

Take me to the River

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Project Manager
2014 Update of the SEQ Natural Resource
Management Plan (2009-2031)



Natural Assets are important for community wellbeing and economic prosperity.

Natural assets are provided by the natural environment and can include:

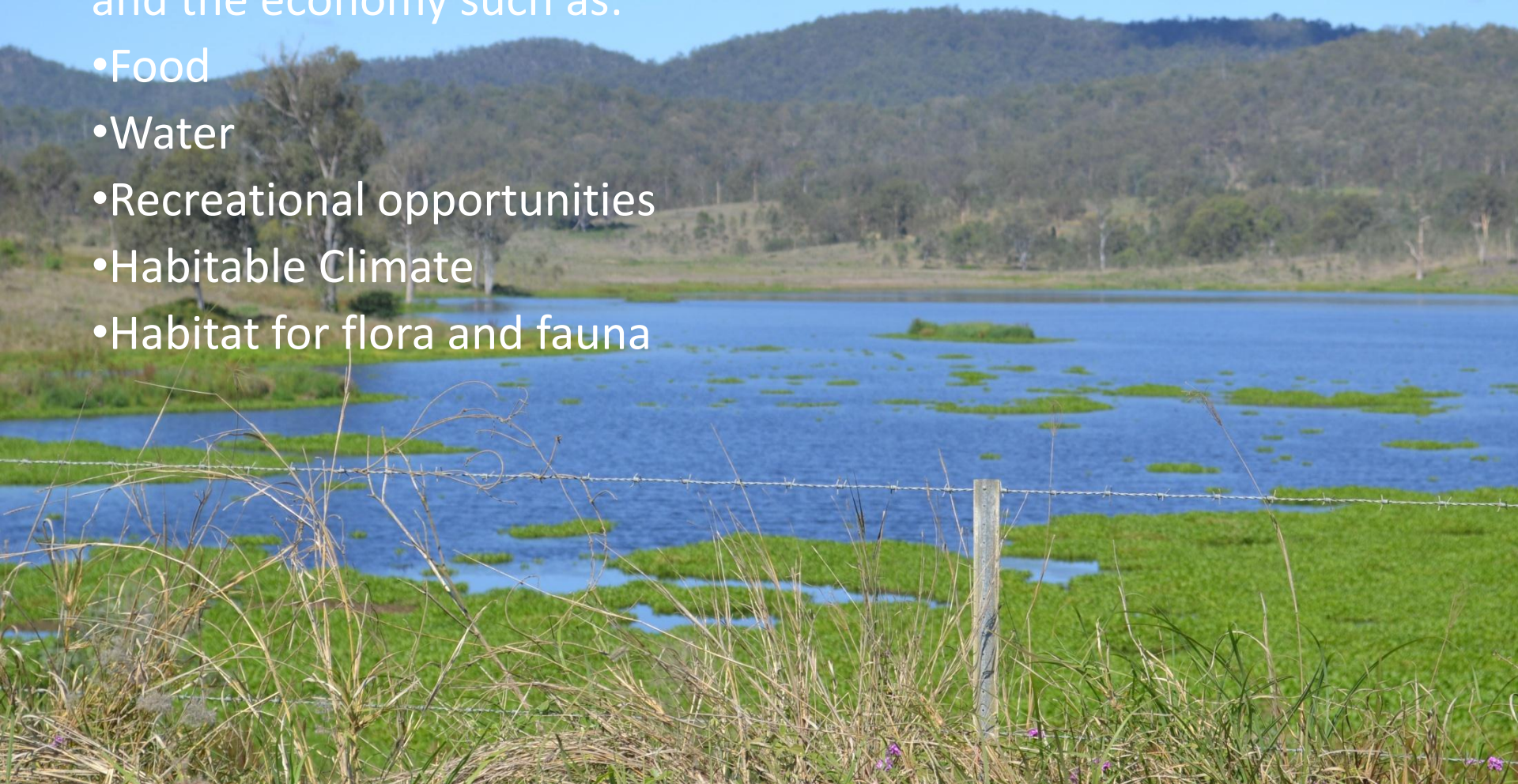
- rivers, creeks and wetlands
- farmland
- islands, reefs and the ocean
- bushland, forests and other wild places
- beaches
- native animals and plants
- sand, gravel and timber
- clean air and good climate.

Other important assets are our people and heritage, both Indigenous and other, which are important factors in creating a community that works together.

Natural Assets are important for community wellbeing and economic prosperity.

Natural Assets provide benefits or services important for community wellbeing and the economy such as:

- Food
- Water
- Recreational opportunities
- Habitable Climate
- Habitat for flora and fauna





Ipswich Community Plan

i2031



www.ipswich.qld.gov.au

www.ipswichfuture.qld.gov.au

Community Visions

IPSWICH:

A thriving region of opportunity where our communities enjoy a vibrant lifestyle.

*A region with **safe, strong and inclusive communities***

SCENIC RIM:

A Region of:

- **Scenic views and natural environment**
- **Friendly, caring and connected communities**
- **Country heritage and rural lifestyle**
- **Vibrant, creative, productive and diverse communities**

SOMERSET:

*The **natural environment and rural lifestyle** are valued and protected
Integrated and welcoming, with something for everyone*

*We embrace **economic opportunities***

Planning and design look to the future while respecting the past

*An active place which **values participation***

Important services we need from Natural Assets to achieve these Visions:

IPSWICH:

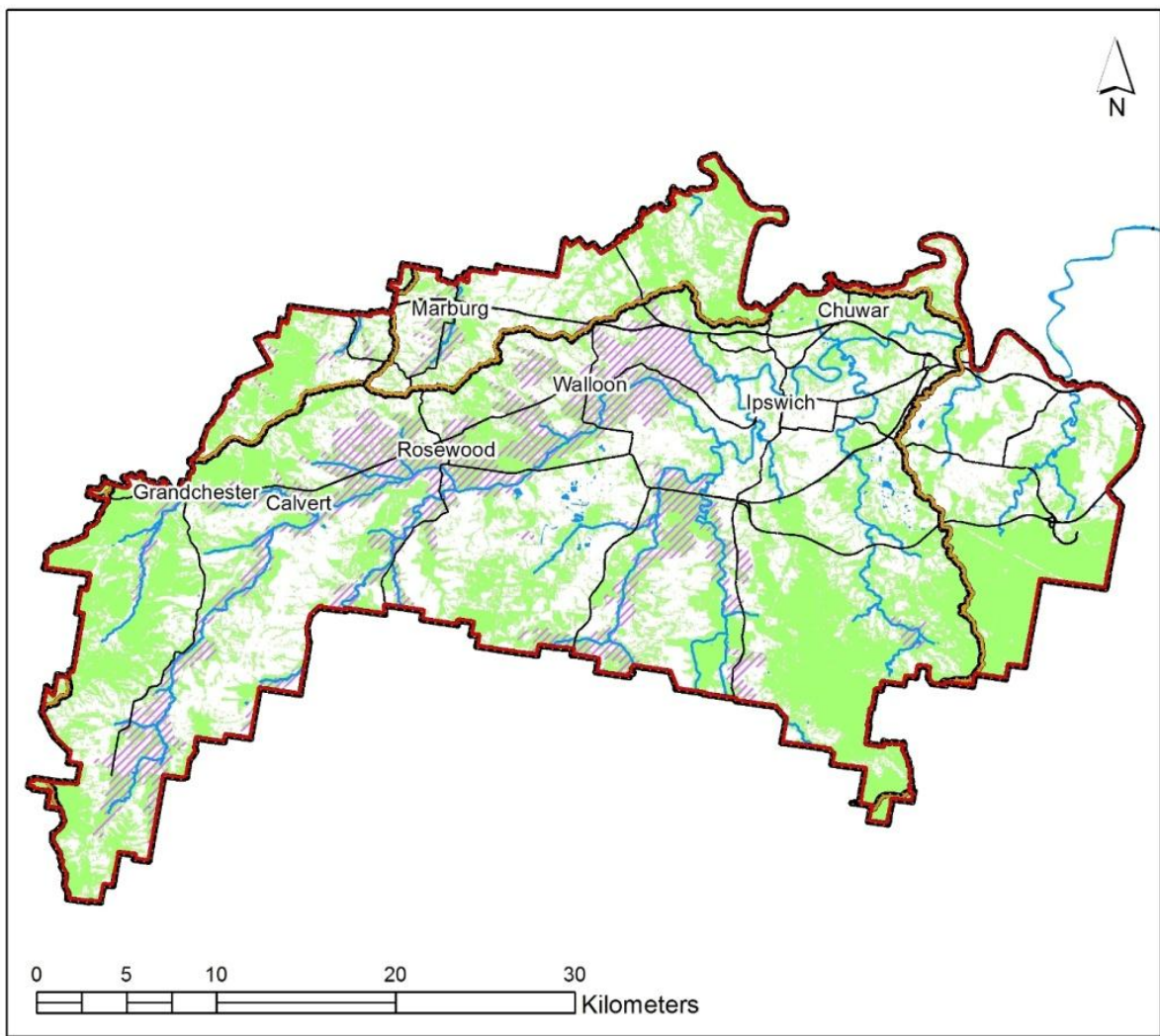
Habitable Climate
Knowledge Systems
Water Quality
Recreational Opportunities
Reduced Pests and Disease
Arable Land
Therapeutic Landscapes
Transport Infrastructure

SOMERSET:

Transport Infrastructure
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Water Quality
Arable Land
Buffering against Extremes

SCENIC RIM:

Habitable Climate
Knowledge Systems
Recreational Opportunities
Transport Infrastructure
Buffering Against Extremes
Reduced Pests and Disease
Therapeutic Landscapes
Aesthetic Values
Arable Land
Food Products
Inspiration
Noise Abatement
Sense of Place



- Local Government Boundaries
- Catchment Boundaries
- Major Roads
- Major Waterways
- Water Bodies
- A and B Class Agricultural Land (Policy)
- Highly Valued Natural Assets (based on Community Preferences)

Services needed to achieve the Vision for Ipswich Mid Brisbane Scenic Rim

Habitable Climate – Lifestyle - Climate Regulation



Key NRM Plan Targets:

NC 1 – Bushland

NC3 - Wetlands

W6 - Waterways

A habitable climate provides:

- water and heat to maintain life
- food for animals and humans and
- promotes community cohesion and mental and physical health.

Even a modest decline in outdoor recreation participation rates by SEQ residents of 2% :

\$200 million decline in expenditure
(Managing What Matters)

*Services needed to achieve the
Vision for Ipswich Mid Brisbane Scenic Rim*

Knowledge Systems – Education and Innovation

Education and training:
\$ 319M per annum (ABS 2011)



Key NRM Plan Targets:

- NC1 - Bushland
- W6 - Waterways
- L2 - Farmland

Services needed to achieve the Vision for Ipswich Mid Brisbane Scenic Rim

Water Quality



Natural Assets contribute to the purification of water that provides good water quality:

- Every \$1 invested in catchment management saves between \$7.50 and \$200 in costs for new water treatment plants
- Removing one kg of nitrogen through conventional STP - \$242
- Removing one kg of nitrogen through riparian restoration - \$14.50

Key NRM Plan Targets:

L2- Farmland

NC1- Bushland

NC3 – Wetlands

W6 - Waterways

Services needed to achieve the Vision for the Ipswich Mid Brisbane Scenic Rim

Recreation – Tourism - Landscape Settings - Greenspace

Accommodation and food services
employment \$73.7M per annum (ABS 2011)

A loss of natural assets could result in:

- \$8 billion reduction in turnover in SEQ
tourism to 2031 (Managing What Matters)

Even a modest decline in outdoor recreation
participation rates by SEQ residents of 2% :

- \$200 million decline in expenditure.
(Managing What Matters)



Key NRM Plan Targets:

L1- Farmland

NC 1 - Bushland

RLA – Outdoor Recreation Areas

W6 – Waterways

*Services needed to achieve the
Vision for Ipswich Mid Brisbane Scenic Rim*

Reduce Pests and Disease - Biological Control



Integrated Pest Management :

The role of landscapes and non crop habitat, windbreaks etc. that shield crops etc. from disease spores - contributes to a more pest and disease resistant landscape.

Key NRM Plan Targets:

NC 1 – Bushland

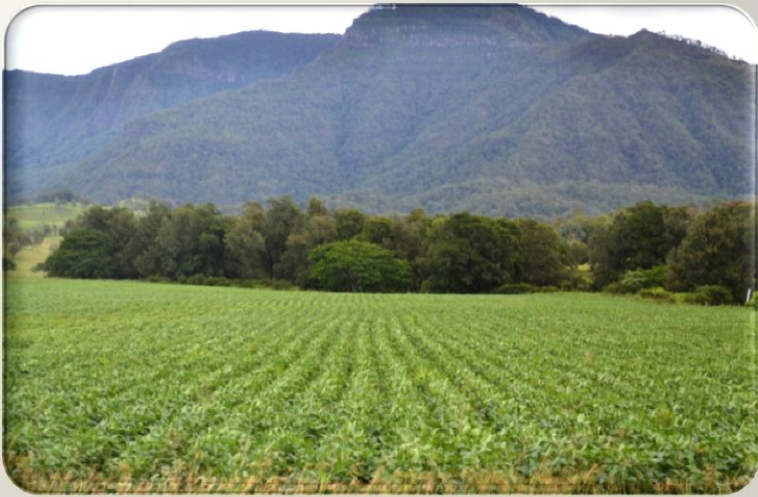
L2 - Farmland

NC3 - Wetlands

W6 - Waterways

Services needed to achieve the Vision for Ipswich Mid Brisbane Scenic Rim

Arable Land - Productive Soils - Food Products



Agriculture, fisheries and forestry:
\$43.7 M per annum (ABS 2011)

\$1.2 billion primary production industry will suffer productivity and profitability risk from declining resource condition (Managing What Matters)

Soil health and biodiversity and the role it plays in food production and carbon storage.

Key NRM Plan Target:

- L2 Farmland

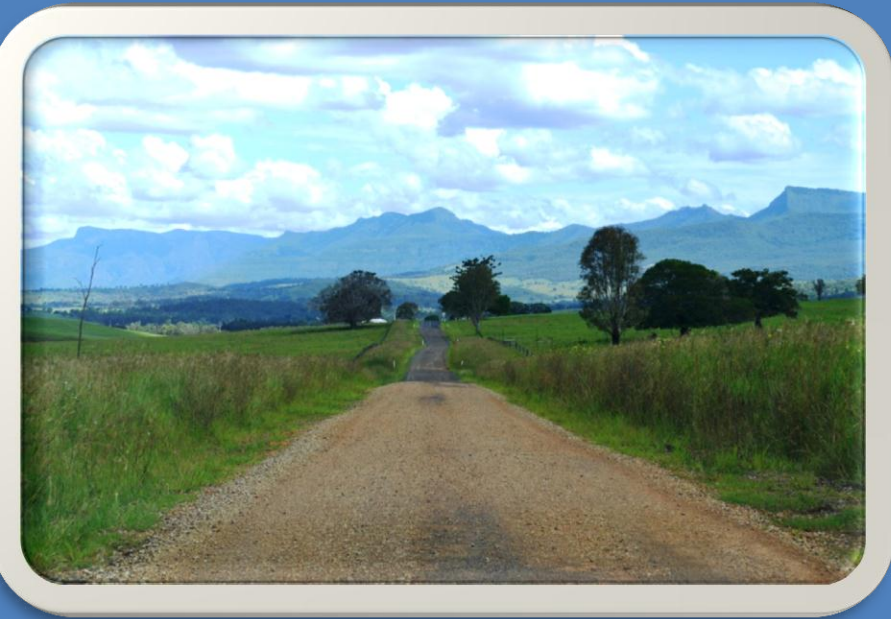
Indicators:

- L1 Salinity
- L6 - Soil Erosion
- L3 - Soil Acidity
- L4 - Soil Organic Matter
- L5 - Acid Sulfate Soils
- L7 - Grazing Land

*Services needed to achieve the
Vision for Ipswich Mid Brisbane Scenic Rim*

Aesthetic Values - Therapeutic Landscapes - Scenic Amenity

It has been estimated that maintaining these areas will save at a minimum **\$10 million in health costs for SEQ** (to 2031)
(Managing What Matters)



Key NRM Plan Targets:

L1 - Farmland

NC1 – Bushland

NC3 - Wetlands

W6 - Waterways

*Services needed to achieve the
Vision for Ipswich Mid Brisbane Scenic Rim*

Transport Infrastructure - Waterways



Annual total expenditure by SEQ resident anglers is approximately \$194.2 million.

(Managing What Matters)

An estimated 475,000 people in SEQ participate in recreational fishing each year (a participation rate of 22.6%).

(Managing What Matters)

Port of Brisbane -
spend \$30 million annually on dredging to keep shipping lanes open.

(Cost does not include disposal)

Key NRM Plan Targets:
W6 - Waterways

Services needed to achieve the Vision for Ipswich Mid Brisbane Scenic Rim

Buffering against Extremes - Disturbance Regulation



Key NRM Plan Targets:

L1 - Farmland

NC1 – Bushland

W6 – Waterways

NC3 – Wetlands

Cyclone Tracy:

Newer suburbs suffered more damage—attributed to protection by mature vegetation in older suburbs (Cameron et al (1983) Cyclone Tracy, Darwin).

Floodplains can provide a cost-effective alternative or supplement to structural mitigation approaches with additional ecosystem service and ecological benefits
Healthy Waters, Department of Environment and Heritage Protection

Natural flood storage would reduce peak discharge by 64 per cent. Estimated net social benefit value at US\$500 million (Hey et al (2009)- USA)

Qld Government State Interests

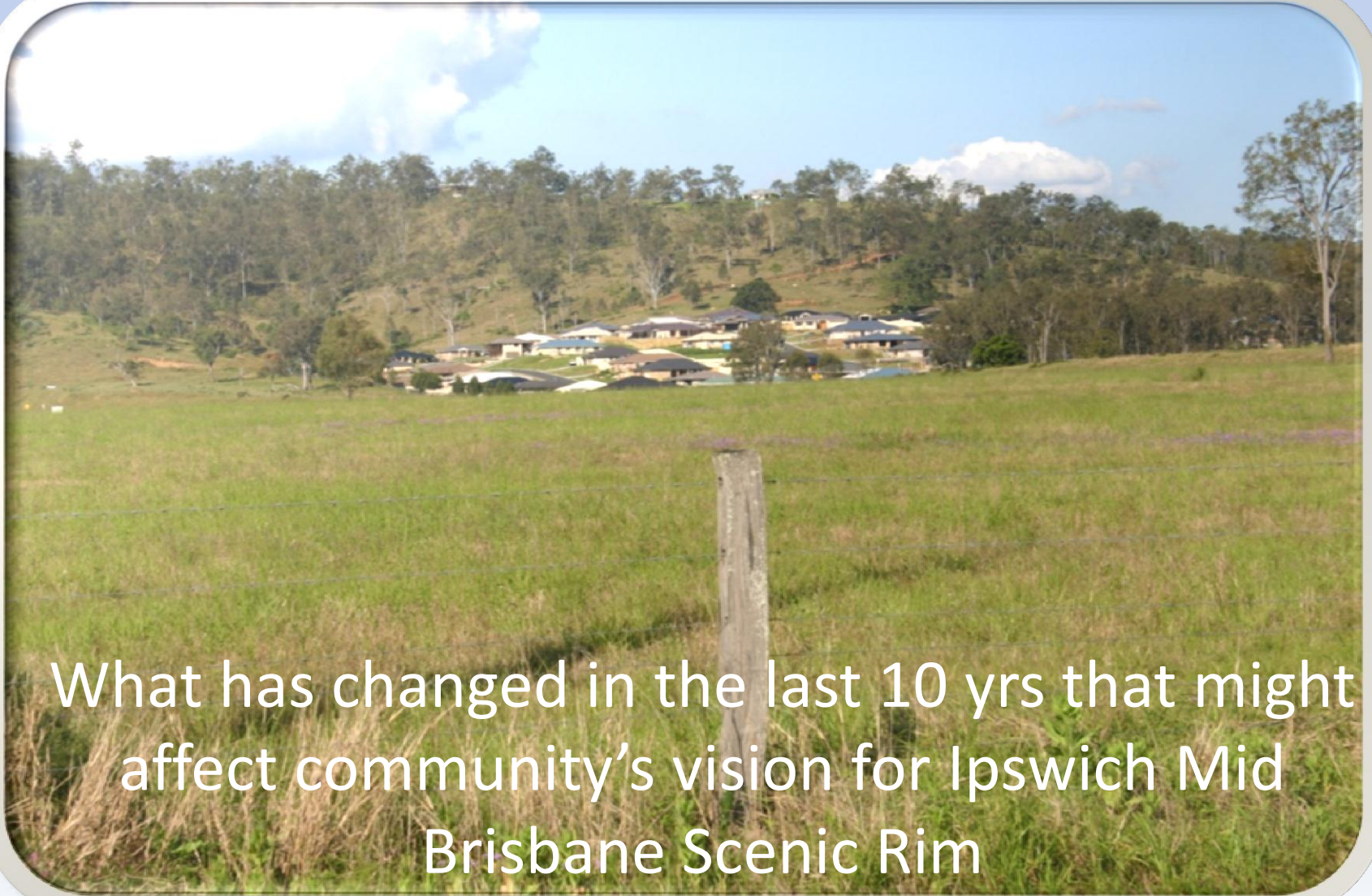


Ipswich and West Moreton RDA

5 Priority Areas

1. Encourage a Shift in the Region's Employment Profile Towards more Professional and Technical Jobs Employing People with a Higher Level of Qualifications and Skills
2. Support industries and services for growth in Defence and Aeronautical Industry
3. Enhance food and agricultural productivity in the Region
4. Value the Region's Ecosystem Services
5. Enhance the regional community's social development opportunities





What has changed in the last 10 yrs that might
affect community's vision for Ipswich Mid
Brisbane Scenic Rim

Loss of Bushland

SEQ Region: Loss between 2001-2010: 14,626 ha

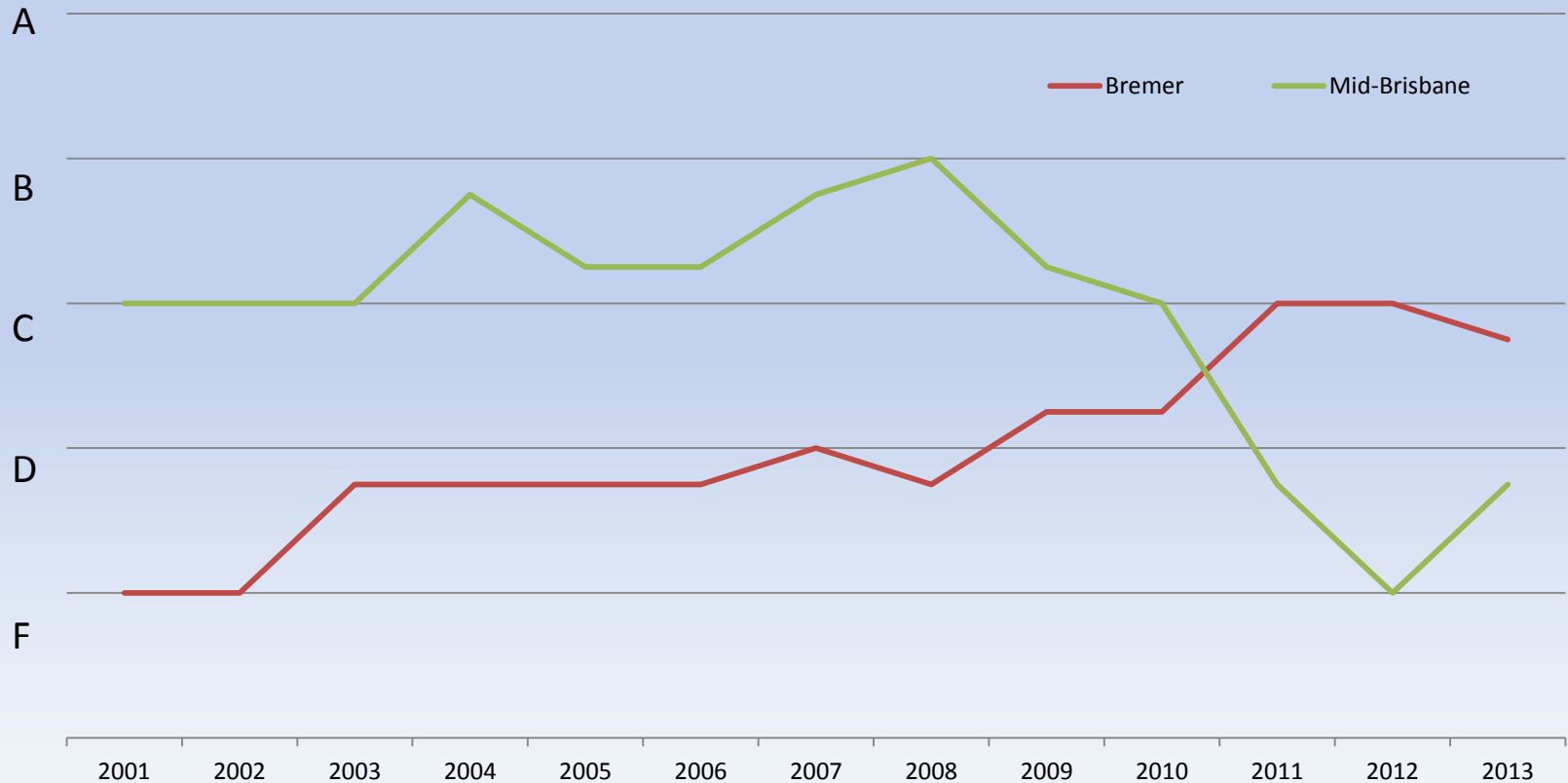
Ipswich:

- Change in Remnant Vegetation (Bushland) - loss of 1,893 ha leaving 21.4% of LGA – target is minimum 23.1% by 2031 or 3.1% of bushland in SEQ Region.
- Change in Woody Vegetation - loss of 2,033ha (2001-2010)

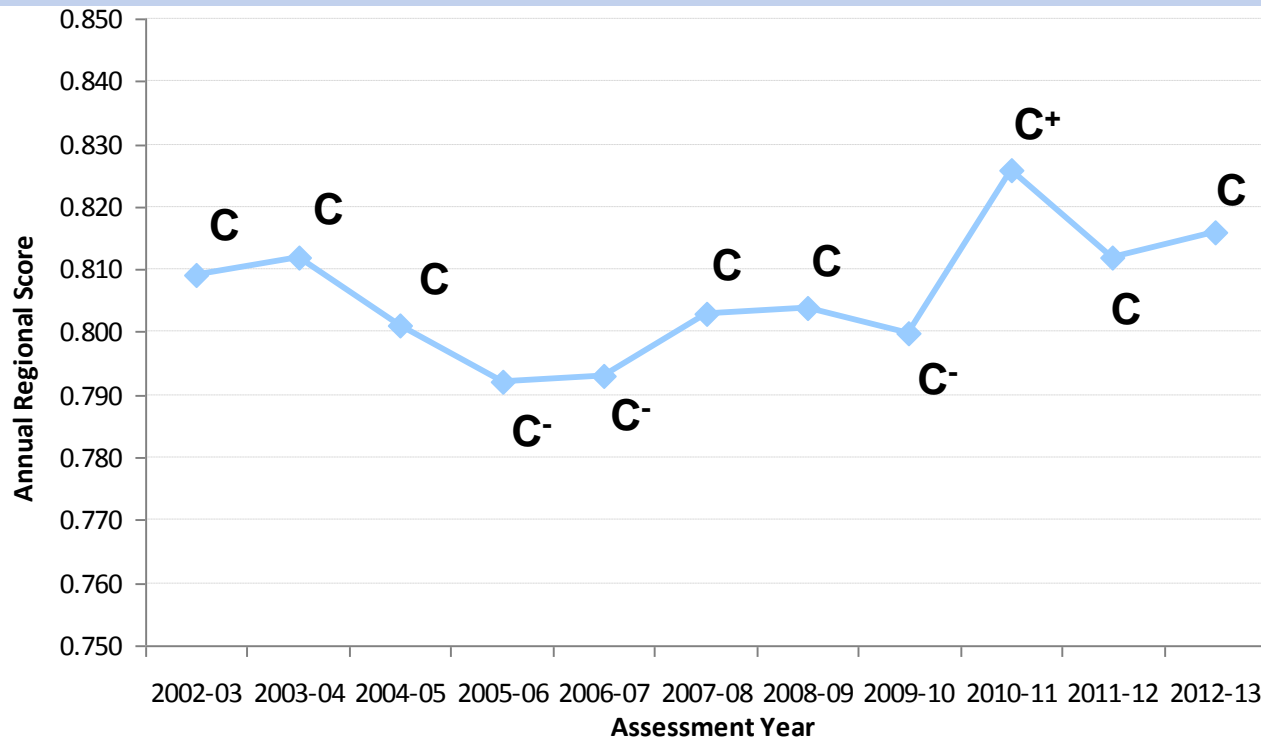
Regional targets for Bushland in Ipswich by 2031 (percentage cover as at 2001):

- Remnant vegetation 23.1%
- Non remnant woody 22%

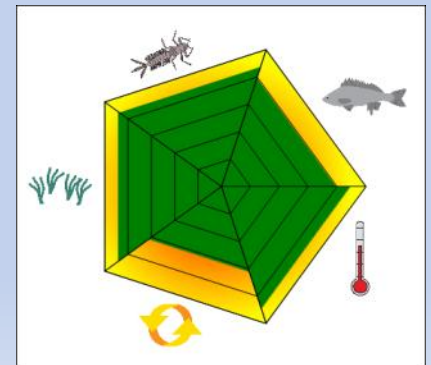
Healthy Waterways Report Card trends in water quality across the region since 2002.



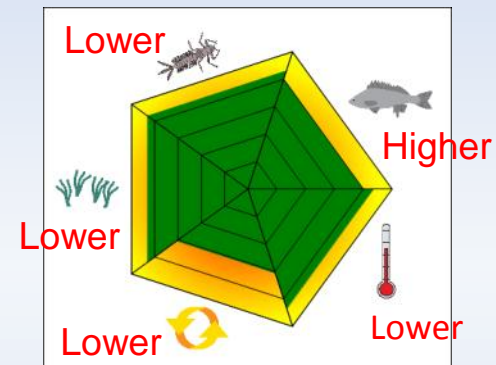
Annual SEQ Regional Score - Freshwater



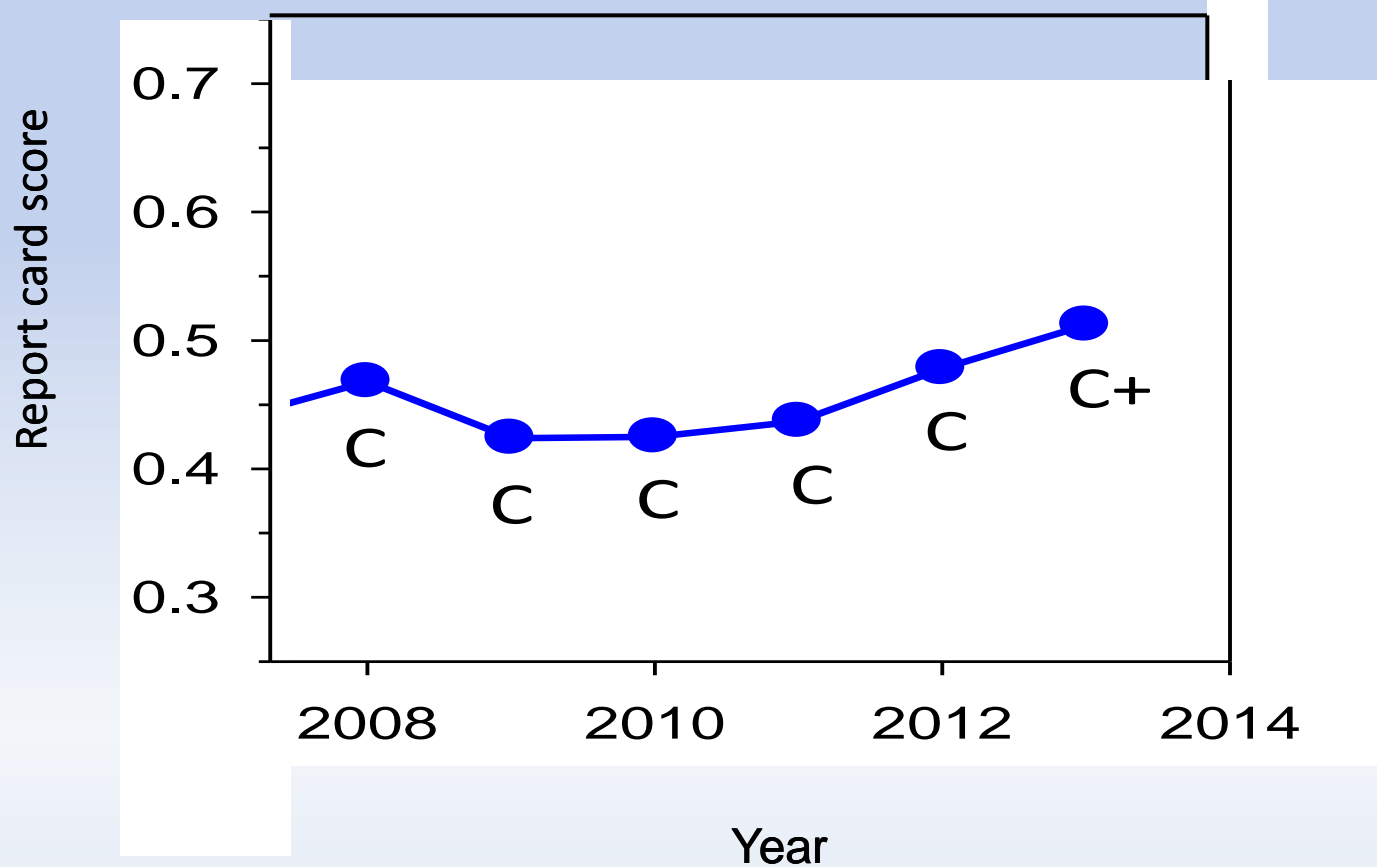
Annual 2012



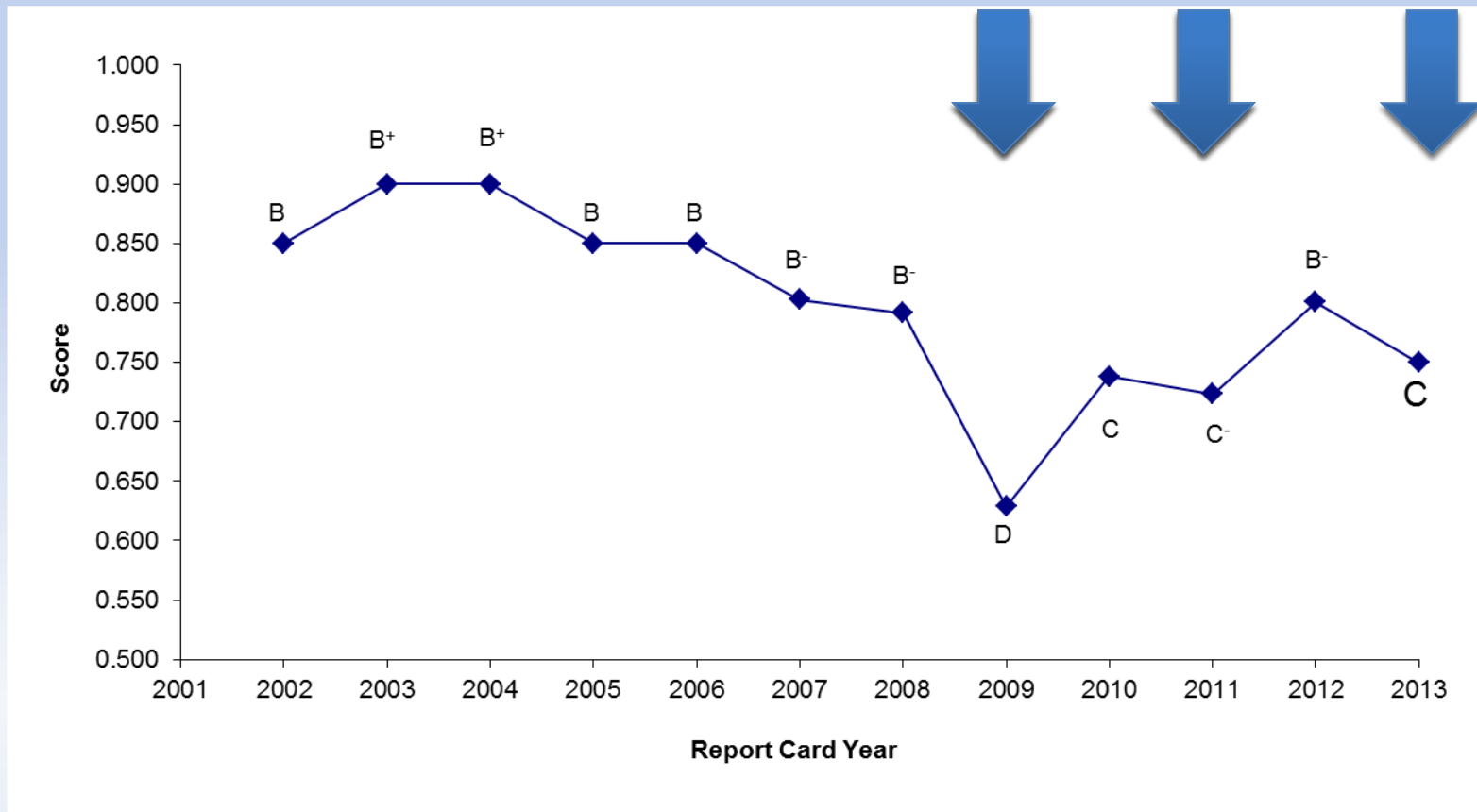
Annual 2013



Annual SEQ Regional Score – Estuaries



Annual Score – Moreton Bay



What happened?

Extreme events – drought followed by floods in 2011, 2013



2011 – Some Issues

Approximately 7 rainfall events leading up to the 10th January, 2011

Eyewitness accounts and landholder rainfall data estimated that 50mm of rain fell in 30 minutes during many of these events.

Rainfall on the 10th January 2011 was in excess of 115mm over a day.

- Significant and lengthy erosion of stream banks
- Large riparian vegetation destroyed.
- Bank slumping
- Gully erosion
- Fencing and infrastructure loss (i.e. pumps)
- Levee breaches
- Infrastructure damage – i.e. culverts washed away.

2013 – Some Issues



Areas around Cunningham's Gap and Mt Castle reportedly experienced falls of up to 1200mm (30inches) resulting in a noticeable series of steep long slumps down the side of the Main Range National Park.

In the mid-Warrill (near Harrisville) landholders measured about 200mm (8 inches).



2013 – Some Issues

- Severe damage to cultivated paddocks and stream banks
- River changed course /badly eroded adjacent cultivation
- Riparian area adjacent to farms badly eroded
- Levee bank breeched major loss of fencing
- Damage to cultivation, fencing , stock and farm crossings
- Damage to spillways and fencing damaged
- Rosevale wetlands project withstood flows well

2013 – Some Issues

Rainfall in the mid-Brisbane catchment averaged between 200 to 300mm over a 3 day period.

The resilience of the mid-Brisbane catchment tested by peak flows from major tributaries such as the Lockyer, Black Snake, Pryde and Englands Creeks.

- Bank slumping in the mid-Brisbane
- Severe scouring is also evident at numerous sites along the river.



Ipswich City Council

**Waterway Health Strategy
(WHS) 2009**

Ipswich, Somerset and Scenic Rim are planning for a Total Water Cycle Management Plan (TWCM) which will provide a single reference point for all aspects of water management.

What might happen in the future?

Bushland (Remnant Vegetation):

14.8% remaining or a potential loss of 7,143ha

Target for Bushland in Ipswich Mid Brisbane Scenic Rim by 2031 (percentage cover in 2001):

Remnant vegetation 23.1%

Non remnant woody 22%

Positive – revegetation and action already occurring

Return period for extreme rainfall event in one day

(Source: SimCLIM Michael Dan 2014).

		2030	2050	2070
Gatton	Extreme rainfall in one day 220mm 29/1/2013	same	3X	6X
Gold Coast	279.5mm 29/01/2013	3x more likely	7X	10X

Note: Six major floods occurred in Brisbane between 1885 and 1910, followed by more than 60 years without a major flood

Return period for extreme temperature of 42 degrees

(Scenario sourced: SimCLIM Michael Dan 2014).

Return period for max temperature 42 degrees			
	2030	2050	2070
Gatton	3 x	6 x	6 x
Noosa	2 x	17 x	48 x
Gold Coast	2 x	8 x	20 x

Future water quality - Bremer

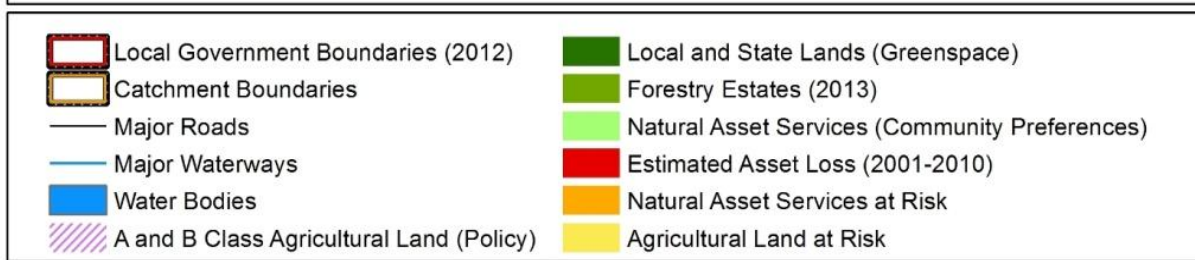
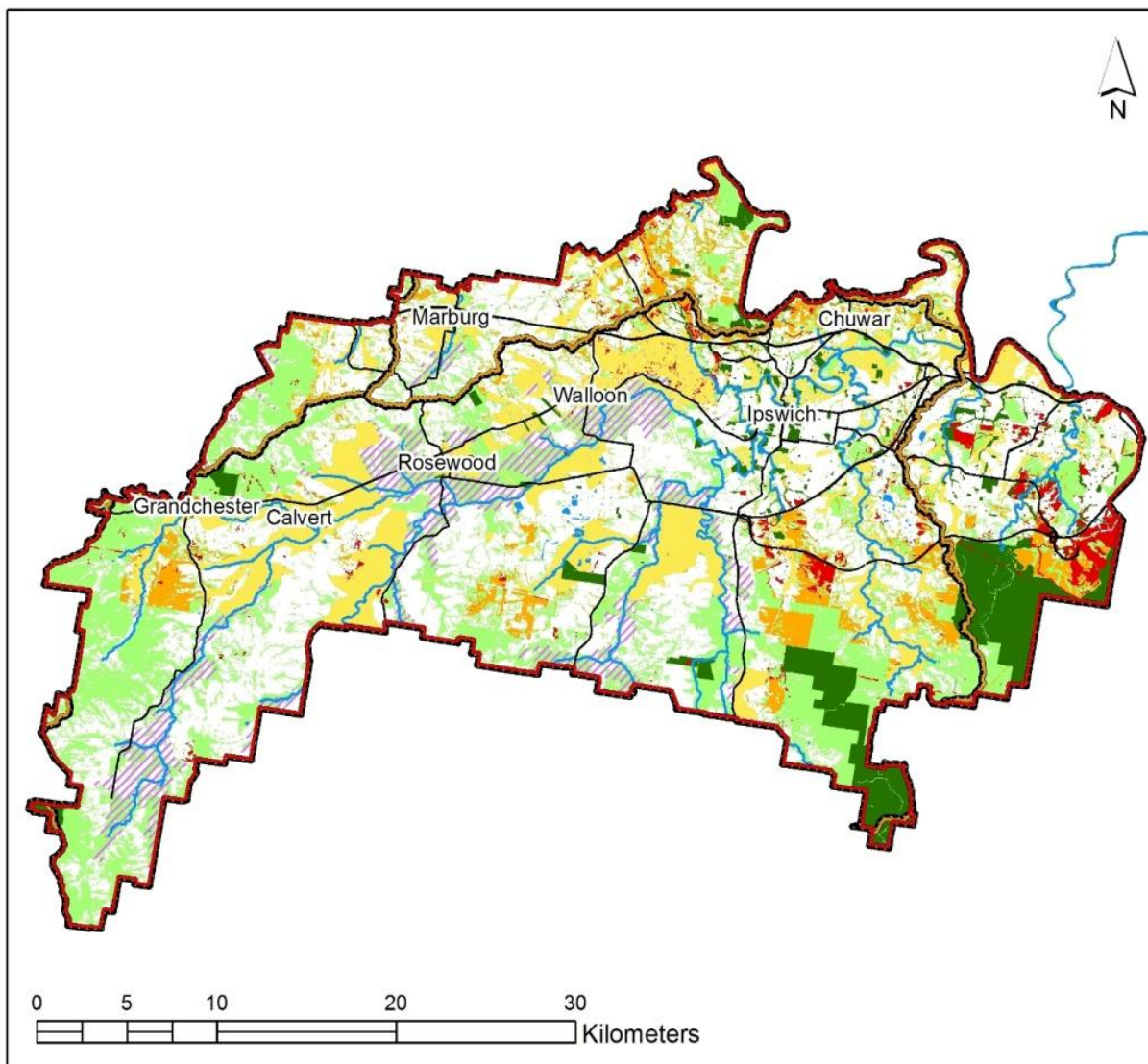
- If current management practices are not changed (business as usual), sediment loads are *predicted* to **increase from 26,000 t per year to 71,000 t per year** with nitrogen and phosphorus increasing slightly.
- sediment loads could be **reduced to 5000t per year** if there was maximum investment in catchment and Sewerage Treatment Plant (STP) upgrades.

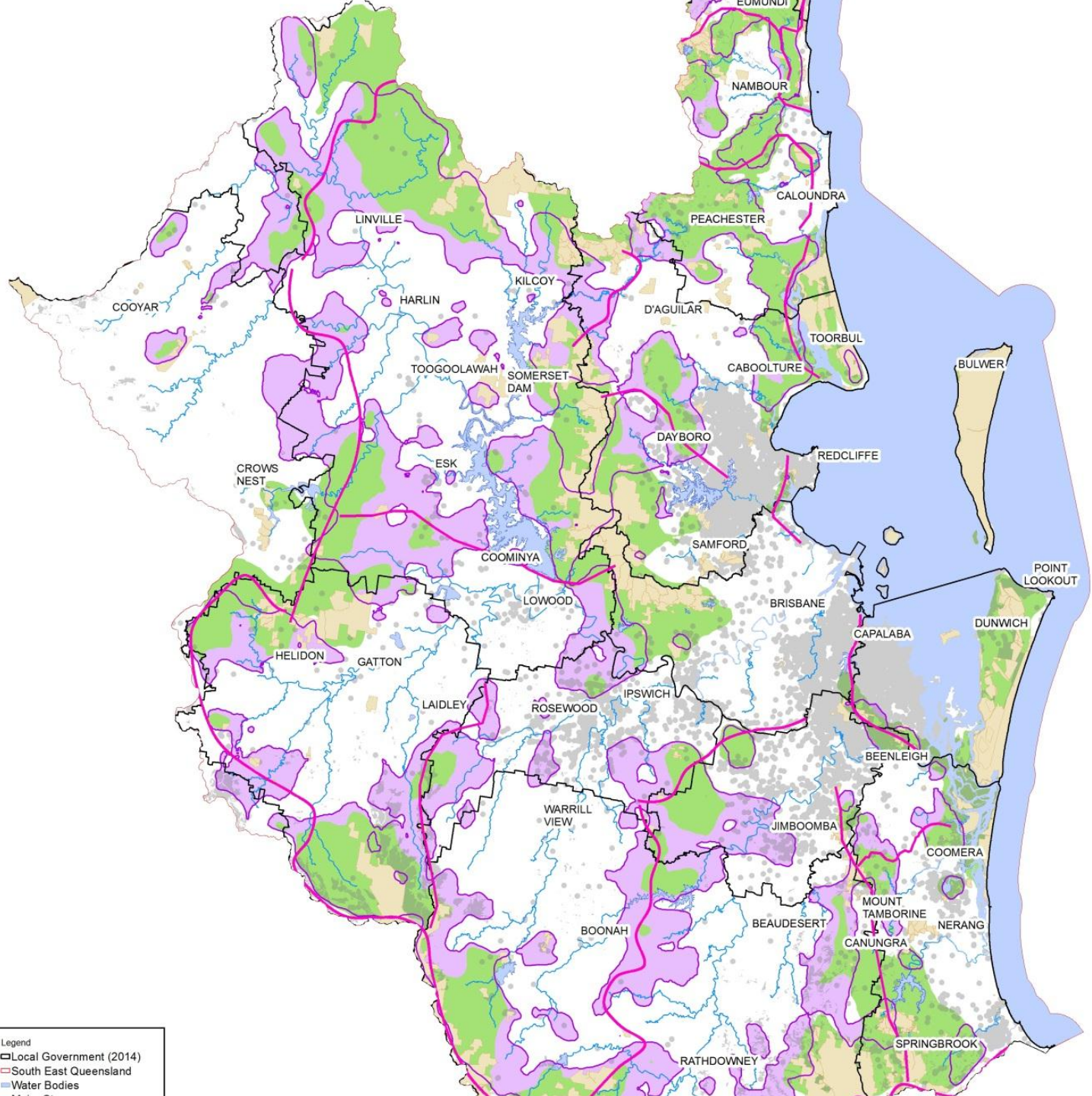
Healthy Waterways (2013) Choosing our future: Using decision support tools to inform investment in natural assets, Brisbane.

Future water quality - Mid Brisbane and Lockyer

- sediment loads **could increase from 12,000 t per year to 21,000 t per year** if current management remains the same.
- maximum investment in catchment and Sewerage Treatment Plant (STP) upgrades could **reduce sediment loads to 6,000 t per year.**

Healthy Waterways (2013) Choosing our future: Using decision support tools to inform investment in natural assets, Brisbane.





Legend
 □ Local Government (2014)
 ■ South East Queensland
 ■ Water Bodies

Where to from here?

- ICC Community Plan
www.ipswichfuture.qld.gov.au
- ICC Plans, Policies and Programs
- Community strategies and action
- SEQ Natural Resource Management Plan