is highlighted by the fact that 83% of remnant vegetation cleared in 2008-2009 occurred within LCREs, 13% within OCREs and the remaining 4% in EREs.<sup>57</sup>

**FIGURE 3** Illustration of Regulations and Exemptions of the *Vegetation Management Act 1999 (Qld)*



Adapted from Michael Stephen, *How to Save Bushland from Developers: A Guide for South East Queensland*, p 35.

<sup>53</sup> Queensland Government, DERM, *Guide to Exemptions under the Vegetation Management Framework*, n 49.

<sup>54</sup> Clearing vegetation is “operational work” (*Sustainable Planning Act 2009* (Qld), s 10) and hence is “development” *Sustainable Planning Act 2009* (Qld), s 7(c).

<sup>55</sup> Stephen, n 51.

<sup>56</sup> Queensland Government, *South East Queensland Koala Conservation State Planning Regulatory Provisions* (February 2010) <http://www.dsdip.qld.gov.au/resources/plan/koala/seq-koala-state-planning-reg-provisions.pdf> viewed 7 August 2012.

<sup>57</sup> Queensland Government, DERM, *Analysis of Woody Vegetation Clearing Rates in Queensland – Supplementary Report to Land Cover Change in Queensland 2008-09*, n 29, p 7.

The current State vegetation mapping used to monitor vegetation has limited ability to identify and protect vegetation at the local level where remnant and regrowth vegetation is less than 2 ha, due to a mapping scale of 1:100,000.<sup>58</sup> This size scale is not appropriate for mapping on individual properties and lots in urban areas.<sup>59</sup> According to McGrath,<sup>60</sup> the most common concern regarding the State regional ecosystem mapping is with the scale, particularly in urban areas. Finer scale mapping does exist, with the Brisbane City Council vegetation mapping able to identify vegetation areas as small as 0.56 ha, by using a finer mapping scale of 1:25,000.<sup>61</sup> The importance of using finer scale mapping for protecting vegetation is emphasised by the Toowoomba Regional Council undergoing a program to increase the accuracy of their vegetation mapping to maximise environmental protection.<sup>62</sup>

### Regrowth regulations under the VMA

Following amendments to the VMA in 2009, in some circumstances areas of high value regulated regrowth now require assessment before clearing can proceed (as shown in Table 2). The regrowth laws only apply to regulated regrowth vegetation shown on a regrowth vegetation map.<sup>63</sup> Table 2 summarises the regulations for clearing high value regulated regrowth. If the clearing of regrowth is for an exempt purpose it is self-assessable and does not require a permit, however DERM still needs to be notified.<sup>64</sup> Clearing is exempt from needing to abide by the regrowth code if it fits within the following categories:

- for an extractive industry within a key resource area;
- for a significant community project;
- an area of regulated regrowth vegetation which may be cleared under another exemption in Sch 24 of the SPA Regulations (as discussed in s 4.3.1);
- reducing hazardous fuel loads; and
- for maintaining infrastructure such as existing fences, infrastructure under 2 ha and roads.<sup>65</sup>

If the clearing of the regulated regrowth is not exempt, a development application and approval is required and will only be accepted if the clearing is for a relevant purpose as defined in s 22A of the VMA. Clearing is still permitted in most OCREs and LCREs on freehold land, as explained in Table 2. Restrictions to clearing include if the clearing is to occur in a restricted area (with a slope steeper than 12%, in a wetland or stream protection zone or essential habitat).<sup>66</sup> In many cases it is still acceptable to clear in a restricted area if there is an offset in place. There are also some restrictions regarding the purposes for which EREs can be cleared, shown in Table 2.

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<sup>58</sup> Wilson B, *Vegetation and Urban Development in Brisbane* (Paper delivered at the Vegetation Clearing And Urban Development – New Assessment Policies and DNRMW's IDAS Role Seminar, Riverside Auditorium, Brisbane, 17 July 2006) p 31.

<sup>59</sup> McGrath C, "End of Broadscale Clearing in Queensland" (2007) 24 EPLJ 5.

<sup>60</sup> McGrath, n 59 at 8.

<sup>61</sup> Wilson, n 58, p 31.

<sup>62</sup> GHD, *Vegetation Mapping Extension Study* (2009) <http://www.ghd.com/global/projects/vegetation-mapping-extension/> viewed 22 September 2011.

<sup>63</sup> Queensland Government, DERM, *Regulations for Clearing Regrowth Vegetation*, n 47.

<sup>64</sup> Queensland Government, DERM, *Regulations for Clearing Regrowth Vegetation*, n 47.

<sup>65</sup> Queensland Government, Department of Environment and Resource Management, *Landholders Guide to the Regrowth Vegetation Code* (October 2009) [http://www.derm.qld.gov.au/vegetation/pdf/regrowth\\_guide\\_code](http://www.derm.qld.gov.au/vegetation/pdf/regrowth_guide_code) viewed 27 July 2012.

<sup>66</sup> Stanthorpe Landcare, *New Arrangements in Queensland for Regulated Regrowth Vegetation in Queensland for Regulated Regrowth Vegetation* (2010) p 2.

**TABLE 2 Regulations for Clearing Regrowth on Freehold Land**

High-value regrowth on freehold and Indigenous land			
Clearing activity	ERE	OCRE	LCRE
Clearing for any purpose.	✓	✓ except within restricted area*	✓ except within restricted area.*
Clearing where the vegetation is in isolated patches that are: <ul style="list-style-type: none"> <li>less than 4 ha (coastal areas)</li> <li>less than 8 ha (western areas) <ul style="list-style-type: none"> <li>– more than 500 m from other isolated areas.</li> </ul> </li> </ul>	✓  except within restricted area*.  must provide an exchange area.	✓  except within restricted area*	✓  except within restricted area*
Clearing: <ul style="list-style-type: none"> <li>to establish necessary fence, firebreak, road or vehicular track, construct necessary built infrastructure (consistent with Sch 2)</li> <li>the extent necessary for extractive industry (consistent with Sch 6).</li> </ul>	✓  must provide exchange area	✓  except within restricted area*	✓  except within restricted area*
		✓  if inside restricted area* must provide exchange area	✓  if inside restricted area* must provide exchange area
Clearing: <ul style="list-style-type: none"> <li>to ensure public safety (consistent with Sch 2)</li> <li>for encroachment (see Sch 3)</li> <li>for thinning (see Sch 4)</li> <li>to control non-native plants or declared pests (see Sch 5).</li> </ul>	✓	✓	✓
* Restricted areas are: <ul style="list-style-type: none"> <li>essential regrowth habitat</li> <li>stream protection zones</li> <li>within wetland protection areas (see Section 6.3; p 21 of the <i>Landholders Guide</i>)</li> <li>on slopes over 12% this restriction applies to all categories of regrowth</li> </ul>			

**Adapted from Stanthorpe Landcare, *New Arrangements in Queensland for Regulated Regrowth Vegetation in Queensland for Regulated Regrowth Vegetation*, p 2.**

## Offsets

Offsets can be created to manage the loss of vegetation by clearing for development. Offsets have been criticised as, inter alia, it is difficult to estimate the equivalence of loss and gain, determine a timeframe for assessment and ensure compliance.<sup>67</sup> Under the VMA, Subdiv 2 (ss 10C and 10D) refer to the Offsets Policy. The language of these sections conveys a discretion using the term “may”. Nevertheless the policy, if invoked, does provide strong control by means of covenants, etc. as noted below. Offsets are required as a condition of a development approval in Queensland when a development application is made for certain specified ecosystems and when the proposal would not comply with the regional vegetation management code, with its acceptable solutions and specific

<sup>67</sup> Gibbons P and Lindenmayer D, “Offsets for Land Clearing: No Net Loss or the Tail Wagging the Dog?” (2007) 8 *Ecological Management and Restoration* 26.

performance requirements of maintaining current vegetation extent or maintaining structure and function. The Queensland Offsets Policy specifies details and further considerations that are outside the scope of this article.<sup>68</sup> The purpose of the offsets policy is to further achievement of the purpose of the VMA. To increase the likelihood of offsets providing sustainable solutions the offsets have to be legally secured eg by covenants attaching to the land (s 8.4 Offsets Policy).

It is too early in Queensland to assess the operation of the offsets policy but offsets have been used in other States for several years. A few examples are included here. The offset policy may be applied narrowly by a court. In NSW, in the case of *Gales Holdings Pty Ltd v Tweed Shire Council* [2008] NSWLEC 209, the council contended that the development would impact endangered ecological communities listed under the *Threatened Species Conservation Act 1995* (NSW). His Honour considered expert evidence and decided that the various communities were not endangered and the offsets proposed by the applicant were sufficient protection. The case of *Gerroa Environment Protection Society Inc v Minister for Planning and Cleary Bros (Bombo) Pty Ltd* [2008] NSWLEC 173 was an appeal by objectors to an approval for removal of sand from a dune ecosystem that necessitated destruction of vegetation. The applicant had provided an offsets plan and the judge agreed that this was sufficient to mitigate the damage caused by the extractive industry.

Although a comprehensive survey has not been undertaken, it appears that the Victorian Civil and Administrative Tribunal (VCAT) is favourably disposed to offsets. In *Portsea Golf Club v Mornington Pen SC* [2009] VCAT 157 approval for the Golf Club development was conditioned on offset being required to ensure that the principles of Victoria's Native Vegetation – a Framework for Action were followed to the satisfaction of the Responsible Authority. *Parks Victoria v Yarra CC* [2009] VCAT 1504 was a deemed refusal of an application to extend a trail by the respondent council as it had not made a decision in the relevant time frame. The trail extension which involving clearing vegetation was allowed, but subject to conditions including developing and obtaining approval, prior to removing vegetation, for an offset management plan to compensate for the removal of native vegetation to the satisfaction of the responsible authority and the Department of Sustainability and Environment.

Since the commencement of the VMA in Queensland in 2000 vegetation clearing has been greatly reduced, especially following the end of broadscale clearing in 2006.<sup>69</sup> However, there is still a gap in the protection of remnant and regrowth vegetation within urban areas, with exemptions for vegetation clearing and relevant purposes under which vegetation clearing can occur.<sup>70</sup> EREs are provided the most protection in SEQ; however, the clearing of OCREs, LCREs and regulated regrowth in urban areas for urban purposes is exempt.<sup>71</sup> Given that clearing for urban purposes within the SEQUF is the greatest causes of vegetation clearing in the SEQ Bioregion (Department of Environment and Resource Management, 2010) there is a need to ensure the VMA is positioned to assess and protect vegetation in the SEQUF.

### Other instruments relating to vegetation management in SEQ

A number of instruments work alongside the VMA to assess applications for vegetation clearing in SEQ. These include the SPA, the *Urban Land Development Authority Act 2007* (Qld), the *Nature Conservation Act 1992* (Qld) and the Queensland Koala State Planning Regulatory Provisions (Koala SPRP) (Queensland Environmental Law Association, 2006). Conservation of State listed fauna and

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<sup>68</sup> Queensland Government, Department of Environment and Resource Management, *Policy for Vegetation Management Offsets* – Version 3 (30 September 2011) <http://www.ehp.qld.gov.au/management/environmental-offsets/pdf/policy-for-vegetation-management-offsets.pdf> viewed 25 July 2012.

<sup>69</sup> Queensland Government, DERM, *Analysis of Woody Vegetation Clearing Rates in Queensland – Supplementary Report to Land Cover Change in Queensland 2008-09*, n 29, p 2.

<sup>70</sup> McGrath, n 8, p 12.

<sup>71</sup> McGrath, n 8, p 12.

flora is addressed in the *Nature Conservation Act 1992*, the protection of koala habitat in the SPRP, with land use planning regulations set out in the SEQRP to limit urban development to 13% of the region.<sup>72</sup> The SPRP is designed to preserve vegetation that is koala habitat and has offset requirements of five new koala habitat trees for every non-juvenile koala habitat tree removed.<sup>73</sup> The *Forestry Act 1959* (Qld) provides for the management of vegetation on State reserves. At the national level the *Environmental Protection and Biodiversity Act 1999* (Cth) provides for the protection of federally listed matters of national environmental significance (including the Ramsar wetlands within Moreton Bay in SEQ). Federal approval is required if an action is expected to impact on a matter of national environmental significance.<sup>74</sup>

The ULDA has environmental guidelines but does not require assessment under the VMA and can clear EREs. The ULDA is exempt from requiring assessment by DERM.<sup>75</sup> The arrangements made under the ULDA prevail over plans, policies and codes made under the SPA or the VMA.<sup>76</sup> The VMA does not apply to a declared Urban Development Area (UDA) and no absolute protection is available for vegetation, so that EREs may be cleared.<sup>77</sup> The ULDA is required to consider relevant plans, policies and codes made under the VMA when preparing a UDA.<sup>78</sup> This article thus recommends that the ULDA should also be required to submit clearing applications to DERM.

The SEQRP is the major instrument used to guide local planning schemes by designating land use and growth limits, however it is insufficient for the protection of environmental areas.<sup>79</sup> The intention of the SEQRP is that the protection of bushland within the SEQUF will rely on other State legislation and on council planning schemes.<sup>80</sup> Local council policies are important for monitoring and managing vegetation clearing at the local level, but there is still limited protection for vegetation within local council regulations.<sup>81</sup>

One of the most important instruments for protecting significant vegetation for local governments are Vegetation Protection Orders (VPOs). A number of councils in SEQ have VPOs, including Ipswich, the Gold Coast City Council, Brisbane City Council, Redland City Council, Toowoomba Regional Council, Moreton Bay Regional Council and the Sunshine Coast Regional Council. The VMA is focused on protecting larger areas of vegetation, with regional ecosystems identified by State mapping when they are larger than 2 ha,<sup>82</sup> whereas VPOs are designed to focus upon individual trees and smaller areas of vegetation identified by local governments as being locally significant vegetation. Not all councils across SEQ have local VPOs and thus there is a need for increased legislative protection for vegetation through the VMA.

<sup>72</sup> Queensland Government, DSDIP, *Land Use Categories*, n 5.

<sup>73</sup> Queensland Government, Department of Environment and Resource Management, *Offsets for Net Gain of Koala Habitat in South East Queensland Policy* (2010) <http://www.ehp.qld.gov.au/wildlife/koalas/strategy/pdf/offset-netgain.pdf> viewed 16 July 2011.

<sup>74</sup> Waters, n 6, p 2.

<sup>75</sup> Queensland Environmental Defenders Office referring to Schs 3 and 24 of the *Sustainable Planning Regulations*, Queensland EDO, n 8.

<sup>76</sup> Queensland Environmental Defenders Office, *Urban Land Development Authority Act 2007 (Fact sheet)* <http://www.edo.org.au/edoqld/wp-content/uploads/2012/05/2011-05-20-Factsheet-Urban-Land-Development-Authority-Act-2007.pdf> viewed 19 November 2012.

<sup>77</sup> Queensland EDO, n 8, p 1.

<sup>78</sup> Queensland EDO, n 8, p 2.

<sup>79</sup> Bragg J, *Vegetation Protection Laws* (Mt Coot-tha Botanic Gardens, Brisbane, 2011) p 20.

<sup>80</sup> Stephen, n 51.

<sup>81</sup> Kehoe, n 12, p 12.

<sup>82</sup> Wilson, n 58, p 31.



## DISCUSSION

Development that occurs in an urban area within the urban footprint poses the greatest risk to vegetation loss, as development is permitted to occur in the urban footprint and does not require a permit from DERM (unless an ERE is to be cleared).<sup>83</sup> Within urban areas, the VMA regulations only apply when the vegetation is an ERE or an OCRE area larger than 2 ha.<sup>84</sup> The exemption for clearing vegetation that is not an ERE in an urban area but is for an urban purpose is often used to sanction vegetation clearing, with clearing for settlement being the greatest cause of vegetation clearing in the SEQ Bioregion.<sup>85</sup> The ULDA and sites with structure plan arrangements do not require a permit for clearing vegetation under the VMA even for the clearing of EREs.<sup>86</sup>

There are a number of State Acts and policies for managing important environmental characteristics, demonstrating the importance of vegetation preservation; however, they do not have the same functions as the VMA. Furthermore, whilst there is vegetation protection at the local level in some local government areas in the SEQUF, for example with VPOs, there is no consistent vegetation management structure across all local governments and councils in SEQ. There are many exemptions for permits to clear land due to exemptions under the SPA that apply to urban, residential development with structure plans, subdivision and rezoning.

With the increasing population of SEQ there is a growing need for more housing and the likely creation of a number of new UDAs across SEQ. Because the ULDA is responsible for the development of a number of large Greenfield sites (with 17 developments in 2012),<sup>87</sup> it is likely to be responsible for development that will result in extensive clearing of remnant and regrowth vegetation. It is therefore important that the development of UDAs not be exempt from requiring clearing permits and undergoing compulsory assessment by DERM.

With 19 Major Development Areas and master planned communities arranged for SEQ in 2006, the exemption under SPA Regulations Sch 3 for all developments with structure plan arrangements from requiring a vegetation clearing permit, puts at risk large areas of vegetation, particularly where Greenfield sites are being developed. It is thus highly recommended that this exemption is removed from the SPA Regulations, requiring planned developments with structure plan arrangements to be assessed through DERM.

Currently, applications for subdivision and rezoning of land under 2 ha or where the lots after subdivision will be over 25 ha in size are exempt from requiring a clearing permit (SPA Regulation Sch 7, Table 2, Item 4). Subdivision and rezoning occur in Greenfield sites and areas being converted from rural to urban uses and often result in the clearing of important remnant and regrowth vegetation. It is therefore important that rezoning and subdivision applications are not exempt from requiring a permit to clear remnant vegetation and regrowth.

Regrowth vegetation has very limited protection, with a number of exemptions condoning its clearance and most ERE, OCRE and LCREs able to be cleared. A majority of native vegetation cleared is regrowth and thus it is important that the protection for regrowth is increased.<sup>88</sup> It is thus

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<sup>83</sup> Waters, n 6, pp 9-10.

<sup>84</sup> Waters, n 6, pp 5, 9-10.

<sup>85</sup> Waters, n 6, p 5; Queensland Government, DERM, *Analysis of Woody Vegetation Clearing Rates in Queensland*, n 29, pp 1-2.

<sup>86</sup> Waters, n 6, p 4.

<sup>87</sup> Urban Land Development Authority, *Our Projects*, <http://www.ulda.qld.gov.au> viewed 10 September 2011.

<sup>88</sup> Queensland Government, Department of Environment and Resource Management, *Vegetation Management Framework* (November 2009) <http://www.derm.qld.gov.au/factsheets/pdf/vegetation/v1.pdf> viewed 15 April 2011.

recommended that there be tighter control on the clearing of OCREs and LCREs, more stringent guidelines required for the clearing of regulated regrowth and no exemptions from needing to abide by the regrowth code.

The current State vegetation mapping has limited ability to identify and protect vegetation at the local level where remnant and regrowth vegetation is less than 2 ha and therefore is not appropriate for mapping on individual properties and lots in urban areas.<sup>89</sup> In order to effectively map vegetation within urban areas the State vegetation mapping will need to adopt a finer scale. In order to be effectively applied at a more local scale and in urban areas, the mapping will need to be finer and more detailed. With the recommendation that rezoning and subdivision applications and residential clearing not be exempt from requiring assessment through DERM, it will necessary that mapping be conducted at a scale smaller than a hectare, as used by Brisbane City Council. The following section summarises some key recommendations that have emerged from this research.

## RECOMMENDATIONS

As discussed, clearing for urban development is a significant cause of vegetation loss in SEQ.<sup>90</sup> Thus it is important to ensure that the VMA provides adequate protection for vegetation within urban areas. There is limited protection for OCREs or LCREs in urban areas or regrowth vegetation.<sup>91</sup> The VMA provides limited protection for vegetation threatened by urban development, with a number of exemptions contributing to vegetation loss. There are many policies and Acts in Queensland responsible for protecting fauna and flora; however, the VMA is the primary Act responsible for the protection of remnant and regrowth vegetation. It is therefore important to ensure the VMA provides comprehensive protection for the regional ecosystems that it is responsible for managing.

To address the gaps in vegetation protection that have been identified, the following recommendations are made to:

- increase protection for OCREs and LCREs in urban areas;
- amend the exemptions under the SPA for residential clearing and clearing in urban areas for urban purposes;
- amend the exemptions provided for Urban Development Areas and sites with structure plans so they require permits and compulsory assessment through DERM;
- remove the exemptions for subdivision of lots that are under 2 ha in size or over 25 ha after subdivision, and rezoning applications for lots that are less than 2 ha;
- increase protection for regulated regrowth by having more areas of regulated regrowth require permits in order to be cleared; and
- undertake vegetation mapping at a scale finer than 2 ha so that more valuable vegetation can be identified and protected through requiring assessment.

## CONCLUSION

This article has described the state of and issues associated with vegetation clearing in SEQ and has critiqued the VMA to develop recommendations for increased protection of remnant and regrowth vegetation within the SEQRP. Urban growth and associated development is the primary cause of vegetation loss and the associated loss of ecological processes and biodiversity. The high rate of development in SEQ threatens native vegetation and impacts upon the biodiversity of the region, with rapid population growth and development being the primary cause of vegetation clearing and associated biodiversity loss. Vegetation provides beneficial recreational, cultural, horticultural and ecosystem services. It is also important for maintaining soil formation and the hydrological system,

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<sup>89</sup> McGrath, n 59, p 8.

<sup>90</sup> Queensland Government, DERM, *Analysis of Woody Vegetation Clearing Rates in Queensland*, n 29, pp 1-2.

<sup>91</sup> Waters, n 6, p 4.

providing wildlife corridors and preserving important habitat areas and sequestering carbon emissions. Given the rapid population growth of SEQ and the planned development of 40,000 ha of greenspace, the associated impacts upon the remaining remnant and regrowth vegetation in SEQ are reason for concern.

As discussed, regulation of vegetation clearing in urban areas has excessive exemptions for clearing remnant and regrowth vegetation. Although the VMA is not focused upon urban areas, it does however have some application within urban areas and there is considerable potential to increase its application to further protect remnant and regrowth vegetation, with the clearing for urban settlement being the greatest highest rate of vegetation clearing in the SEQ Bioregion. The recommendations in this article aim to improve the protection of OCREs and LCREs in the SEQUF through amending or removing the exemptions for clearing related to urban purposes in urban areas.