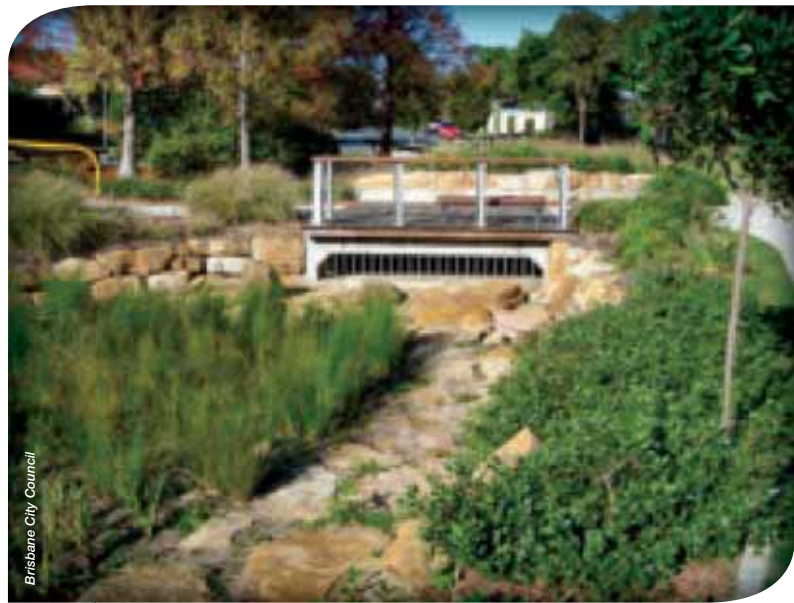
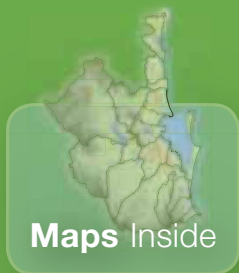




Gold Coast City Council



Brisbane City Council



Report Card²⁰¹⁰

for the waterways and catchments of South East Queensland



SEQ Catchments



Moreton Bay Regional Council / Unitywater

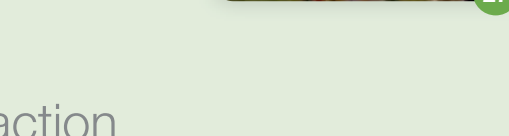


Working Together to improve waterways across South East Queensland

... a snapshot of activities in four of the priority management areas required to achieve SEQ Healthy Waterways Strategy targets.*

Investing in improving rural waterways

- 1 Stanley-Pumicestone Biodiversity Connectivity Project
- 2 Lockyer, Bremer and Knapp Creek Healthy Country investments
- 3 Wivenhoe, Somerset and North Pine Dams – catchment management activities
- 4 Maroochy River Estuary rehabilitation
- 5 Mt Cotton, Erapah Creek – catchment management activities
- 6 Rehabilitation of Spitfire Creek Wetlands, Moreton Island
- 7 Purga Creek Revegetation Project



- 21 Mt Kilcoy Fire Management Planning and Implementation Project
- 22 Water quality monitoring, Wivenhoe Dam
- 23 Community Partnership Program and Environmental Grants, Sunshine Coast
- 24 Community planting days to enhance riparian vegetation, Redlands
- 25 Catchment Kids, Brisbane
- 26 Voluntary Conservation Agreements with waterway corridor partners, Ipswich City
- 27 World Environment Day – Logan Eco Action Festival (LEAF)
- 28 Riparian and In-Stream Habitat Rehabilitation Project, Currumbin Creek

Increasing community understanding & action

Managing impacts on urban waterways

- 8 Sunshine Coast Litter Collective
- 9 Stormwater management and treatment by Incitec Pivot
- 10 Wetland Aeration Project, Coochiemudlo Island
- 11 Water health enhancement projects, Brisbane
- 12 Erosion and sediment control training across Ipswich City Council
- 13 Water Sensitive Urban Design (WSUD) Futures, Logan City
- 14 Southport Broadwater Parklands, Gold Coast



- 15 Pimpama Coomera Class A+ Recycled Water Scheme
- 16 Manure containment compounds on private properties, Redlands
- 17 Upgrade of Murrumba Downs Wastewater Treatment Plant
- 18 Goodna Water Reclamation Plant
- 19 The Gold Coast Seaway SmartRelease Project
- 20 Fairfield Water Reclamation Plant

Reducing point source discharges

* Additional information about these activities and many others can be found at www.health-e-waterways.org



Ecosystem Health Monitoring Program

The Ecosystem Health Monitoring Program (EHMP) is one of the most comprehensive marine, estuarine and freshwater monitoring programs in Australia. It delivers a regional assessment of the ambient ecosystem health for each of South East Queensland's (SEQ) 19 major catchments, 18 river estuaries and 9 zones in Moreton Bay.

The program is managed by the South East Queensland Healthy Waterways Partnership on behalf of our various partners and is delivered by a large team of experts from the Queensland Government, universities and CSIRO.

Grades – what do they mean?

For the past 10 years, the EHMP has produced an annual Ecosystem Health Report Card to highlight whether the health of our waterways is declining or improving. Ecosystem health parameters are assessed against guidelines resulting in a single grade for each freshwater, estuarine and marine system.

The 2010 Report Card presents an 'A' to 'F' health grade based on the analysis of data collected from 135 freshwater and 254 estuarine and marine sites (389 in total) in SEQ and Moreton Bay, for the period of July 2009 to June 2010.

- A Excellent:** Conditions meet all set ecosystem health values; all key processes are functional and all critical habitats are in near pristine condition.
- B Good:** Conditions meet all set ecosystem health values in most of the reporting region; most key processes are functional and most critical habitats are intact.
- C Fair:** Conditions meet some of the set ecosystem health values in most of the reporting region; some key processes are functional and some critical habitats are impacted.
- D Poor:** Conditions are unlikely to meet set ecosystem health values in most of the reporting region; many key processes are not functional and many critical habitats are impacted.
- F Fail:** Conditions do not meet set ecosystem health values; most key processes are not functional and most critical habitats are severely impacted.

Environmental Goals for South East Queensland's waterways

- Minimise excess sediment and nutrients entering waterways
- Minimise nuisance algal blooms and growth of aquatic weeds
- Protect fish and macroinvertebrates
- Protect and restore freshwater, estuarine and marine habitats including riparian (stream bank) vegetation, seagrass, mangrove and saltmarsh communities.

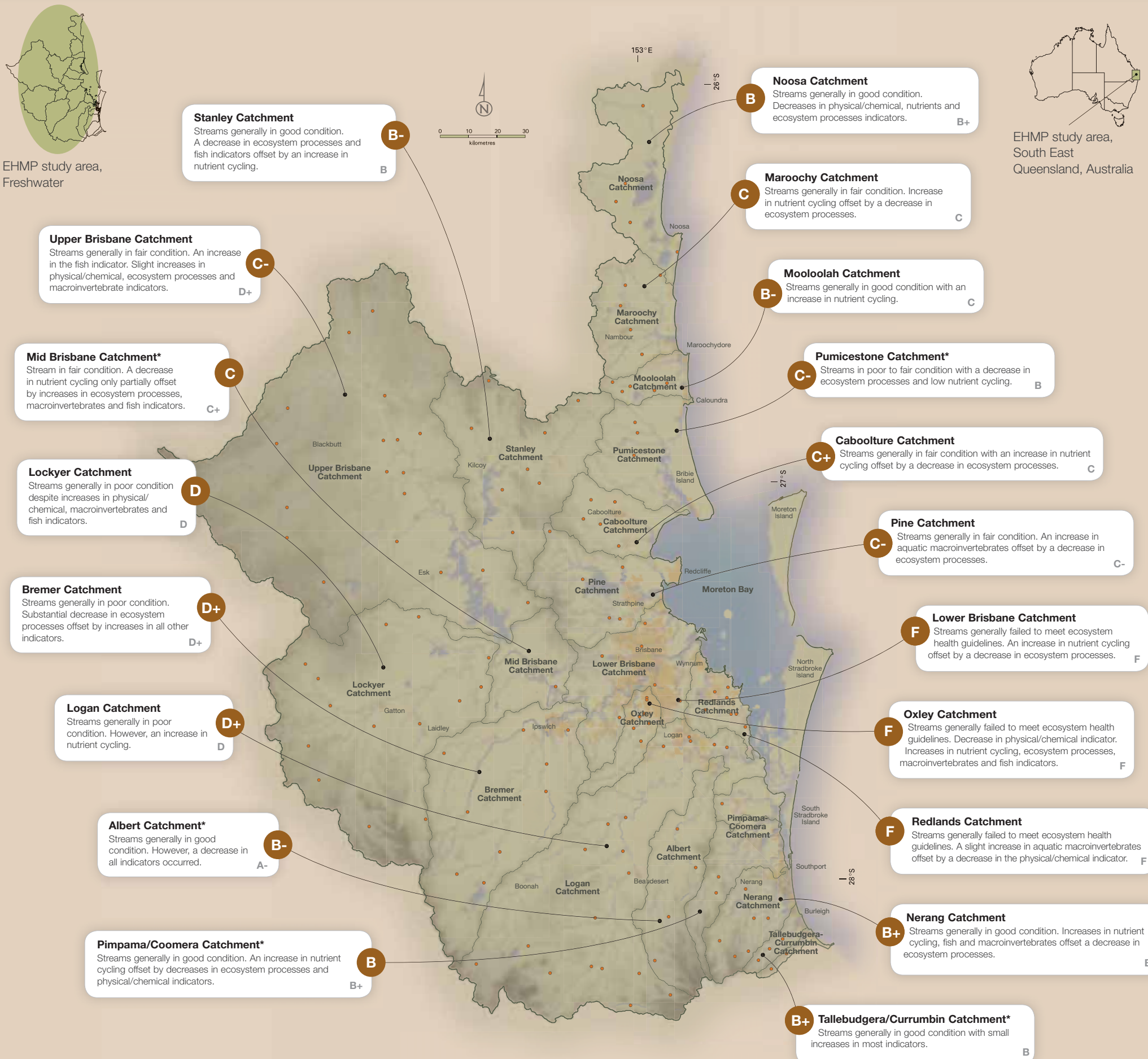
Legend

- Catchment border
- Urban areas
- Monitoring sites

Waterway name *
Comments and further detail.

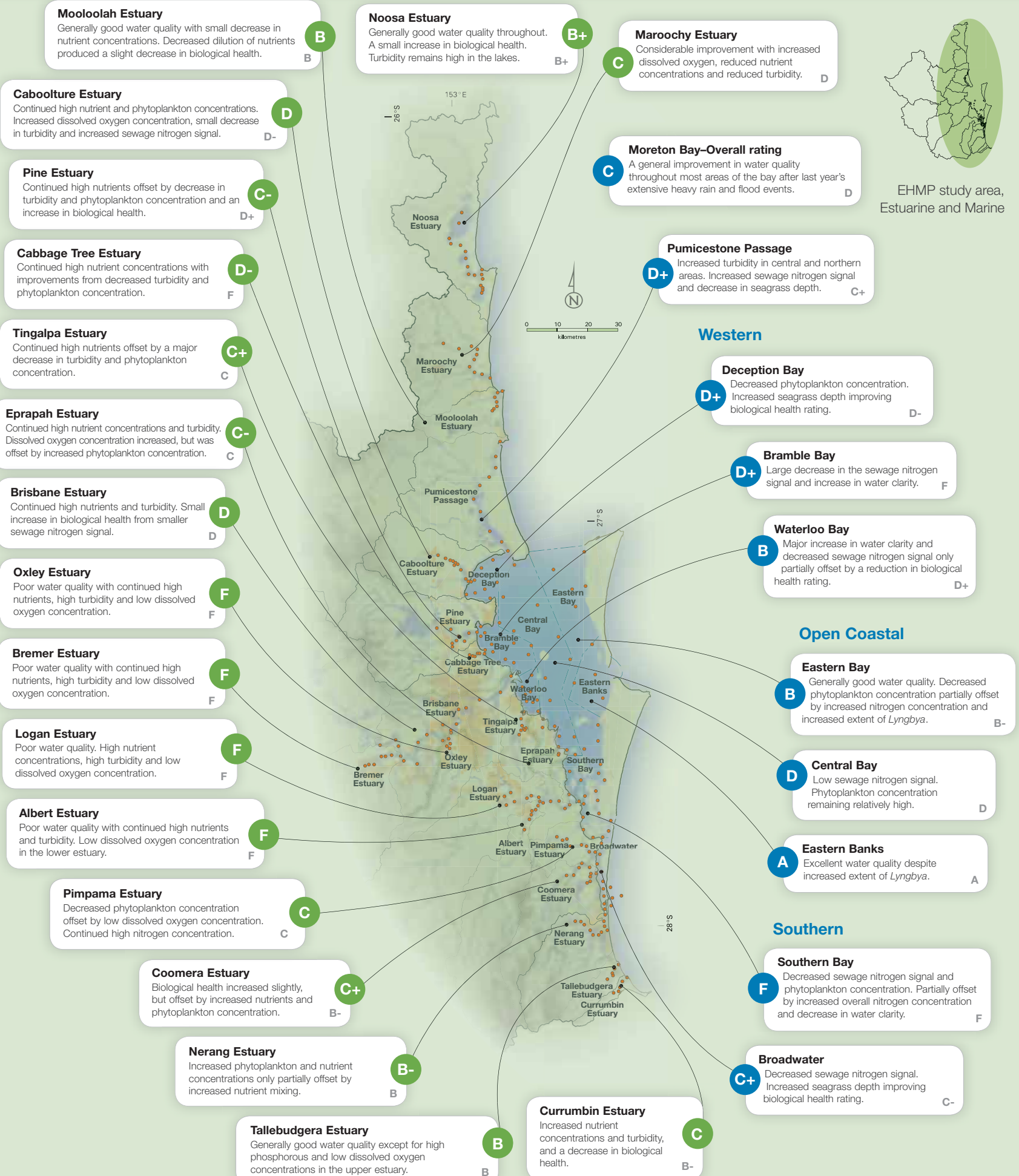
A 2010 grade
A- 2009 grade

Freshwater Report Card 2010



EHMP study area, South East Queensland, Australia

Estuarine and Marine Report Card 2010

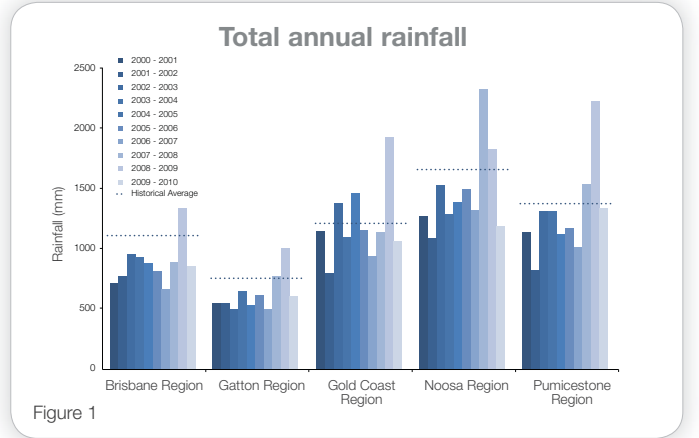


EHMP study area, Estuarine and Marine

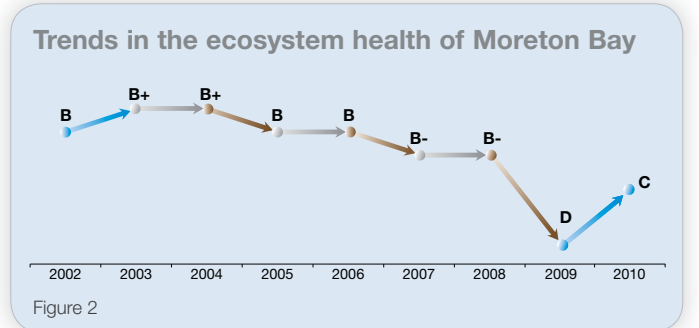
Partial recovery of South East Queensland's waterways and Moreton Bay

Key messages of the 2010 Report Card

The 2010 Report Card results provide insight into how, and if, our waterways are recovering following the major rainfall that occurred in early 2009. This rainfall moved a significant load of sediment and nutrients (diffuse source pollution) from the catchments into our waterways. While there was some intense summer rainfall in 2010, the total rainfall throughout the region was below the long-term average (Figure 1), resulting in less diffuse source pollution entering Moreton Bay.



In 2009, Moreton Bay recorded the lowest ecosystem health grade (D) in a decade. The 2010 grade (C) for Moreton Bay, although an improvement from last year, is only a partial recovery and Moreton Bay is still falling short of its ten year average of a B grade (Figure 2).



In 2010, the health of South East Queensland's (SEQ) freshwater streams and estuaries demonstrated some increases and some declines. Most of the changes that occurred in freshwater ecosystem health appeared to be driven by localised rainfall variability, rather than direct responses to land use change or management actions.

Moreton Bay

Over half of the zones that were monitored in Moreton Bay improved in ecosystem health, due mainly to a reduction in nitrogen and improvements in water clarity. Eastern Banks continued to receive the highest ecosystem health grade (A), while Southern Moreton Bay retained an F grade. The greatest improvement in ecosystem health occurred in Waterloo Bay (D+ to B) with Pumicestone Passage the only region to drop a grade (C+ to D+).

Estuaries

There were improvements in ecosystem health grades for some estuaries (Maroochy, Caboolture, Pine, Cabbage Tree and Tingalpa) with the greatest improvement occurring in the Maroochy estuary (D to C). The Noosa Estuary continued to receive the highest ecosystem health grade (B+). There were declines in southern catchment estuaries (Gold Coast and Logan), and the Albert, Bremer, Logan and Oxley estuaries all retained an F grade.

Freshwater

There was no significant change in the overall health of SEQ's freshwater streams from 2009 to 2010. While biological indicators (fish and macroinvertebrates) increased in some streams, increased algal growth has offset any major improvements. Mooloolah showed the greatest improvement (C to B-), whereas Pumicestone (B to C-) and Albert (A- to B-) showed the greatest declines. Although Lower Brisbane and Oxley showed some improvements, these waterways (along with Redlands) failed to meet ecosystem health guidelines.

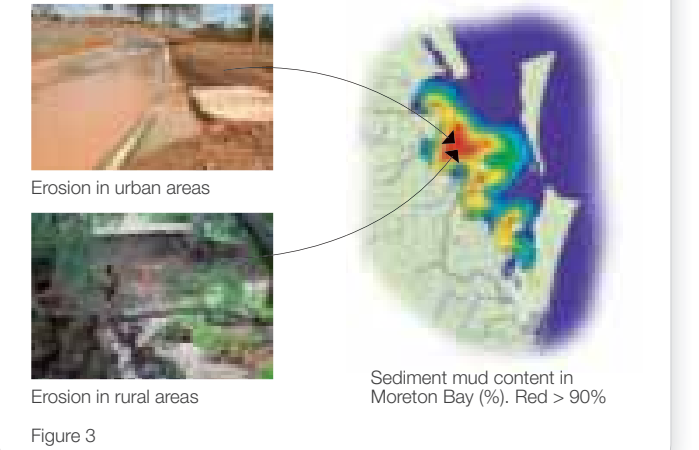
How long will it take our waterways and Moreton Bay to fully recover from extreme rainfall events?

To answer this question, more information is required to fully understand:

- The effects of additional sediment and nutrient loads on Moreton Bay.
- The ability of waterways to cope with significant pressures, such as rapid population growth and climate variability.

Unless diffuse source pollution from rural and urban catchments is addressed, ongoing runoff from the catchments will continue to deposit sediment and nutrients throughout Moreton Bay (Figure 3).

To determine the level of management investment required, it is necessary to understand the recovery of our waterways following extreme rainfall events and their resilience to these events.



Measuring management actions

Population growth puts pressure on waterway health

South East Queensland (SEQ) has one of the fastest growing populations in Australia with the population predicted to increase from 3.1 to 4.9 million* over the next 20 years. Our growing population is placing significant pressures on SEQ's catchments and waterways such as clearing vegetation in urban areas to make way for more houses (Figure 4 and 5). In rural areas, the deterioration of creek banks and gullies needs to be reversed to safeguard aquatic ecosystems, water supply, recreation and food production capacities of the catchment.

Total vegetation cleared for dwellings in SEQ since 1988

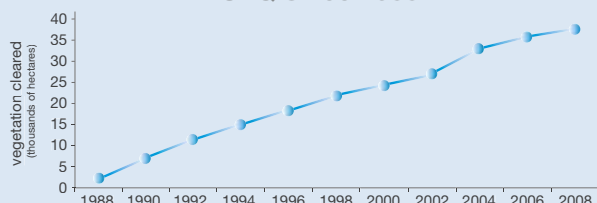


Figure 4

Source: Department of Natural Resources and Water (2008), Land cover change in Queensland 2006-07, Brisbane.

Total new dwellings in SEQ since 2003

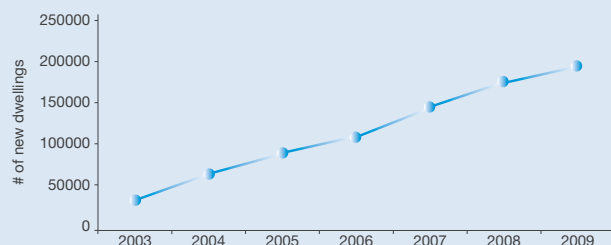


Figure 5

Source: Office of Economic and Statistical Research, Queensland Treasury (2010), Population and Housing Profile, Brisbane.

A snapshot of activities to improve waterway health

Over the past 10 years, significant investment has been made to reduce point source pollution, with State and local governments spending over \$700 million upgrading wastewater treatment facilities. To further protect SEQ's waterways, diffuse source pollution (sediment and nutrients from the catchments entering waterways) must also be managed to minimise the impact of high flow rainfall events similar to those experienced in 2009.

The activities listed on the previous pages provide a snapshot of management actions implemented over the 2009-10 period, in an effort to improve waterway health. These actions fall under four of the priority management areas within the SEQ Healthy Waterways Strategy 2007-2012:

- Reducing point source discharges
- Investing in improving rural waterways
- Managing impacts of urban waterways
- Increasing community understanding and action.

In addition, these activities underpin achievement of the SEQ Regional Plan and SEQ Natural Resource Management Plan.

What more needs to be done?

The 2010 Report Card grades demonstrate only a partial recovery from the high flow rainfall events of 2009. This highlights the need to build the resilience of our waterways and address diffuse source pollution. To do so, we must prepare our catchments for rainfall events through managing erosion, stabilising creek channels, rehabilitating riparian (riverbank) areas, investing in agricultural practices and introducing water sensitive urban design.

It takes time for the benefits of management actions to become evident. Significant investment in management actions must continue and increase to keep up with population growth, otherwise any improvements in local waterway health are unlikely to be maintained and the recovery of Moreton Bay will be unpredictable.

Future steps for the Ecosystem Health Monitoring Program (EHMP)

Comprehensive and quantitative tracking of management actions and their effectiveness needs to be undertaken in SEQ. A recent review of the EHMP recommended a broader approach to monitoring and evaluation. Monitoring the health of our waterways will continue as the EHMP's central role, and a method of rating management actions will be introduced and included in future Report Cards. In addition, the program also recognises the need to identify and monitor the drivers and pressures on waterway health, such as population growth and climate variability.

health-e-waterways
Integrating knowledge

Report Card results are also available through *health-e-waterways*, a web-based system for integrating and sharing data on South East Queensland's waterways.

Log onto www.health-e-waterways.org



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Front cover images (clockwise left to right): Gold Coast City Council's Saltwater Coir Log Project; Brisbane City Council's Stormwater Quality Improvement Device; Moreton Bay Regional Council's Sewage Treatment Plant and SEQ Catchments' gully erosion restoration work for Healthy Country.