South East Queensland Regional Plan 2005–2026

Implementation Guideline No. 8

Identifying and protecting scenic amenity values

September 2007

Queensland Government
Office of Urban Management
Department of Infrastructure

Office of Urban Management

Acknowledgements

These guidelines draw from previous scenic amenity studies by SEQ local governments, including the Brisbane City Council, Caboolture Shire Council, Esk Shire Council, Gatton Shire Council, Ipswich City Council and Laidley Shire Council.

Other information in these guidelines has been drawn from studies conducted during stage 1 of the SEQ Regional Scenic Amenity Study. Partners in this project were: South East Queensland Regional Organisation of Councils, Office of Urban Management, Department of Local Government, Planning, Sport and Recreation, Department of Main Roads, Department of Primary Industries and Fisheries, Environmental Protection Agency, Moreton Bay Waterways and Catchments Partnership, SEQ Western Catchments Group, Natural Resources Management SEQ, and SEQWater. Robert Preston (Forest Images Consulting) was the project manager of stage 1 of the 2004 SEQ Regional Scenic Amenity Study. Robert assisted with the compilation of these guidelines.

The photos from the 2004 SEQ Public Preference Study used in these guidelines were taken by members of the Scenic SEQ community research teams. Members of these teams were: Brisbane (Adam Caddies, Carol Harris, Charles Ivin, Diana Glynn, Gulzar Manzar, Helen Favelle, Ian Turton, Jennifer Einam, Jenny Ivin, Lyndal Plant, Rob Simson, Rosie O'Brien, Silvia Distefano, Steve Schwartz, Steve Edhouse and Vicki Grieshaber), Esk/Kilcoy (Bruce Lord and Michelle Ledwith), Gold Coast/Beaudesert (Annette Robbins, Chris Engle, David Ridley, Linda Ray, Liz Ridley, Mary Hegarty, Paul Brookfield, Richard Whitlow, Richard Alarcon and Sue Mills), Ipswich (Jean Bray and Ann Bishop), Lockyer/Scenic Rim (Kit Philp, Christine Rinehart and Stu King), Logan City (David Spolc and Isaac Bens), Moreton Bay Coast (Amanda Matchett; Jim Pulsford, Jim Lawler, Karen Williams, Megan Lawler, Steve Palmer, Tim Odgers and Wally Wight), Redlands (Al Breen, Daniel Garcia, Decalie Newton, Jan Haughton, Julie Saunders, Kathy Hughes, Kathy Reimers and Samantha Brew), Sunshine Coast (Genevieve Jones, Hannah Blue, Henrietta McAlister, James Lillis, Jamie Faithfull, Kerri Paulsen, Leah Kelsall, Pam Maegdefrau and Peter Richards), Toowoomba (Barry Nielsen and Wilson Tam).

These guidelines use the scenic amenity methodology developed by the SEQ Regional Landscape Strategy Advisory Committee (RLSAC), under the leadership of Dr Darryl Low Choy and in partnership with the Brisbane City Council.

Note: These guidelines are accompanied by a CD which contains an electronic copy of the guidelines, interim regional scenic amenity maps, reports on the Scenic SEQ 2004 Public Preference Survey, and tools for estimating the scenic preference rating of views.

For a copy of the CD, telephone the Office of Urban Management on freecall 1800 021 818 or send an email to: enquiries@oum.qld.gov.au.

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1 Introduction

The natural beauty of South East Queensland's (SEQ) beaches, forests, waterways, parks and farmland is one of the region's greatest assets and contributes to its tourism industry and our quality of life.

Protection of these scenic assets for the enjoyment of current and future generations can be achieved through the *South East Queensland Regional Plan's* visionary approach to the management of growth and development in SEQ.

As State and local governments in SEQ continue to work with community and industry to accommodate the region's growing population, it is important to also consider and protect the important scenic values of our region.

In recent years, new and innovative strategies have been developed to identify and protect important scenic values. Since the early 1990s, regional planning initiatives have recognised the need to protect the natural beauty of SEQ. These efforts have resulted in the development and application of a robust technical procedure for measuring and mapping the location of areas with high scenic amenity, and evaluating the importance of public viewing locations.

The 'scenic amenity methodology' has since been applied in five local studies and two regional studies in SEQ. The results of these studies have also been adopted by at least two local governments. These studies have also received national and State awards from the Planning Institute of Australia in recognition of the considerable rigour and innovation inherent in the methodology, and for its contribution to effective growth management in SEQ.

While there are many different and successful approaches used for visual landscape management and planning, the efficient protection of scenic amenity in SEQ is best served through the adoption of a consistent approach for identifying and evaluating scenic amenity values.

Two recent regional scenic amenity studies provide current, consistent and credible regional assessment of scenic amenity values for SEQ.

The first of these studies, the *2004 Interim Regional Scenic Amenity Maps and Guidelines to Protect High Scenic Amenity*, provides information on the location of areas with important scenic amenity values for all the land-use categories defined in the SEQ Regional Plan. Not only did the study produce 1:50,000 scale maps of scenic amenity for all local government areas in SEQ, it also identified strategies to protect the values of areas with high scenic amenity. The study used the best-available regional mapping and scenic preference information.

A second regional study, the *SEQ 2004 Public Preference Survey*, provides refined measurements of the scenic preference ratings of views, and defines procedures for evaluating the scenic preference rating of views. The study provides a definitive evaluation of people's visual preferences for different urban, rural, coastal and natural landscapes, based on an assessment of 440 images of urban, rural, coastal and bushland areas by 964 people from all parts of the region.

Although the 2004 interim regional scenic amenity maps have not been updated using the results of the *SEQ 2004 Public Preference Survey,* governments can use this survey data and the scenic amenity methodology to produce up-to-date scenic amenity maps to meet emerging needs and priorities.

The SEQ Regional Plan calls for the adoption of a single, common method for the assessment of scenic amenity. In 2001, the then SEQ Regional Organisation of Councils—now called the Council of Mayors (SEQ)—endorsed a move by local governments towards a consistent, objective, and regional approach to scenic amenity issues. The Council of

Mayors (SEQ) also recently resolved that partners involved in stage 1 of the *2004 SEQ Regional Scenic Amenity Study* should be encouraged to apply the results of this study at an individual council or sub-regional level.

These guidelines describe voluntary procedures for SEQ local governments and the State Government to implement the scenic amenity policies of the SEQ Regional Plan by identifying and protecting areas of high scenic amenity, popular and significant viewpoints, and important view corridors.

2 Background

2.1 Planning context

2.1.1 SEQ Regional Plan

The SEQ Regional Plan, released in June 2005, provides an agreed policy position by the Queensland Government and SEQ local governments on growth management in the region. The SEQ Regional Plan includes regional policies on sustainability, natural environment, rural futures, transport, water, and regional landscape values, among other issues.

Regional policies relating to the identification and protection of scenic amenity values are listed in **Figure 1**.

The SEQ Regional Plan recognises the region has a diverse range of outstanding landforms and seascapes which combine to create the region's unique scenic amenity. These include mountain ranges, beaches, rivers, valleys, natural areas, wetlands, estuaries and islands. The quality of these scenes relates mainly to natural visual features or combinations of natural and man-made elements.

Many of the region's landforms and seascapes also have high environmental, cultural, heritage and/or spiritual values. The region's scenery contributes significantly to local communities' quality of life and to visitors' experience of SEQ. Areas of high scenic amenity with outstanding natural beauty include the Gold Coast hinterland, Moreton Bay Islands, Glass House Mountains, Currumbin Valley, Tamborine Mountain, Beechmont, Montville, Blackall Range, Lockyer Valley, Scenic Rim and Loganholme Wetlands.

Figure 1. SEQ regional scenic amenity policies (see Part F, Section 3.2, of SEQ Regional Plan)

Scenic amenity

3.2.1 Identify and manage areas of high scenic amenity in the regional landscape.

3.2.2 Improve knowledge and understanding of the region's scenic amenity and its contribution to the liveability and sense of place for residents and the attraction for visitors and tourists.

3.2.3 Retain and enhance public access to significant and popular viewpoints and protect important views from intrusive development.

3.2.4 Inform regional and local planning and decision making by adopting a common method of assessing scenic amenity, including design and siting of prominent developments and infrastructure.

The SEQ Regional Plan recognises that public access to significant and popular viewpoints is important for both local residents and visitors. Access to viewpoints may include public access to privately owned lands subject to voluntary arrangements to effectively manage public access and use. The design and siting of buildings and infrastructure must also consider potential impacts on scenic amenity values.

In addition, the SEQ Regional Plan recognises scenic amenity values in the Urban Footprint, along the SEQ coastline, and in waterways and wetlands, as indicated below:

- Land in the Urban Footprint may otherwise be unsuitable for urban development for a range of more local reasons, including constraints such as flooding, land slope, **scenic amenity**, and protection of biodiversity values of state, regional or local significance (SEQ Regional Plan, Part E: Regional land use pattern).
- SEQ's coastline supports diverse values and resources, including biodiversity, **scenic amenity**, outdoor recreation, economic activities and cultural heritage (SEQ Regional Plan, Part F: Regional policies, Section 2.4).
- Waterways, wetlands and associated floodplains and riparian areas support a range of natural and economic functions, including habitat for aquatic and terrestrial wildlife, nursery grounds for river and bay fisheries, potable water supplies, stormwater conveyance, dilution of sewage effluent disposal, provision of sand and gravel for building materials, ecological linkages, **scenic amenity** and recreational opportunities (SEQ Regional Plan, Part F: Regional policies, Section 2.5).

2.1.2 Regional Landscape and Rural Production Area

The SEQ Regional Plan identifies a Regional Landscape and Rural Production Area, which covers around 80 per cent of SEQ and is protected from inappropriate fragmentation or development, particularly urban or rural residential development.

The Regional Landscape and Rural Production Area supports many environmental, rural production, recreational, cultural and scenic features that are valued by the region's population. These natural environment and economic resources underpin the region's liveability and form a substantial component of its economy. It is important these values are recognised and protected in the future. Table 4 of the SEQ Regional Plan (page 28) provides further information on regional landscape values.

These guidelines describe procedures to identify and protect areas with high scenic amenity, significant and popular viewpoints, and important view corridors in the Regional Landscape and Rural Production Area. They are also applicable to land within Investigation Areas and Rural Living Areas.

2.1.3 Urban Footprint

The Urban Footprint identifies land to provide for the region's urban development needs to 2026. It includes existing urban areas and greenfield areas potentially suitable for future urban development, and defines the limits of urban development to 2026 through the use of cadastral or other clearly defined boundaries.

The Urban Footprint includes sufficient land to accommodate the full range of acceptable urban uses, such as housing, industry, business, infrastructure, community facilities and urban open spaces projected to be required over the next 20 years.

Inclusion of land in the Urban Footprint does not imply that all such lands can be developed for urban purposes. The Urban Footprint includes some land that is not available or appropriate for development. These lands will continue to be protected under State legislation such as the *Vegetation Management Act 1999* and local government planning schemes.

These guidelines describe procedures to identify and protect areas with high scenic amenity, significant and popular viewpoints, and important view corridors in the Urban Footprint.

2.1.4 Local Growth Management Strategies

Local Growth Management Strategies (LGMSs) are one mechanism for identifying and protecting scenic amenity values in the Urban Footprint. An LGMS is developed by a local government, in consultation with residents, to demonstrate how the SEQ Regional Plan will be implemented at the local level. The LGMS process identifies where and in what form urban growth and change will occur in a way that is consistent with the SEQ Regional Plan's policies. Local governments facilitate this growth and change through planning scheme amendments and non-statutory measures.

Implementation Guideline No. 2—Local Growth Management Strategies (Office of Urban Management, 2006) reinforces components of the SEQ Regional Plan by specifying the need to recognise scenic amenity values within the Urban Footprint. An extract from the document (pages 16–17) is provided in **Figure 2**.

Figure 2. Urban open space, *Implementation Guideline No.2—Local Growth Management Strategies* (Section 4.2)

Core matters—urban open space

The SEQ Regional Plan makes it clear that not all land within the Urban Footprint can or should be developed for urban purposes. The Urban Footprint includes some national parks, State forests and wetlands, and land with a range of physical constraints and values, including **scenic amenity** and biodiversity values of State, regional or local significance.

In addition to protecting ecologically sensitive areas and wildlife corridors, an urban open space network should:

- provide accessible sport and recreation opportunities;
- enhance the identity and character of urban communities; and
- contribute to water quality management and flood mitigation.

Urban open space planning is an integral component of planning to accommodate growth and change, particularly in greenfield and major redevelopment areas as part of the structure and master planning processes.
An LGMS should:

- identify the open space hierarchy, distinguishing between PIP and non-PIP deliverables, and detailing the different open space functions and requirements;
- identify the strategic urban open space network, including strategic open space linkages and needs in areas for which it is proposed to prepare a structure plan and master plan, and ensure that these are addressed as part of the development intents for these areas;
- detail measures to encourage, promote and protect scenic amenity, cultural heritage, ecologically sensitive areas and deliver a quality public domain; and
- describe the measures to be employed in encouraging, promoting and protecting quality open space.

2.1.5 Urban Open Space Strategies

Each local government in SEQ is developing an Urban Open Space Strategy as a core matter of their LGMS. The Urban Open Space Strategy should identify a

publicly accessible urban open space network and protect significant landscape values within the Urban Footprint to meet existing and future community needs. The scenic values within the Urban Footprint that are identified in an Urban Open Space Strategy may include areas with high scenic amenity, significant and popular viewpoints, and important view corridors.

2.1.6 Rural Precinct Planning

Implementation Guideline No. 6—Rural Precinct Planning (Office of Urban Management, 2007) reinforces components of the SEQ Regional Plan by specifying the need to recognise scenic amenity values within rural precincts.

These guidelines outline a planning process to assist in integrating rural planning with the planning of rural towns, villages and urban areas, and to identify opportunities to support the sustainable management of regional landscape values within a rural precinct.

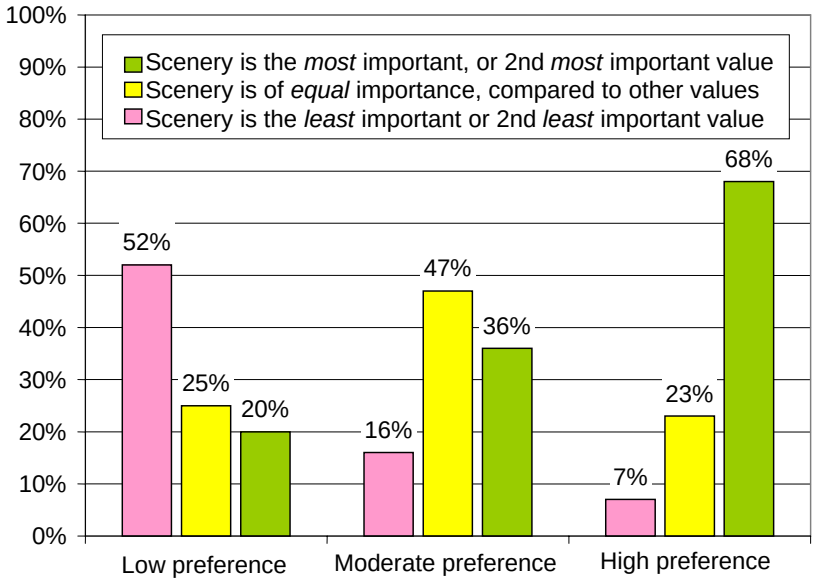
Scenic amenity is one of several regional landscape values addressed in rural precinct plans (see Section 4 of *Implementation Guideline No. 6*).

2.1.7 Importance of scenic amenity to the community

Scenic amenity is an important consideration in urban and regional planning, which contributes to the other environmental, social and economic benefits of a place.

Surveys suggest the public considers scenic values, in some circumstances, to be of equal or higher importance to other values such as outdoor recreation and nature conservation. Results of the *SEQ 2004 Public Preference Survey* show that 68 per cent of people consider scenic values to be the most important or second-most important values at places where the scenery is highly preferred, such as the views from lookouts over the ocean, beaches, rocky cliffs, bushland, rivers and mountains.

Figure 3. Community importance of scenery compared to other values



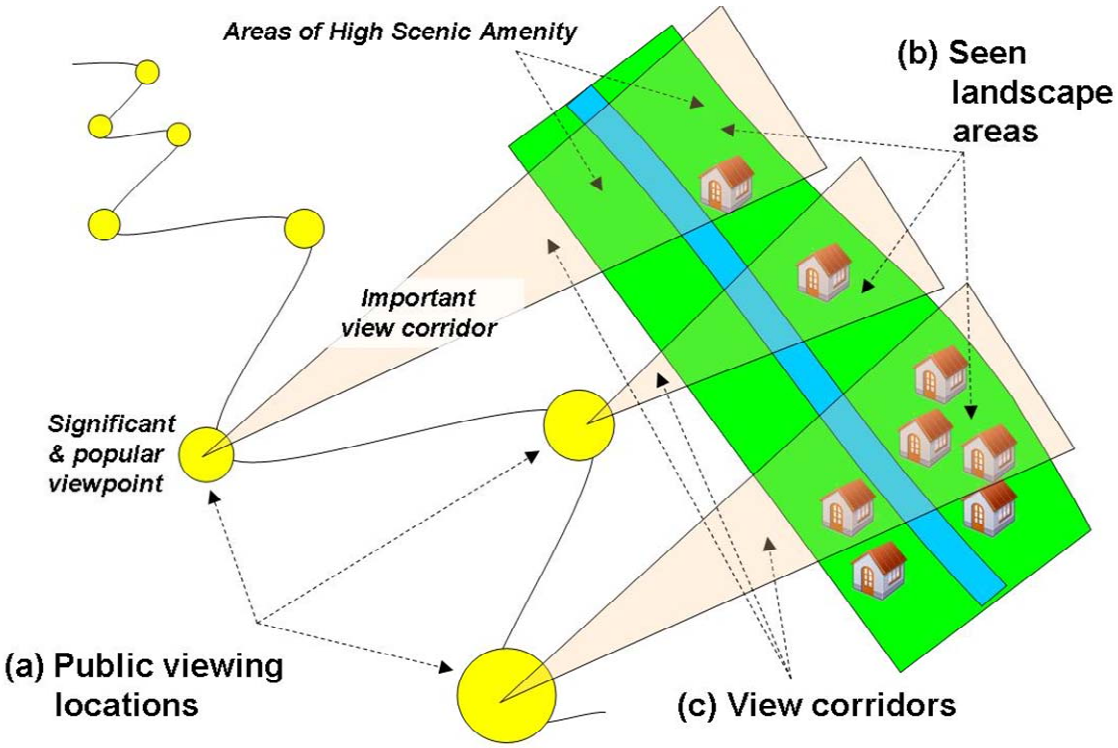
The results suggest that, wherever reasonably possible, regional and local planning strategies should recognise and protect the values of high scenic amenity areas, significant viewpoints and important view corridors.

2.2 Basic concepts, terms and methodology

Just as other environmental and social values have complex spatial relationships, scenic amenity values have three key spatial elements as depicted in **Figure 4**. These are:

(a) **Public viewing locations**: publicly accessible outdoor locations such as roads, walkways, beaches, picnic areas, lookouts or viewing platforms. **Significant and popular viewpoints** are elevated public viewing locations where people can safely stop and rest to admire the view.
(b) **Seen landscape areas**: natural or built areas such as hills, the ocean, farmlands, waterways, towns, cities or suburbs visible from one or many public viewing locations. **Areas of high scenic amenity** are highly preferred and seen landscape areas.
(c) **View corridors**: three-dimensional spaces that connect public viewing locations with seen landscape areas. **Important view corridors** connect significant and popular viewpoints with areas of high scenic amenity.

Figure 4. Connections between (a) public viewing locations (b) seen landscape areas and (c) view corridors



These spatial elements were used in developing a 'scenic amenity methodology', which was first tested in 1999 in conjunction with the Brisbane City Council as part of the *SEQ Regional Landscape Strategy*. After further testing in the Glen Rock Regional Park in 2000, the methodology was documented in a joint publication by the Environmental Protection Agency and the Department of Natural Resources in 2001. This methodology has been applied in five local studies and two regional studies (as summarised in Section 2.3).

Scenic amenity is defined as *"a measure of the relative contribution of each place in the landscape to the collective appreciation of open space as viewed from places that are important to the public"* (Department of Natural Resources, 2001).

One of the principal outcomes of the application of this methodology is a scenic amenity map which shows the relative public benefit from viewing each mapped landscape unit on a scale between 1 (least benefit) and 10 (greatest benefit). The scenic amenity rating of these mapped landscape units is calculated by combining maps of two independent factors: scenic preference, and visual exposure.

The first of these factors, scenic preference, indicates the relative preference for different landscape features. Features such as the ocean have a high scenic preference, while features such refuse depots have a low scenic preference.

Scenic preference is defined as *"a rating of the community's liking for scenery of open space compared to areas occupied by built structures, measured using photographs"* (Department of Natural Resources, 2001).

A scenic preference score is allocated to each landscape unit by aligning scenic preference ratings with land cover map categories.

The second factor, visual exposure, indicates the relative visibility of mapped landscape elements from public viewing locations. Landscape units such as hillsides facing towards a city, that are frequently seen by many people, have a relatively high visual exposure. Places rarely seen, such as remote hidden valleys, have a relatively low visual exposure.

Visual exposure is defined as *"a measure of the extent to which a place in the landscape is seen from important public viewing locations (e.g. roads, recreation areas, schools, golf courses)"* (Department of Natural Resources, 2001).

Maps of visual exposure are produced by calculating the relative visibility of each landscape unit from all possible public viewing locations, along all feasible view corridors.

Public viewing locations are defined as *"places of importance to the public, such as government-owned land used for recreation or travel (e.g. roads, recreation areas), private property used for community recreation and the enjoyment of outdoor activities (e.g. golf courses, horse riding areas, and others areas of cultural significance such as local shops, schools, and churches)"* (Department of Natural Resources 2001).

The popularity of public viewing locations is determined by taking into account the time people spend at the location, the number of viewers who visit the location, and their general level of appreciation or interest in the view.

The visual exposure method produces a map divided into 10 sections. Each of these sections represents 10 per cent of the total landscape. Each section is then given a visual exposure rating—10 representing the most visible 10 per cent of the landscape, and a rating of 1 representing the least visible 10 per cent of the landscape, as depicted in **Table 1**.

Table 1. Method used to determine visual exposure ratings

	Least Visible									Most visible
Visual exposure rating	1	2	3	4	5	6	7	8	9	10
Percent of total study area	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Cumulative %	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%

The scenic amenity rating of a landscape unit is calculated by overlaying the scenic preference map with the visual exposure map, and combining these two scores using a 'look-up table', which reflects the interaction of these two factors (see **Figure 5**).

Figure 5. Scenic amenity look-up table

Scenic Amenity

Visual Exposure											
high	10	1	1	2	4	6	8	9	10	10	10
	9	1	2	3	4	6	7	8	9	10	10
	8	1	2	3	4	6	7	8	9	10	10
	7	1	2	3	4	6	7	8	9	9	10
	6	1	2	3	4	5	6	7	8	9	10
	5	1	2	3	4	5	6	7	8	9	10
	4	1	2	3	4	5	6	7	7	8	9
	3	1	2	3	4	5	5	6	7	8	9
	2	1	2	3	4	5	5	6	7	8	9
low	1	2	3	3	4	5	5	5	6	7	8
		1	2	3	4	5	6	7	8	9	10

low **Scenic Preference** high

The look-up table reflects the logic that seeing a highly preferred feature provides increased community benefit, and seeing a low-preference feature results in reduced community benefit. It also reflects society's tendency to place a higher intrinsic value on memorable and beautiful landscapes (with a high scenic preference), even when they are rarely seen.

The scenic amenity rating of a mapped landscape unit is highest where the scenic preference of that map unit is high and the visual exposure is also high. In situations where the scenic preference of the map unit is lower (i.e. less than 4), the scenic amenity is reduced where the visual exposure is higher. The two 'regions' of the table—either side of the scenic preference rating of 4—reflect findings that people respond positively to landscape elements with a score of 5 or more, and people respond negatively to landscape elements with a score of 3 or less.

2.3 Previous scenic amenity studies

The scenic amenity methodology has been applied in five local studies and two regional studies since 2001.

The five local studies are:

- *Visual Exposure of Landscapes in the Bremer River Catchment and the Middle Brisbane River Catchment* (including Ipswich City Council and south-eastern Esk Shire), Ipswich City Council (2002)
- *Scenic Amenity of the Lockyer*, Gatton Shire Council (2002)
- *Caboolture Shire Scenic Amenity Study*, Caboolture Shire Council (2003)
- *Brisbane City Regional Scenic Amenity Study* (2005)
- *Maroochy Shire Canelands/CSIRO Scenic Amenity Study* (2006).

Details of these local government studies are provided in **Appendix 1**.

The two regional studies are:

- 2004 Interim SEQ Scenic Amenity Maps and Guidelines to Protect High Scenic Amenity
- SEQ 2004 Public Preference Survey.

Both regional studies were conducted during stage 1 of the *SEQ Regional Scenic Amenity Study*.

2.4 2004 Interim SEQ Scenic Amenity Maps and Guidelines

2.4.1 Overview

In mid-2004, the *SEQ Regional Scenic Amenity Study* produced an *Interim Regional Scenic Amenity Map*, *Interim Scenic Preference Map* and *Interim Visual Exposure Map* to assist regional planning by SEQ local governments and the Queensland Government. These maps were accompanied by a set of guidelines to protect areas of high scenic amenity. It was also envisaged that the map and guidelines could inform the future identification and protection of areas of high scenic amenity in SEQ.

Some of the base data sets available for the development of this interim map included:

- Regional land use and land cover mapping as at 1999, produced by the Department of Natural Resources and Water.
- Scenic preference ratings for map units developed from the *Caboolture Shire Scenic Amenity Study*.
- Public viewing location estimates, based on 2003 regional traffic models supplied by the Department of Transport, estimates provided by the Brisbane City Council, and estimates of visits to Gold Coast and Sunshine Coast beaches.

The *Interim Regional Scenic Preference Map* (**Figure 6 (a)**) shows that:

- Many of the ranges and hills in SEQ covered by forests or pastures have scenic preference scores of 6, 7 or 8.
- Sandy beaches on parts of Moreton Bay and along the Sunshine Coast and the Gold Coast have a scenic preference score of 9.
- Extensive areas of crops and pasture have a scenic preference score of 5, 6 or 7.

While some of these ratings have been refined during the *SEQ 2004 Public Preference Survey*, the *Interim Scenic Preference Maps* provide a useful starting point for the strategic mapping of scenic amenity values.

The *Interim Regional Visual Exposure Map* (**Figure 6 (b)**) shows that:

- The areas with highest visual exposure are the mountains and hills facing populated areas, and open spaces near major roads, beaches and the Brisbane River.
- Much of the open space in Brisbane City has a high visual exposure, with the exception of far western parts of the city on the D'Aguilar Range.
- Large areas in northern Esk Shire, southern Gatton Shire, Laidley Shire, and Beaudesert Shire have a relatively low visibility, as do parts of Moreton Island.

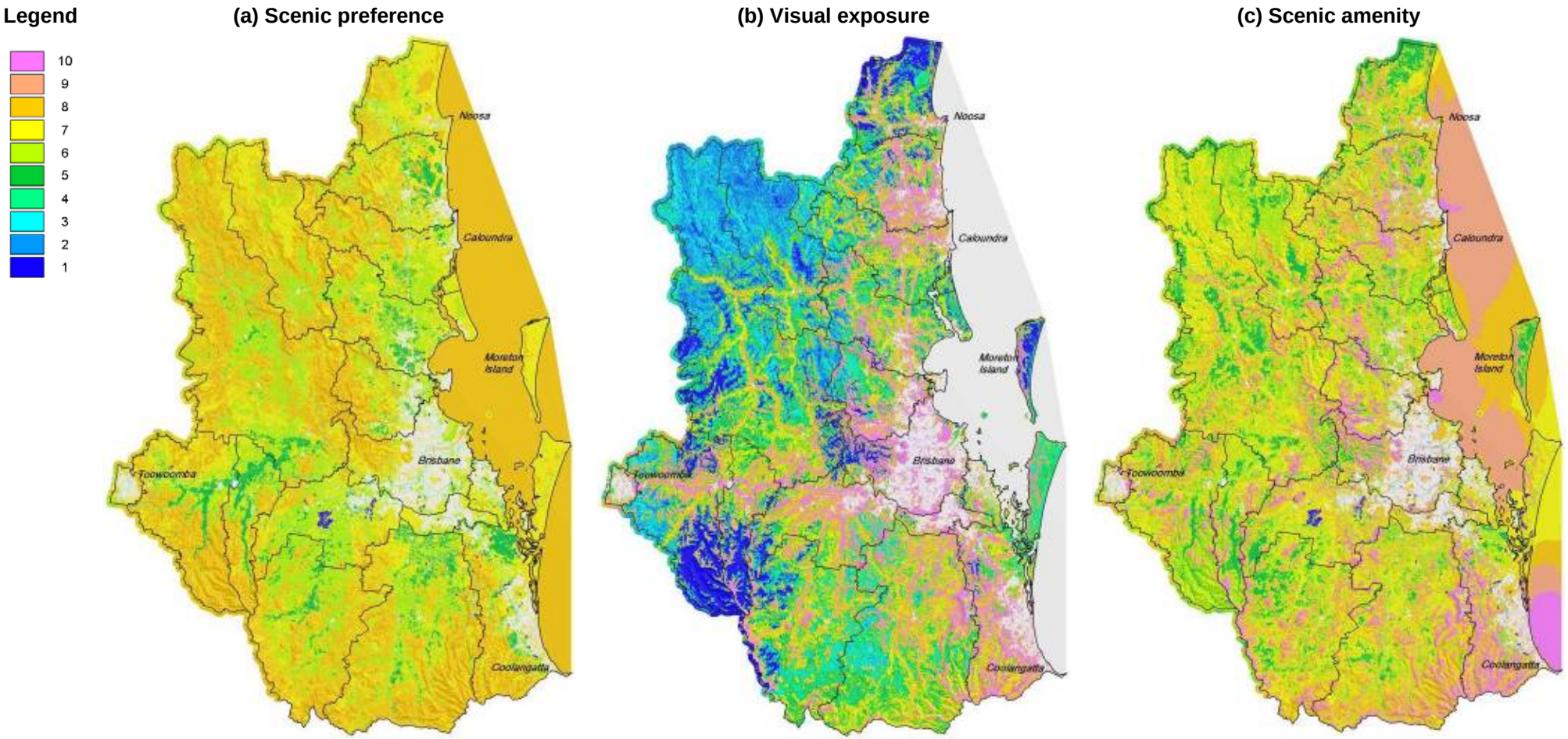
Visual exposure maps provide a useful tool for strategic appraisal of scenic resources which, in some instances, may be suitable for use independent of scenic amenity or scenic preference maps.

The *Interim Regional Scenic Amenity Map* (**Figure 6 (c)**) shows that:

- The areas with highest scenic amenity include the steep mountain ranges and hills, and the waters of the Pacific Ocean (especially near the Gold Coast and Sunshine Coast), Moreton Bay and central parts of the Brisbane River.
- Highly visible areas of open space around urban parts of Brisbane have a scenic amenity of 8 or 9.
- Relatively unseen landscape areas of open space in more remote parts of the region have a lower scenic amenity rating.

These maps are also found in Appendix 2 (maps 1–3), which includes larger scale scenic preference, visual exposure and scenic amenity maps of each of the 18 (pre-amalgamation) local government areas in SEQ.

Figure 6. Interim Scenic Amenity Maps for SEQ (2004 South East Queensland Regional Scenic Amenity Study)



2.4.2 Limitations of maps

The major limitations of the *2004 Interim Regional Scenic Amenity Maps* are the currency and scale of base mapping used to produce the scenic preference maps. These maps were primarily based on 1999 land use and cover (QLUMP) and 2003 vegetation mapping (SLATS) provided by the Department of Natural Resources and Water. This mapping has not been generalised to coincide with cadastral boundaries.

In some areas, bushland or farmland may have been cleared or developed since the base mapping was compiled. The verification process outlined in Section 3.3 describes procedures for checking and resolving mapping in these areas.

Another limitation of the interim regional scenic amenity mapping is that the public viewing locations were mainly based on traffic flow estimates in 2003 provided by the Department of Transport. In some instances, non-vehicular public viewing locations may increase the visual exposure of some seen landscape areas. New or planned transport routes may also increase the visibility of some landscapes. This increased visibility may also result in increased visual exposure or higher scenic amenity. The verification process outlined in Section 3.3 describes procedures for considering the effects of increased visual exposure.

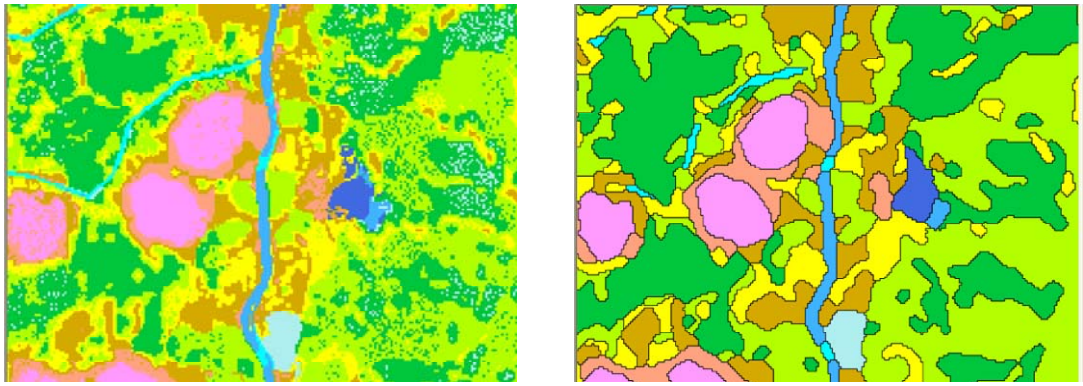
2.4.3 GIS format of available regional mapping

The interim regional scenic amenity mapping used a cell-based GIS system at 25m resolution, which is ideal for spatial modelling of scenic amenity. These cell-based maps have been converted into a 'polygon' format which is suitable for most local government computer mapping systems used for land use and other planning applications.

The conversion was achieved by applying a generalisation routine which merged smaller homogeneous regions—less than 1.56 ha (i.e. 5 x 5 cells)—into larger neighbouring homogeneous regions. The simplification has resulted in the loss of some detail (**Figure 7**).

These maps are available on request from the Office of Urban Management as ESRI shape files or Mapinfo.mif files.

Figure 7. Comparison of new polygon maps and original cell-based scenic amenity maps.



(a) Original cell-based map

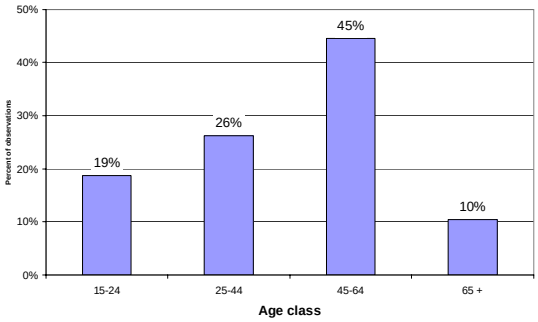
(b) New polygon map

2.5 SEQ 2004 Public Preference Survey

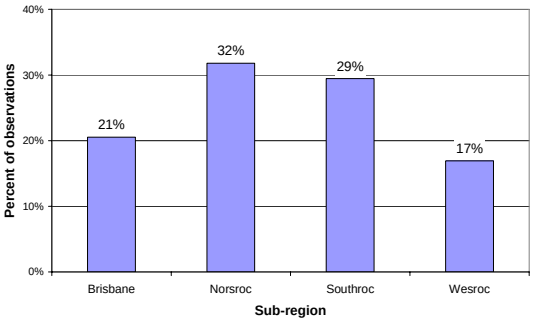
Following the production of interim scenic amenity maps, the *SEQ Regional Scenic Amenity Study* undertook the *SEQ 2004 Public Preference Survey*. The broad aim of the survey was to further refine the scenic preference ratings for views so that they could be applied with confidence to landscape maps for the region.

A total of 964 people from a broad cross-section of the SEQ community participated in the survey, as illustrated in **Figure 8**.

Figure 8. Characteristics of participants in the SEQ 2004 Public Preference Survey



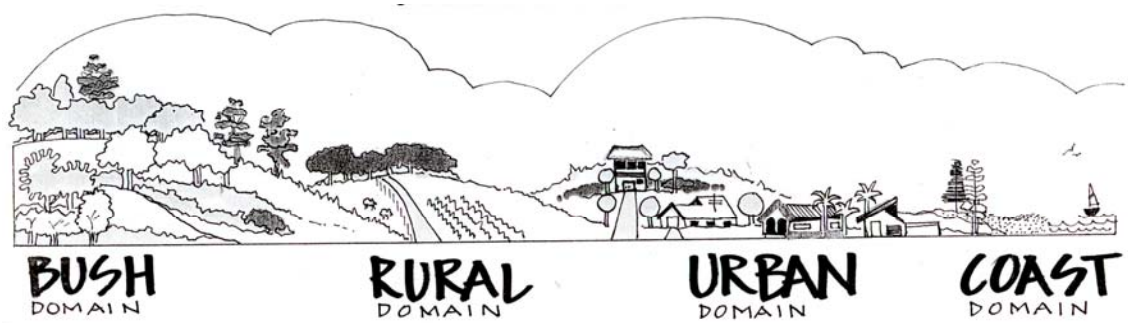
Proportion of participants by age class



Proportion of participants from each sub-region

A total of 440 photos were included in the survey, representing a diversity of landscapes with various combinations of built and natural landscape elements. An even spread of photos were taken from within four 'visual domains' (**Figure 9**), i.e. bushland, coastal, rural and urban landscapes. A selection of photos from each visual domain and the mean preference ratings are shown in **Figure 10**.

Figure 9. Visual domains used to balance the range of photos in the survey[1]



A comparison of the results of the *SEQ 2004 Public Preference Survey* and the preference surveys conducted for the *Lockyer Scenic Amenity Study* and the *Caboolture Scenic Amenity Study* showed the results of these studies were similar.

The results of the *SEQ 2004 Public Preference Survey* may be analysed and applied to new land cover mapping to produce an updated scenic preference map.

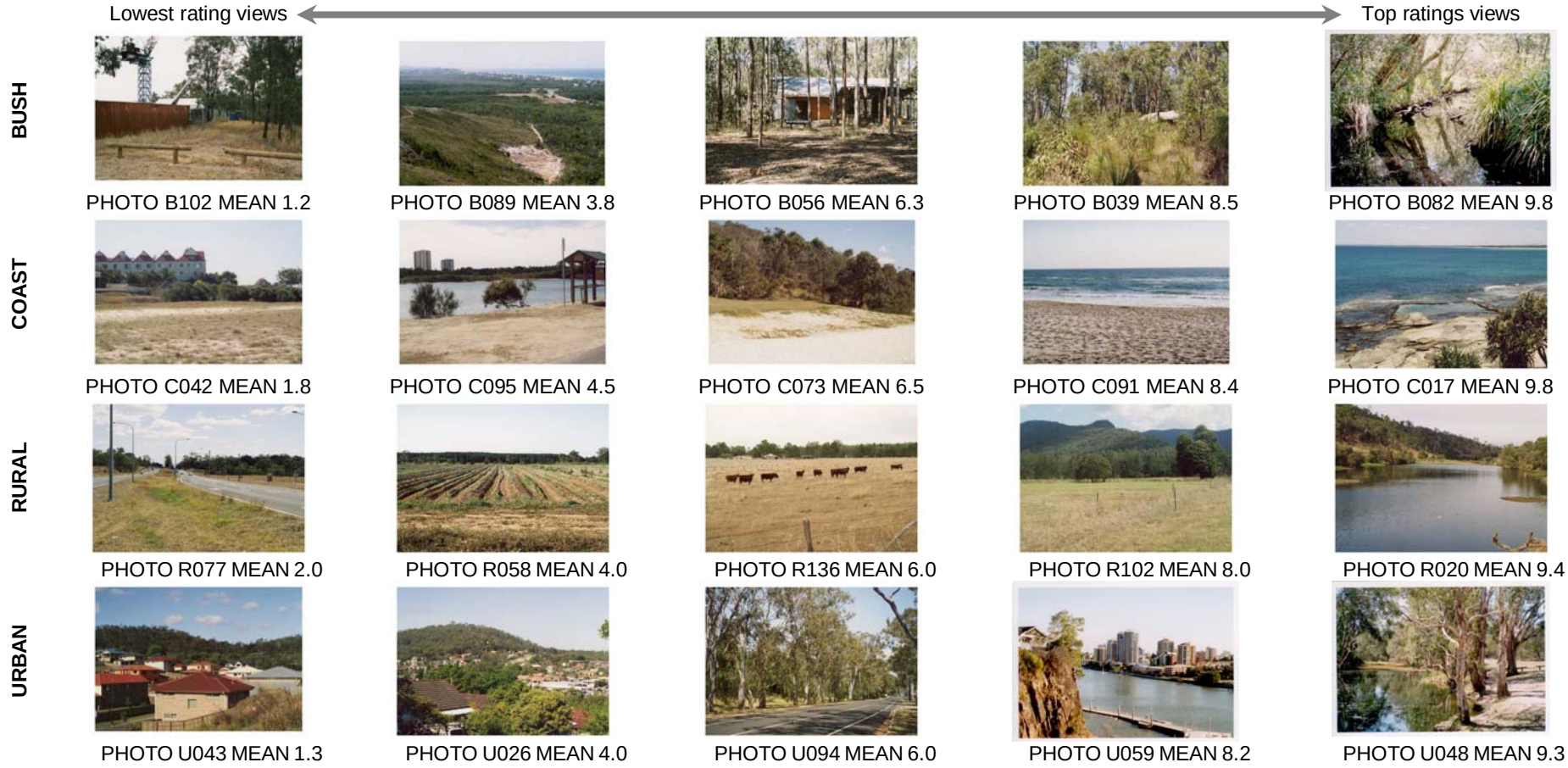
[1] Diagram by Jan Haughton

2.6 Recognition of previous studies and methodology

The innovation, utility and rigour of the scenic amenity methodology and above-mentioned studies have been recognised by SEQ local governments, professional bodies and academics, as demonstrated below:

- The SEQ Regional Organisation of Councils endorsed a proposal that SEQ local governments move towards a consistent, objective, and regional approach to scenic amenity issues (March 2001).
- The *Caboolture Shire Scenic Amenity Study* won the Planning Institute of Australia (Queensland) Award for Excellence—Environmental Planning or Conservation (November 2002).
- The *Lockyer Scenic Amenity Study* received a merit citation at the Planning Institute of Australia (Queensland) Awards for Excellence in the Social and Community Based Planning category (November 2002).
- The *Caboolture Shire Scenic Amenity Study*, website and postcard initiative won the Planning Institute of Australia National Award for Excellence—Media/Public (November 2003).
- The *Caboolture Shire Scenic Amenity Study* won the Minister's Award for Excellence in local government and planning (November 2003).
- The SEQ Regional Organisation of Councils approved the first stage of a regional scenic amenity study, including a public preference survey and development assessment model (November 2003).
- A panel of experts found the results of the *SEQ 2004 Public Preference Survey* and related assessment tools to be scientifically valid and reliable, providing a sound foundation for a consistent, regional approach to assessing scenic amenity values (May 2005).
- The SEQ Regional Organisation of Councils approved the use by councils of the *SEQ 2004 Public Preference Survey* results for a 12-month trial period—to assess the validity and utility of the results (June 2005).
- The *SEQ 2004 Public Preference Survey* won the Planning Institute of Australia (Queensland) Award for Excellence—Social and Community Based Planning (November 2005).
- The SEQ Council of Mayors resolved that while councils had mixed experiences trialling the results of Stage 1 of the *SEQ Regional Scenic Amenity Study*, project partners should be encouraged to continue applying the results at an individual council or sub-regional level (August 2006).
- The *SEQ 2004 Public Preference Survey* received a merit citation at the Planning Institute of Australia National Awards for Excellence in the Social and Community Based Planning category (November 2006).

Figure 10. Selection of photos and results from the SEQ 2004 Public Preference Survey (including bush, coast, rural and urban visual domains)



2.7 Objective of these guidelines

The objective of these guidelines is to assist local governments to voluntarily implement policies of the SEQ Regional Plan relating to scenic amenity by:

- identifying and protecting areas of high scenic amenity, and
- retaining or enhancing public access to popular and significant viewpoints and protecting important view corridors seen from these viewpoints.

2.7.1 Areas of high scenic amenity

The objective of the voluntary assessment process is to identify areas with high scenic amenity so that their scenic values can be protected or managed. This can be achieved through various mechanisms available to SEQ local governments, such as an Urban Open Space Strategy, local government planning scheme, Rural Precinct Plan or other suitable statutory or non-statutory processes.

The achievement of this objective will assist local governments to implement policies 3.2.1, 3.2.3 and 3.2.4 and other sections of the SEQ Regional Plan relating to scenic amenity (see **Figure 1**).

2.7.2 Popular and significant viewpoints

The objective of this voluntary process is to ensure that public access to significant and popular viewpoints is retained and enhanced, and important view corridors seen from significant and popular viewpoints are protected from intrusive development. This can be achieved through mechanisms available to SEQ local governments, such as an Urban Open Space Strategy, local government planning scheme, Rural Precinct Plan or other suitable statutory or non-statutory processes.

The achievement of this objective will assist local governments to implement policies 3.2.3 and 3.2.4 and other relevant sections of the SEQ Regional Plan (see **Figure 1**).

3 Identifying areas with high scenic amenity

3.1 Assessment criteria

Areas of high scenic amenity may be identified in the Regional Landscape and Rural Production Area, Investigation Areas, Rural Living Areas or Urban Footprint, as outlined below:

(a) In the Regional Landscape and Rural Production Area, Investigation Areas or Rural Living Areas

Areas of high scenic amenity have a rating of 9 or 10. Local governments may also identify areas of locally important scenic amenity (i.e. with a rating of 6, 7 or 8).

(b) In the Urban Footprint

Areas of high scenic amenity have a rating of 9 or 10. Local governments may also identify areas of locally important scenic amenity (i.e. with a rating of 6, 7 or 8).

3.2 Assessment strategies

3.2.1 Overview

Strategies to identify areas of high scenic amenity will depend on the nature of the available mapping. There are three scenarios:

1. The council has already produced, or has access to, a locally derived scenic amenity map produced using the methodology described in these guidelines.
2. The council has already produced, or has access to, a landscape values or similar map which incorporates scenic amenity values.
3. The council does not have access to a locally derived scenic amenity map nor a landscape values map.

The assessment strategies to be used in each of the three scenarios are described below.

3.2.2 Where a locally derived scenic amenity map is available

Existing locally derived scenic amenity maps can be used to identify areas with high scenic amenity. This assessment strategy currently applies to Caboolture Shire, Brisbane City, Gatton Shire, Laidley Shire, and part of Esk Shire.

In this scenario, the local government can use existing locally derived scenic amenity maps to identify areas of high scenic amenity, or locally important scenic amenity (as outlined in Section 3.1). These areas should also be subjected to a verification process (as outlined in Section 3.3).

3.2.3 Where a suitable landscape values map is available

Landscape maps that incorporate scenic amenity values can be compared and reconciled with the *2004 Interim Regional Scenic Amenity Maps* to identify areas of high scenic amenity, or locally important scenic amenity (as outlined in Section 3.1). These areas should also be subjected to a verification process (as outlined in Section 3.3).

The process of reconciling an existing landscape map with the *2004 Interim Regional Scenic Amenity Maps* should entail the production of a GIS overlay highlighting the major differences between the two data sets; and include a recommendation as to which map should take precedence, and the basis for this recommendation.

3.2.4 Where suitable maps are not available

If a council does not have access to a locally derived scenic amenity map or landscape map, it may use the *2004 Interim Regional Scenic Amenity Maps* to identify areas of high scenic amenity, or locally important scenic amenity (as outlined in Section 3.1). These areas should also be subjected to a verification process (as outlined in Section 3.3).

3.3 Procedures to verify scenic amenity maps

3.3.1 Where a locally derived scenic amenity map is available

If a locally derived scenic amenity map is available, areas with high scenic amenity (i.e. a rating of 9 or 10) or locally important scenic amenity (i.e. a rating of 6, 7 or 8) should be verified. This is done using existing locally derived scenic amenity maps and land cover maps to confirm that the natural areas, rural areas and parks identified at the time of the original mapping study are still undeveloped.

The procedures to be followed entail:

- Applying a GIS overlay to omit cleared or developed areas from locally derived scenic amenity maps, using current mapping of natural vegetation, rural land or parkland.

3.3.2 Where a suitable landscape values map is available

If a landscape map is available that incorporates scenic amenity values, areas of high scenic amenity (i.e. a rating of 9 or 10) or locally important scenic amenity (i.e. a rating of 6, 7 or 8) should be verified by comparing the landscape map with the *2004 Interim Regional Scenic Amenity Mapping*.

The procedures to be followed entail:

- Applying a GIS overlay to highlight major differences between the two data sets, and including a recommendation as to which map should take precedence and the basis for this recommendation.
- Applying a GIS overlay to omit cleared or developed areas from the landscape map, using current mapping of natural vegetation, rural land or parkland.
- Consideration of any additional major public viewing locations that may increase the visual exposure of areas with a scenic amenity rating of 8. Where this is the case, these areas should be regarded as having a scenic amenity rating of 9 or 10, making them suitable for nomination as an area of high scenic amenity.

3.3.3 Where suitable maps are not available

If neither a locally derived scenic amenity map nor a suitable landscape map is available, areas of high scenic amenity (i.e. with a rating of 9 or 10) or locally important scenic amenity (i.e. with a rating of 6, 7 or 8) should be verified using the *2004 Interim Regional Scenic Amenity Maps* and other GIS data to confirm that the natural areas, rural areas and parks identified at the time of the original mapping study are still undeveloped.

The procedures to be followed entail:

- Applying a GIS overlay to omit cleared or developed areas from the *2004 Interim Regional Scenic Amenity Maps* using current mapping of natural vegetation, rural land or parkland.
- Consideration of any additional major public viewing locations that may increase the visual exposure of areas with a scenic amenity rating of 8. Where this is the case, these areas should be regarded as having a scenic amenity

rating of 9 or 10, making them suitable for nomination as an area of high scenic amenity.

3.3.4 Produce new scenic amenity mapping

Instead of using the abovementioned verification processes, councils can produce a new regional scenic amenity map by:

- constructing a new, current and appropriate land cover map
- aligning scenic preference survey data with new land cover maps, and re-scaling *2004 Scenic Preference Survey* data to apply to map units
- allocating scenic preference scores to land cover maps to produce a current scenic preference map
- overlaying this scenic preference map on the *2004 Interim Visual Exposure Map* to produce a new regional scenic amenity map for the local government area.

As part of this process, it may also be possible to recognise additional public viewing locations. This would require amendments to the visual exposure map and scenic amenity map.

4 Identifying significant and popular viewpoints

4.1 Assessment criteria

4.1.1 Overview

Significant and popular viewpoints may be identified in the Regional Landscape and Rural Production Area, Investigation Areas, Rural Living Area or the Urban Footprint. The criteria for identifying regionally significant and popular viewpoints and locally significant and popular viewpoints are:

(a) In the Regional Landscape and Rural Production Area, Investigation Areas or Rural Living Area

Regionally significant and popular viewpoints would meet the following two criteria:

- The view in at least one direction from the viewpoint should be regionally significant, i.e. have a scenic preference rating of 9 or 10 (as determined using the methods outlined in Section 4.1.2).
- The viewpoint should be popular, with a visitation importance rating of 9 or 10 (as determined using the methods outlined in Section 4.1.3).

In addition, local governments may identify locally significant and popular viewpoints that meet the following two criteria:

- The view in at least one direction from the viewpoint should be locally significant, i.e. have a scenic preference rating of 6, 7 or 8 (as determined using the methods outlined in Section 4.1.2).
- The viewpoint should be popular, with a visitation importance rating of 6, 7 or 8 (as determined using the methods outlined in Section 4.1.3).

(b) In the Urban Footprint

In addition, local governments may, on a voluntary basis, identify significant and popular viewpoints in the Urban Footprint.

Regionally significant and popular viewpoints would meet the following two criteria:

- The view in at least one direction from the viewpoint should be locally significant, i.e. have a scenic preference rating of 6, 7 or 8 (as determined using methods outlined in Section 4.1.2).
- The viewpoint should be popular, with a visitation importance rating of 6, 7 or 8 (as determined using the methods outlined in Section 4.1.3).

Locally significant and popular viewpoints would meet the following two criteria:

- The view in at least one direction from the viewpoint should be locally significant, i.e. have a scenic preference rating of 6, 7 or 8 (as determined using the methods outlined in Section 4.1.2).
- The viewpoint should be popular, with a visitation importance rating of 6, 7 or 8 (as determined using the methods outlined in Section 4.1.3).

4.1.2 Estimating significance

The significance of a viewpoint can be assessed by estimating the scenic preference rating using the procedure described below[2]:

(a) Acquiring three representative photos from the viewpoint—attractive views that are easily and often seen by the public.
(b) Selecting three images from the *2004 Scenic SEQ Image Library*[3] that are most comparable to each of the three photos taken from that viewpoint (i.e. a total of nine library images).
(c) Calculating the mean scenic preference rating of the nine library images.
(d) The scenic preference rating of the viewpoint is the mean rating of the nine comparable images from the *Scenic SEQ 2004 Image Library.* A mean rating for the nine photos of 9 to 10 indicates the viewpoint is regionally significant. A mean rating for the nine photos of 6 to 8 indicates the viewpoint is locally significant.

4.1.3 Estimating popularity

The popularity of a viewpoint is determined using a three-step process to calculate its visitation importance rating[4]:

(a) Identifying elevated public viewing locations where people can safely stop and rest to admire the view. These include formal lookouts or viewing platforms and informal viewing locations that may be marked by a seat, table, rocky outcrop or roadside rest area.
(b) Estimating an approximate 'people viewing time' (PVT) score for all selected viewpoints. This score is calculated as follows:

PVT score	=	Estimated mean number of people who visit the location per day	X	Mean amount of time they would be likely to stay at the location (up to a maximum of 10 minutes)	X	Assumed proportion of time they spend looking at the scenery.

For example, one of the most popular lookouts in a local government area might be visited by about 100 people per day. The people might stay at the lookout for an average of five minutes. The assumed proportion of time they spend looking at the scenery might be 85 per cent. This would be calculated as follows: 100 x 5 x 0.85 = people viewing time score of 425.

[2] Based on guidelines for assessing scenic views, described in What's in a View? Report 4.
[3] Available on request from the Office of Urban Management.
[4] Procedures for estimating viewpoint importance are adapted from procedures described in the *Moggill and Glen Rock Scenic Amenity Studies* (2001), the *Lockyer Scenic Amenity Study* (2003), *Caboolture Scenic Amenity Study* (2003) and the *Ipswich and Lower Esk Visual Exposure Study* (2002).

Similarly, a less popular seat along a scenic pathway might be visited by about five people per day. The people might stay at the seat for an average of three minutes. The assumed proportion of the time they spend looking at the scenery might also be 85 per cent. This would be calculated as follows: 5 x 3 x 0.85 = people viewing time score of 12.75.

Estimates of daily visits should take into account strategies to attract more visitors to the viewpoint (as outlined in Section 6.2).

(c) Ranking all viewpoints, from those with the highest score down to those with the lowest. The top 10 per cent of all the selected public viewing locations are allocated a visitation importance rating of 10; the next 10 per cent of locations are allocated a visitation importance rating of 9, and so on, with the lowest-scoring 10 per cent of viewpoints allocated a visitation importance rating of 1.

4.2 Assessment strategies

4.2.1 Overview

Significant and popular viewpoints are likely to include elevated locations such as well-used lookouts, picnic areas, walking trails or scenic routes with intimate or distant views of natural bushland or water, which may also include rock features, some pasture or mown grass.

Strategies to identify significant and popular viewpoints will depend on the nature of the available mapping. There are three scenarios:

a. The council has already produced, or has access to, an inventory of public viewing locations using the methodology described in these guidelines.
b. The council has already produced, or has access to, other maps that provide an indication of the location and importance of viewpoints.
c. The council does not have access to an inventory of public viewing locations nor other maps indicating the location and importance of viewpoints.

The assessment strategies to be used in each of the three scenarios are described below.

4.2.2 Where an inventory of public viewing locations is available

Where an existing locally derived inventory of public viewing locations exist, these should be used to identify popular and significant viewpoints. This assessment strategy applies to Caboolture Shire, Brisbane City, Gatton Shire, Laidley Shire, Ipswich City and part of Esk Shire.

In these situations, the council may use the locally derived inventory of public viewing locations to assist in the identification of popular and significant viewpoints against criteria identified in Section 4.1.

4.2.3 Where other suitable information is available

If the council has access to maps indicating the location and importance of public viewing locations, it may use this information to identify popular and significant viewpoints (using the assessment criteria in Section 4.1).

4.2.4 Where suitable information is not available

If the council does not have access to an inventory of public viewing locations nor other maps indicating the location and importance of viewpoint, it may develop either (a) an informal inventory of public viewing locations or (b) a formal inventory of significant and popular viewpoints (using the assessment criteria in Section 4.1).

5 Protecting areas with high scenic amenity

5.1 Strategies

Local governments may develop strategies to protect a seen landscape area if it has been verified—via mapping or other independent processes—to have high scenic amenity (i.e. a scenic amenity rating of 9 or 10). In addition, local governments may protect areas of locally important scenic amenity (i.e. a scenic amenity rating of 6, 7 or 8).

In these circumstances, a local government may seek to protect the values of the area by either:

- introducing planning controls to define what is 'acceptable' development of the area—using the guidelines in Section 5.2; or
- adopting other defined measures to achieve similar outcomes.

5.2 Acceptable proposed development

5.2.1 Areas of high scenic amenity

Acceptable proposed development of an area of high scenic amenity includes development in which the average area of buildings or infrastructure—evident from nearby and surrounding public viewing locations, as defined in Section 5.3—is less than the percentages in Column 3 of **Table 2**.

Table 2. Maximum evident built development for areas of high scenic amenity

Column 1	Column 2	Column 3
Scenic amenity of mapped area	**Scenic preference of mapped area**	**Maximum percentage of evident built development**
10	10	0%
10	9	5%
10	8	10%
9	10	0%
9	9	5%
9	8	10%
9	7	15%

If the percentage of evident built development exceeds the maximum level in Column 3 of Table 2, the design and location of the development should be modified using the solutions listed in Section 5.4

5.2.2 Areas of locally important scenic amenity

Acceptable proposed development of an area of locally important scenic amenity includes development in which the average area of buildings or infrastructure—evident from nearby and surrounding public viewing locations, as defined in Section 5.3—is less than the percentages in Column 3 of **Table 3**.

Table 3. Maximum evident built development for areas of locally important scenic amenity

Column 1	Column 2	Column 3
Scenic amenity of mapped area	**Scenic preference of mapped area**	**Maximum percentage of evident built development**
8	10	0%
	9	5%
	8	10%
	7	15%
	6	20%
7	9	10%
	8	15%
	7	20%
	6	30%
6	8	15%
	7	20%
	6	30%
	5	30%

If the percentage of evident built development exceeds the maximum level in column 3 of **Table 3**, the design and location of the development should be modified using the solutions listed in Section 5.4

5.3 Procedures for estimating proposed evident built development

The percentage of proposed evident built development would be measured from photomontages of any proposed development in the scenic area—using the procedures and calculation described in **Figure 11** and **Equation 1**.

In the context of these guidelines, built development refers to urban, industrial and commercial development and associated infrastructure. It excludes farming activities and farm houses and buildings, with the exception of buildings used for industrial agriculture.

Figure 11. Procedures for calculating proposed evident built development for landscape units

1. Take three photographs (using a 50mm lens or equivalent) of the proposed development site that are representative of the views people will have of the proposed development from the most highly used and affected public viewing locations within a maximum distance of 5 km.

2. Sketch the outline of the proposed development and the applicable landscape unit on each photograph. Take into account the screening effect of new trees and landscaping after five years (see **Figure 12**).

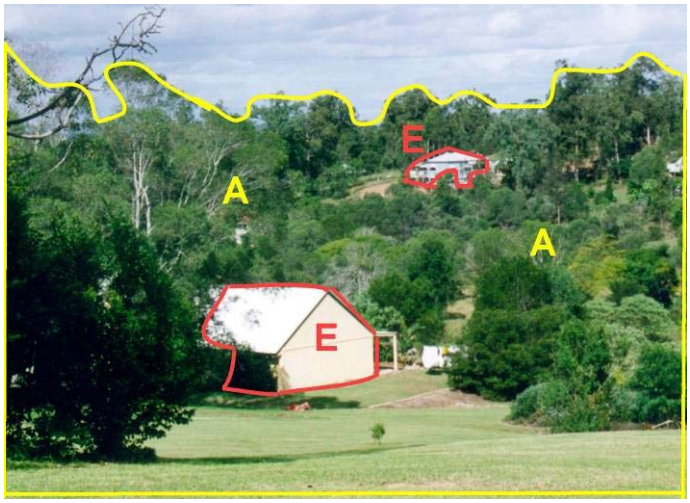
3. For each photo, use **Equation 1** to calculate the area of all existing and proposed visible development as a percentage of the applicable landscape unit (excluding the sky).

4. Using the results from the three photos, calculate the average percentage of evident development for the landscape unit.

Equation 1. Formula used to calculate the percentage of evident built development

$$P \text{ (percent of evident development)} = \frac{E \text{ (area of evident development)}}{A \text{ (area of landscape unit, including development within the unit)}} X\ 100$$

Figure 12. Example of a sketch to delineate the landscape unit and evident built development on photographs



5.4 Acceptable solutions

Acceptable solutions for modifying development to adhere to the above guidelines are provided in **Figure 13**.

Figure 13. Acceptable solutions for reducing the visual impact of proposed buildings and infrastructure

A. Modify location and design

The most effective way to reduce the area of proposed evident built development is to reduce the amount of buildings and infrastructure visible to viewers. This may entail:

a. Increasing the distance between the development and important public viewing locations.
b. Locating the structure/s in a location partly or fully hidden from important viewing locations.
c. Reducing the height and width of the structure/s visible from the public viewing locations.

and/or

B. Use trees and vegetation to screen buildings and infrastructure, and thus reduce the area of evident built development

This may entail:

a. Retention of existing vegetation or planting new trees to screen the buildings or infrastructure.
b. Undertaking supplementary planting around or under remnant trees.
c. Planting trees and vegetation part way between the viewing location and the structure/s, rather than immediately adjacent to the structure/s.

The impact of the development may also be reduced if it is constructed of materials and with finishes that complement the scenic landscape.

When developing a landscaping plan, wherever possible plant species should be chosen that quickly screen the development and contribute to other environmental and community amenity objectives (e.g. biodiversity, shade, low risk to drainage pipes, low fire risk, low risk of storm damage). The landscaping plan should be accompanied by a watering and maintenance plan.

6 Managing significant and popular viewpoints

6.1 Strategies

Local governments may develop strategies to manage viewpoints that have been verified as regionally significant and popular. They may also manage locally significant and popular viewpoints by:

- retaining or enhancing public access to significant and popular viewpoints using the guidelines in Section 6.2, and/or
- introducing planning controls to define acceptable development within the view corridor using the guidelines in Section 6.3.

6.2 Retaining or enhancing public access

Local governments may retain or enhance public access to significant and popular viewpoints by:

- promoting the viewpoint by using brochures, maps and web pages to communicate the location and characteristics of the viewpoint
- enhancing public access to the viewpoint by upgrading roads or tracks to the site, which may also be linked to other points of interest
- providing directional signage to the viewpoint
- providing additional facilities or landscaping at or near the viewpoint to enhance its appeal and make the site multi-purpose.

6.3 Protecting important view corridors

6.3.1 From regionally significant and popular viewpoints

Acceptable proposed development within an important view corridor (from a regionally significant and popular viewpoint) includes development in which the evident area of buildings or infrastructure, as defined in Section 6.4, is less than the percentages in Column 2 of **Table 4**.

Table 4. Maximum evident built development within a regionally important view corridor

Column 1	Column 2
Scenic preference rating from viewpoint	**Maximum percentage of evident built development**
10	0%
9	5%

If the percentage of evident built development exceeds the maximum level in Column 2 of **Table 4**, the design and location of the development may be modified using the solutions listed in Section 5.4.

6.3.2 From locally significant and popular viewpoints

Acceptable proposed development within an important view corridor (from a locally significant and popular viewpoint) includes development in which the evident area of buildings or infrastructure, as defined in Section 6.4, is less than the percentages in Column 2 of **Table 5**.

Table 5. Maximum evident built development within a locally important view corridor

Column 1	Column 2
Scenic preference rating from viewpoint	**Maximum percent of evident built development**
8	10%
7	15%
6	20%

If the percentage of evident built development exceeds the maximum level in Column 2 of Table 5, the design and location of the development may be modified using the solutions listed in Section 5.4.

6.4 Estimating proposed evident built development

The percentage of proposed evident built development would be measured from photomontages of any proposed development in the important view corridor—using the procedures in **Figure 14**.

In the context of these guidelines, built development refers to urban, industrial and commercial development and associated infrastructure. It excludes farming activities and farm houses and buildings, with the exception of buildings used for industrial agriculture.

Figure 14. Procedures for calculating proposed evident development in view corridors

1. From the viewpoint, take three photographs (using a 50mm lens or equivalent) in the direction of an area of high scenic amenity, including the proposed development.

2. Sketch the outline of the proposed development on each photograph. Take into account the screening effect of new trees and landscaping after five years (see **Figure 12**).

3. For each photo, calculate the area of all existing and proposed visible development as a percentage of the total photo area (excluding the sky).

4. Using the results from the three photos, calculate the average percentage of evident development visible from the viewpoint.

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Appendix 1. Overview of previous local scenic amenity studies

Introduction

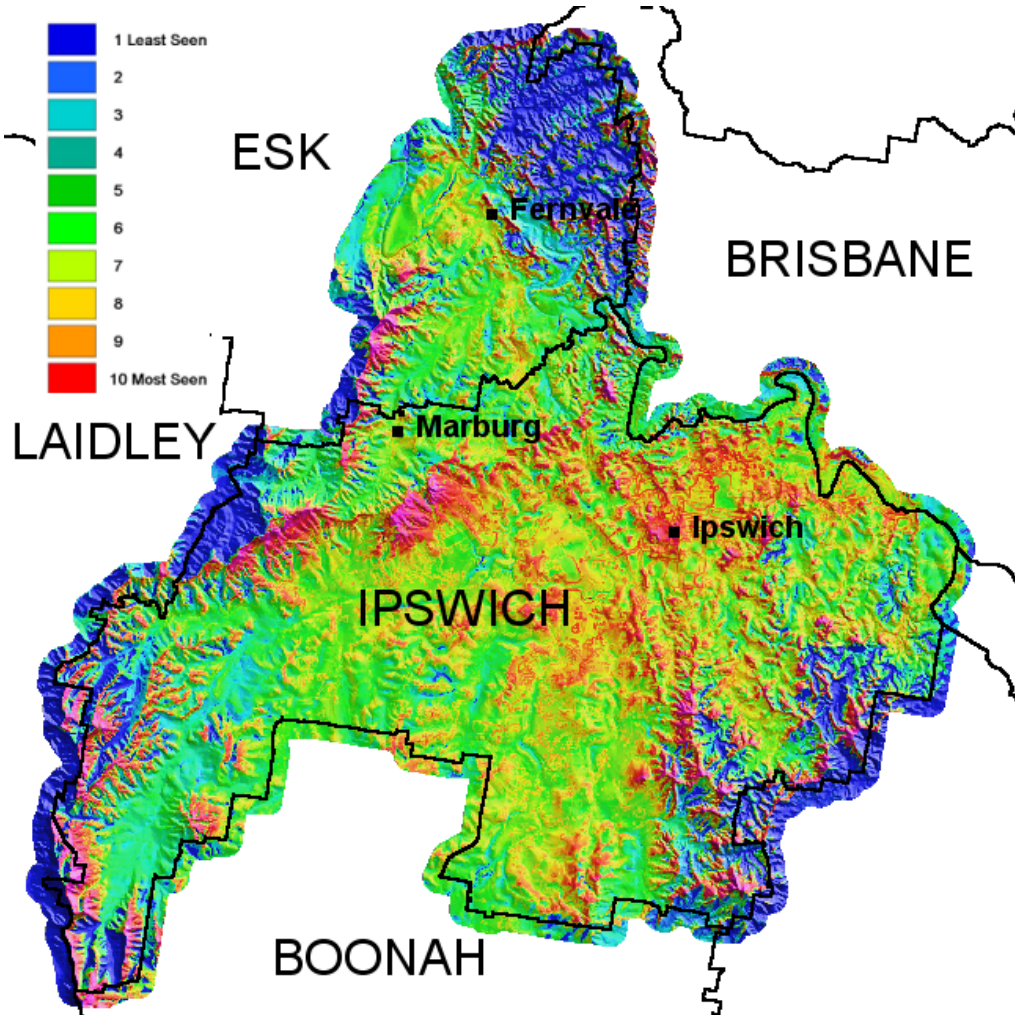
The scenic amenity methodology has been applied in five local studies since 2001. These studies are:

- *Visual Exposure of Landscapes in the Bremer River Catchment and the Middle Brisbane River Catchment* (including Ipswich City Council and south-eastern Esk Shire), Ipswich City Council (2002)
- *Scenic Amenity of the Lockyer*, Gatton Shire Council (2002)
- *Caboolture Shire Scenic Amenity Study*, Caboolture Shire Council (2003)
- *Brisbane City Regional Scenic Amenity Study* (2005).
- *Maroochy Shire Canelands/CSIRO Scenic Amenity Study* (2006).

Visual exposure of the Bremer River and Middle Brisbane catchments

A map showing the visual exposure of landscapes in the Bremer River and Middle Brisbane River catchments was produced in 2002 for Ipswich City and the south-eastern parts of Esk Shire (**Figure 15**). This map has been used by the Ipswich City Council to inform strategies to protect open space areas through its planning scheme.

Figure 15. Visual exposure of the Bremer River and Middle Brisbane catchments

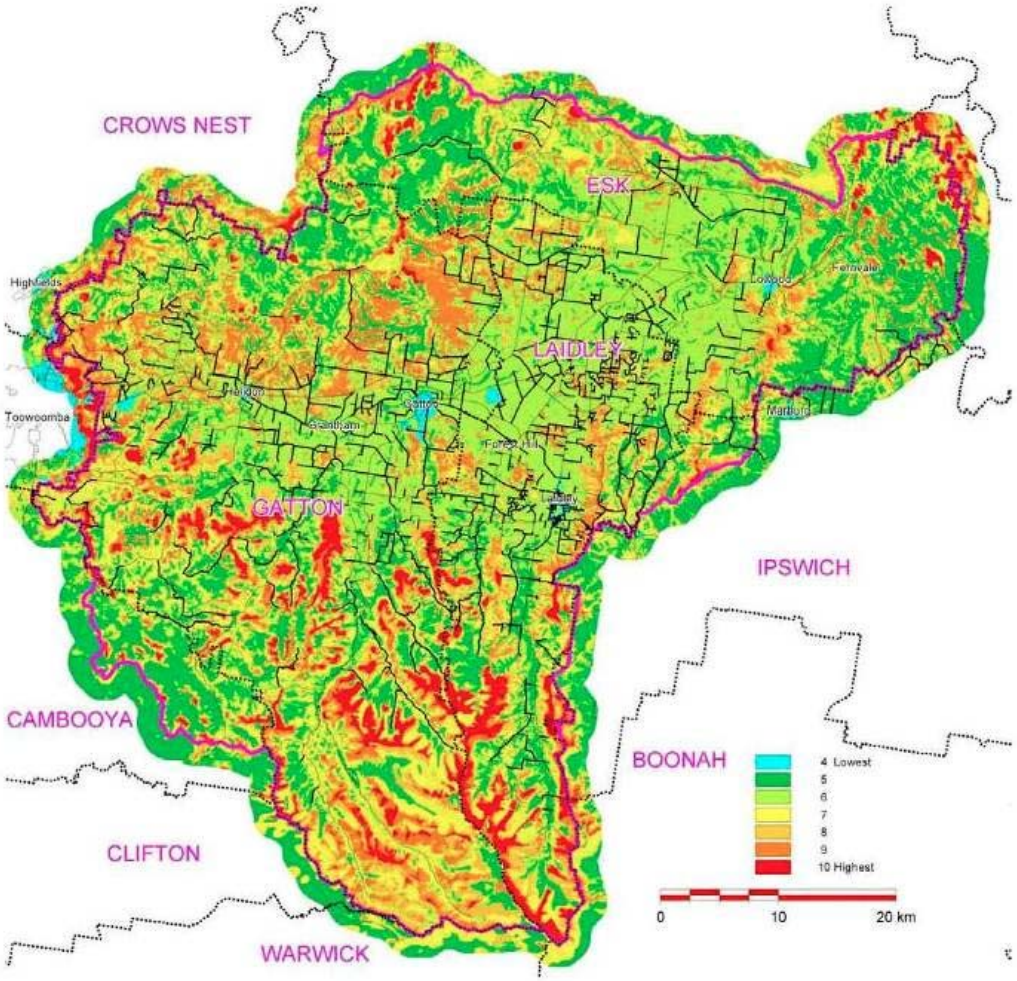


Lockyer Valley (Gatton Shire, Laidley Shire and Esk Shire)

A scenic amenity study of landscapes in the Lockyer Valley and parts of the Middle Brisbane River Catchment—covering Gatton Shire, Laidley Shire and parts of Esk Shire—was undertaken in 2003. The study included a public preference survey of residents and visitors to the area, and produced a series of maps, including a scenic preference map and scenic amenity map (**Figure 16**).

The study results have been used by the Esk Shire Council to develop and implement measures to protect the landscape and visual character of the shire, including the Brisbane River corridor, major hilltops such as Mount Stradbroke and sections of the D'Aguilar Range.

Figure 16. Scenic amenity of the Lockyer



Division 4 of Esk Shire Council's planning scheme states that acceptable solutions for development within areas identified as having state or regional scenic amenity significance (i.e. with ratings of 8, 9 or 10) must be compatible with the character and values of the areas. Options in the scheme for reducing impacts include:

- modification of the location, scale and intensity of development
- altering the colour of the development to make it less intrusive
- use of screening trees and vegetation
- choice of appropriate architectural style.

Caboolture Shire

A scenic amenity study was conducted in 2003 by the Caboolture Shire Council as part of the SEQ Regional Landscape Strategy, administered by the Environmental Protection Agency. The study included a public preference survey of residents and visitors to the shire and produced a scenic preference map, visual exposure map and scenic amenity map (**Figure 17)**.

The scenic preference scores for different landscape elements were derived from surveys of 253 people who assessed 106 different photos (see **Table 6**).

Caboolture Shire Council has used mapping and information from the scenic amenity study to develop planning policies and a thematic overlay code to limit built development in scenic parts of the Shire. This has influenced the height, setback, visual bulk, material and colours of buildings and infrastructure.

The Caboolture Shire Plan stipulates the maximum proportion of a view in which built development is evident, as assessed from two agreed viewpoints on an adjoining road and a third popular viewpoint. As seen in **Table 7**—an extract from the regulatory tables in the Caboolture Shire Plan—areas with a scenic amenity rating of 10 and a scenic preference score of 10 are allowed zero per cent evident built development, whereas areas with a scenic amenity rating of 5 and a scenic preference score of 5 are allowed up to 30 per cent evident built development from agreed viewpoints.

Table 6. Scenic preference scores from the Caboolture Shire Scenic Amenity Study

	Topographic steepness		
Land cover	**Flat and low slope**	**Moderate slope**	**Steep slope**
Sandy beach	9		
Rivers, creeks, dams	8		
Ocean	8		
Eucalypt forest		7	8
Native plantations		7	8
Mangrove forest	7		
Melaleuca forest	7		
Sedgelands	7		
Open parkland	7		
Muddy beach	7		
Grasslands		6	7
Pine forest	6		
Crops	5		
Industrial farming	5		
Parkland with buildings	5		
Rural–residential	5		
Residential housing	4		
Major roads	3		
Major railway	3		
Electricity corridor	3		
Industrial or commercial	2		
Earthworks	1		

Figure 17. Scenic amenity of Caboolture Shire

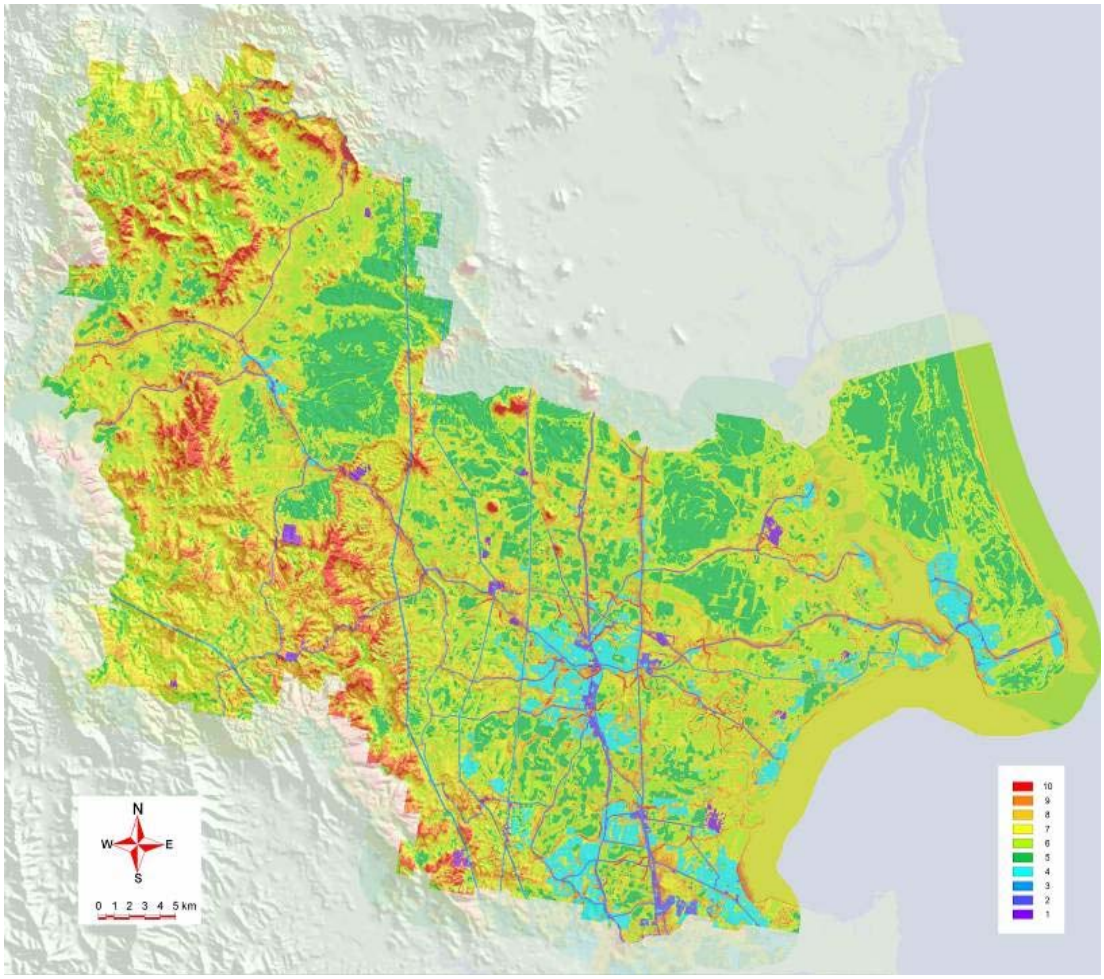


Table 7. Maximum evident built development in seen landscape areas

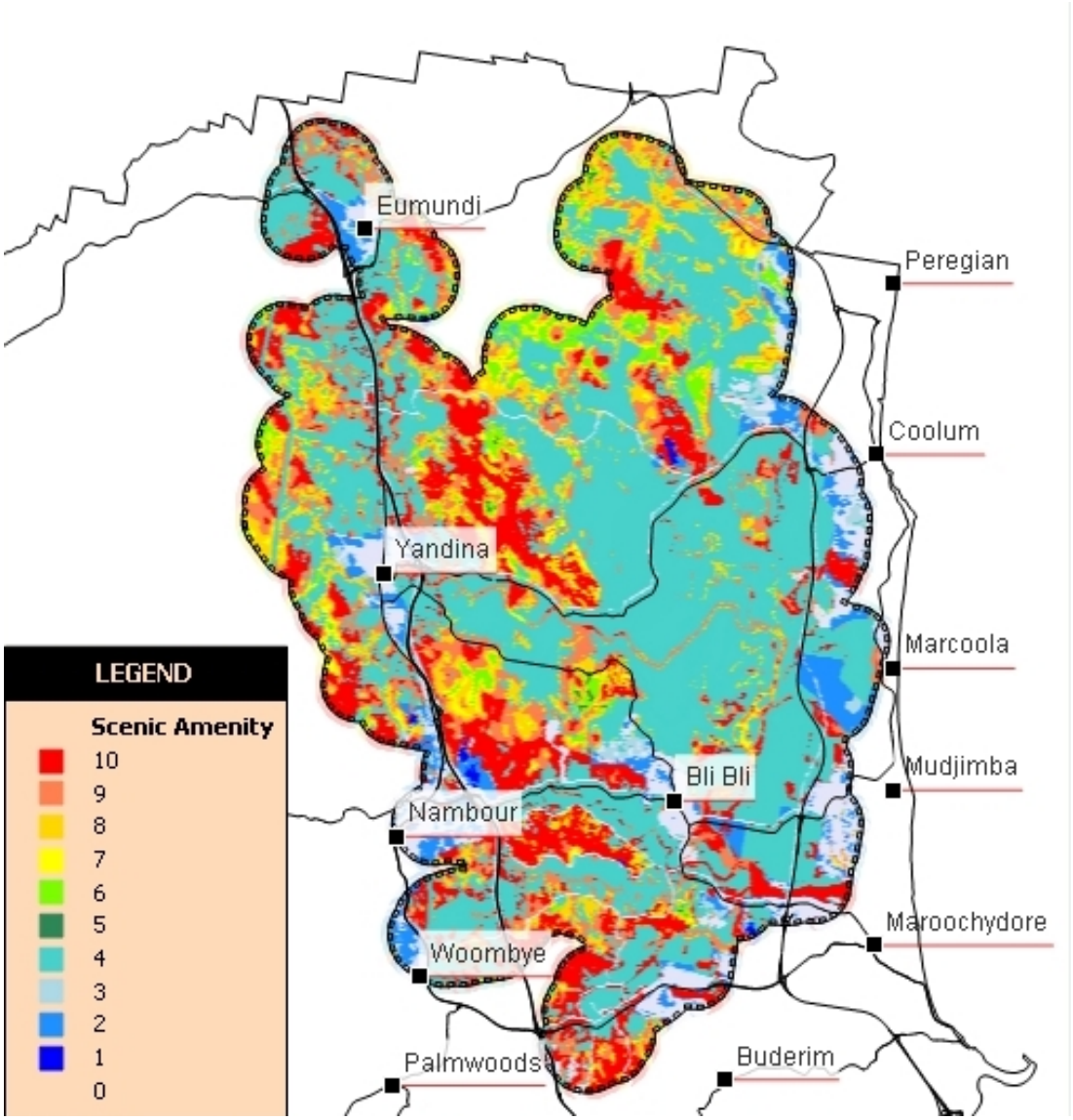
Scenic amenity	Scenic preference score	Maximum percentage of view occupied by evident development
10	10	0%
	9	5%
	8	10%
9	10	0%
	9	5%
	8	10%
	7	15%
8	10	0%
	9	5%
	8	10%
	7	15%
	6	20%
7	9	10%
	8	15%
	7	20%
	6	30%
6	8	15%
	7	20%
	6	30%
	5	30%
5	7	20%
	6	30%
	5	30%

Maroochy Shire Canelands/CSIRO Scenic Amenity Study

The results of the SEQ 2004 Public Preference Survey were also used by the CSIRO's Division of Sustainable Ecosystems to undertake a scenic amenity study of canelands in Maroochy Shire (Preston, 2005).

The study resulted in the production of a scenic amenity map (**Figure 18**) and guidelines for future management of the area to mitigate further visual impacts. The study is part of a larger study into the ecosystem services of the canelands.

Figure 18. Regional scenic amenity of canelands in Maroochy Shire



Brisbane City Council

In 2005 the Brisbane City Council undertook a city-wide assessment of scenic amenity. The assessment, which built on a 2003 study of visual exposure and the results of the SEQ 2004 Public Preference Survey, resulted in the production of a regional scenic preference map and a regional scenic amenity map for Brisbane (**Figure 19**).

This map highlights the high scenic amenity values of Moreton Bay and its islands, the Brisbane River, and the hills and foothills of Mt Coot-tha and other bushland areas in Brisbane.

A proposal to protect high scenic amenity areas (i.e. with ratings of 9 or 10) is currently under consideration by the council.

Figure 19. Regional scenic amenity of landscapes in Brisbane City