

# **Caring for our Water**

## Caring for our Water – Summary Page

Our *regional goal* for water is:

**To ensure the catchments and waterways of SEQ maintain a healthy ecological system and provide an adequate and sustainable supply of clean water to support the needs of the region.**

*Desired outcomes* associated with this goal are:

Water quality and the ecological health of all waterways sustainably managed, maintained and improved for the mutual benefit of people, flora and fauna.

Instream values and resources are managed and protected.

Demands on water availability and use are equitably managed for the mutual benefit of people, flora and fauna.

Cultural and social values an integral consideration in water care and water management, with effective solutions arising from community understanding and ownership of problems.

Three *key strategies* have been identified to achieve these desired outcomes:

- W1** Develop and implement policies, plans, practices, guidelines and standards for:
- (a) sustainable domestic and industrial wastewater treatment in the region;
  - (b) sustainable land use and improved water quality within the SEQ region;
  - (c) transport operations that impact on water supplies;
  - (d) managing impoundment release patterns and flood risk to minimise; and
  - (e) water extraction, improving the efficiencies of water use in agriculture, industry and urban areas and establish environmental flow objectives and criteria for waterways; and
  - (f) urban stormwater management, and develop plans for existing and new areas.
- W2** Protect, manage and restore riparian corridors, including streambank management and marine areas
- W3** Foster and encourage community involvement and networking in water resource management.

*Priority actions* required to implement these strategies include:

- Develop and implement waste-water reuse schemes to more efficiently utilise the finite water resources of SEQ
- Develop standards and implement systems and processes to reduce nutrient loads in SEQ waterways
- Develop and implement catchment management plans and appropriate water quality monitoring strategies for all important water systems in SEQ
- Prepare and implement WAMPS for major catchments and prepare a regional Water Infrastructure Plan for SEQ

- Develop and implement Best Practice for land use and integrated catchment management in SEQ
- Develop and implement plans and strategies to reduce the influence of port activities and shipping on water quality and the environment
- Promote and adopt 'water sensitive' design principles for urban development
- Develop and implement flood management plans consistent with the risk factors and environmental parameters involved.

- Quantify stormwater run-off loads and assess effectiveness of stormwater management practices
- Design and implement mechanisms to ensure regional infrastructure meets appropriate stormwater management needs.
- Identify and involve key stakeholders and the community in education programs and forums pertinent to water resource management
- Encourage community (including indigenous) participation in the planning and implementation of water strategies in the region.

## 1.0 Our goal for water management

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**To ensure the catchments and waterways of SEQ maintain a healthy ecological system and provide an adequate and sustainable supply of clean water to support the needs of the region.**

### *The rationale behind this goal*

Water is a variable, intermittent and often slowly renewable resource. The demands on this resource frequently exceed its availability and rate of recharge. To cater for the many competing uses of water, we must manage the water and catchment land area in such a way that all interests in the region are considered. We also have to plan for the future, so that this generation as well as the next will have adequate access to quality water resources. In addition to this, the water needs of instream ecosystems must be catered for in order to keep our river systems and their dependent wildlife healthy, and to maintain the quality of water.

*NB: There is an inextricable link between the land and water resources of SEQ. Many of the priority actions identified in the Land theme of this NRMS relate to the issues for water identified below. When developing projects to address these priority water issues, both the Land and Water Theme sections must be considered.*

## 2.0 Desired outcomes

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- Water quality and the ecological health of all waterways are sustainably managed, maintained and improved for the mutual benefit of people, flora and fauna.
- Instream values and resources are managed and protected.
- Demands on water availability and use are equitably managed for the mutual benefit of people, flora and fauna.
- Cultural and social values are an integral consideration in water care and water management, with effective solutions arising from community understanding and ownership of problems.

## 3.0 Threats to our water resources

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Integrated management of the catchments and waterways in South East Queensland to achieve these long term outcomes must take account of the impeding processes (as defined by community, industry and government) and the relevant statutory and policy requirements that influence the quality and availability of water in the region. These include:

### **Loss of water quality**

The quality of SEQ water resources is dependent on how well we look after our catchments, waterways and groundwater supplies. Stormwater runoff and treated wastewater can contain a range of contaminants that end up in streams and rivers, having a detrimental effect on water quality and native aquatic flora and fauna.

The Industry and Community Advisory Committee ranked: the status of sewage treatment plants; integrated catchment management; the treatment of stormwater runoff;

and the restoration of riparian vegetation as the top four priority issues influencing water quality. Similarly, The 1998 Moreton Bay Catchment Water Quality Management Strategy identified: excess sedimentation; excess nutrient levels; and loss of riparian vegetation as the priority water quality issues for South East Queensland's major catchment system. The following Table, derived from that strategy document, provides a summary of the latter three issues.

**Table Three: Priority Regional Water Quality Issues**

Issue	Problems	Sources	Examples of desired projects*
Excess sediment	Problems include: <ul style="list-style-type: none"> <li>• seagrass loss;</li> <li>• changes in habitat;</li> <li>• impacts on biota; and</li> <li>• making water less fit for swimming.</li> </ul>	Most sediment comes from the catchment through: <ul style="list-style-type: none"> <li>• stormwater runoff; and</li> <li>• bank erosion.</li> </ul>	<ul style="list-style-type: none"> <li>• Sediment sourcing</li> <li>• Improved land management practices</li> <li>• Stabilisation of banks</li> <li>• Planting buffer strips and riparian vegetation, restoring coastal wetlands (C2.5)</li> <li>• Building stormwater quality improvement devices (eg, wetlands).</li> </ul>
Excess nutrients (nitrogen, phosphorus and carbon)	Problems include: <ul style="list-style-type: none"> <li>• algal blooms;</li> <li>• excess weed growth;</li> <li>• breakdown of denitrification processes; and</li> <li>• changes to the natural balance of plankton species.</li> </ul>	About 50% from point sources - mainly from sewage treatment plants in larger urban areas.  About 50% from non-point sources - mainly from urban and agricultural areas	<ul style="list-style-type: none"> <li>• Nutrient sourcing</li> <li>• Recycling of sewage &amp; industrial wastewater</li> <li>• Improved treatment of sewage and industrial wastewater</li> <li>• Improved land management practices</li> <li>• Planting of buffer strips and riparian vegetation</li> <li>• Building stormwater quality improvement devices (eg, wetlands).</li> </ul>
Loss of riparian vegetation	Problems include: <ul style="list-style-type: none"> <li>• increased sediments and nutrients in stormwater runoff;</li> <li>• changes to ecosystem processes;</li> <li>• bank erosion; and</li> <li>• loss of habitat, shade and shelter.</li> </ul>	Causes of lost riparian vegetation include: <ul style="list-style-type: none"> <li>• urban development;</li> <li>• clearing for agriculture; and</li> <li>• foreshore development.</li> </ul>	<ul style="list-style-type: none"> <li>• Protecting existing riparian vegetation</li> <li>• Improved land management practices</li> <li>• Restoration of riparian vegetation</li> </ul>

\* Evaluation of the work should be included in each project

**Water production and demand**

Allocation of this valuable resource needs to take account of its availability, both present and future; the efficiency of its use, the cost-benefit of activities utilising the resource; the essential nature of these activity; and issues of equity between potential users.

Water production can be affected by vegetation, geology and land use. Increased runoff can lead to more flash flooding but less flow between rainfall events. Forests can lead to the recycling of evaporation into local rainfall. Aquifer recharge areas require protection to ensure the long -term production of essential groundwater.

## Flooding

Flooding can cause major damage and community disruption but at the same time it must be recognised as a natural and sometimes essential feature of our ecosystem. The conservation of commercial and recreational fish stocks, for example, is dependent upon the maintenance of appropriate environmental flow patterns to support their specific breeding and development cycles. Flood management should focus on minimising and negating the unnecessary occurrence and detrimental effects of flooding, rather than flood prevention. The cost of flooding includes environmental damage and the loss of life, property and agricultural production.

## 4.0 Strategies required to achieve the outcomes

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Three *key strategies*<sup>1</sup> to achieve the desired outcomes have been identified:

<b>W1</b>	Develop and implement policies, plans, practices and standards for: (a) sustainable domestic and industrial wastewater treatment in the SEQ region; (b) sustainable land use and improved water quality within the SEQ region; (c) transport operations that impact on regional water supplies; (d) managing impoundment release patterns and flood risk to minimise damage to infrastructure, assets and people; and (e) water extraction, efficiencies of water used in agriculture, industry and urban areas and establish specific environmental flow objectives and criteria for waterways. (f) urban stormwater management and develop plans for existing and new areas.
<b>W2</b>	Protect, manage and restore riparian corridors, including streambank management and marine areas
<b>W3</b>	Foster and encourage community involvement and networking in water resource management.

A diagrammatic summary of how the actions and strategies link to, and address, the desired outcomes and goal for 'Caring for our water' is presented at the beginning of this Theme Section.

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<sup>1</sup> These three strategies have been adapted from:

- *The Waterways Management Plan 1998 (WMP)* (Brisbane River Management Group and Brisbane River and Moreton Bay Wastewater Management Study Steering Committee);
- *Moreton Bay Catchment Water Quality Management Strategy; 1998 (RWQMS)* (Brisbane River Management Group and Brisbane River and Moreton Bay Wastewater Management Study Steering Committee);
- *The Regional Framework for Growth Management (RFGM) 1998*; and
- Consultation undertaken by the RSG.

**W1      Develop and implement policies, plans, practices and standards for:**

*(a) sustainable domestic and industrial wastewater treatment in SEQ*

***How is the implementation of these actions being coordinated?***

In collaboration with Local Government and the Environmental Protection Agency, the South East Queensland Regional Water Quality Management Strategy (RWQMS) is a key process for achieving this Strategy. This is managed cooperatively through collaboration between community, industry, local and State government. Specific research is providing information that informs the extent to which wastewater discharges are to be reduced at each Sewage Treatment Plant (STP) and major industrial point source discharges in the region. Individual stakeholders agree to a course of action in regard to reducing their discharges. This program and the targets are incorporated in EPA license conditions.

***Existing major initiatives include:***

**Regional**

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- SEQ Water and Wastewater Management Study.

**Local government / Catchment**

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- Logan / Coomera Wastewater Strategy.
- Noosa Shire Council wastewater treatment program
- Soil Filter Research Sewerage Effluent Disposal - Gatton College and Laidley, Gatton and Esk Councils.
- Gold Coast City Council Northern Wastewater Treatment Strategy.
- Effluent Filter Study for Gatton (University of Queensland).
- Caboolture Shire Council On-site Effluent Disposal Study.

## Actions Required

Code	Actions	Current Activities	Priority/Localities
<b>Nutrient load reduction</b>			
W(a)1.1	Implement nitrogen reduction at sewage treatment plants discharging to tidal and non-tidal waters.	Redcliffe, Pine Rivers, Brisbane, Caboolture, Redland and Ipswich Councils have given or are investigating commitments	A Bramble & Waterloo Bays, Pine, Caboolture, Brisbane, Bremer and Logan Rivers B Maroochy, Mooloolah, Noosa and Nerang rivers C All freshwater reaches
W(a)1.2	Achieve specific faecal coliform and organic matter standards at all Sewage Treatment Plants and consider standards for viruses, pathogens, endocrine disruptors.	Levels being further investigated in the RWQMS for other areas	A Bremer River, Bramble & Waterloo Bays- organic matter; Brisbane River - faecal coliforms B Other rivers
W(a)1.3	Investigate and implement wastewater reuse schemes, strategies and guidelines to reduce wastewater loads entering waterways.	Commitments from , Brisbane, Caboolture, Ipswich Pine Rivers Redcliffe and Redland Councils	A highly population areas B Logan C Other areas
W(a)1.4	Participate in large-scale wastewater reuse studies and review treatment advances to achieve further significant load reductions.	DNR, EPA and Local Government have given commitments	A Lockyer/Downs/Warrill feasibility study
W(a)1.5	Adoption by Industry of Best-Practice environmental management through waste prevention, cleaner production and wastewater reuse options consistent with Environmental Protection Act 1994	Caltex, BP, Incitec and AMH have given commitments	A Brisbane and Bremer Rivers B AMH
W(a)1.6	Quantify desired sewer overflow reductions and implement reduction programs in all urban areas.	Commitments from , Brisbane, Caboolture, Ipswich, Pine Rivers Redcliffe and Redland Councils	B All urban areas
W(a)1.7	Develop and implement a load-based licensing system for major discharges to waterways.	EPA have given a commitment	B All areas

**W1 Develop and implement policies, plans, practices and standards for:  
(b) sustainable land use and improved water quality within SEQ.**

***How is the implementation of these actions being coordinated?***

- To be completed.

***Existing major initiatives include:***

**Regional**

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- SEQ Regional Water Quality Management Strategy (RWQMS)

**Local government / Catchment**

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- Waterways Management Plan for Brisbane River and Moreton Bay Catchment.
- 1996 State of the Brisbane River, Moreton Bay and Waterways Report.
- North and South Pine Rivers Catchment Management Plan.
- Pumicestone Passage, its catchment and Bribie Island: Integrated Management Strategy.
- Oxley Creek Catchment Coordinating Committee is developing the Oxley Creek Catchment Management Plan, a vegetation management plan, a combined water quality monitoring program and an AQUALM model for Oxley Creek.
- Brisbane City Council has undertaken catchment planning work for Nundah/Downfall, Norman, Bald Hills, Moggill and Breakfast/Enoggera Creeks.
- Lockyer Catchment State of the River Report
- Bremer Catchment Association has prepared a draft management plan for the Bremer River catchment.
- State of the Rivers: Maroochy River and Tributary Streams.
- Griffith University's Logan and Albert Rivers Catchment Management project for the Logan and Albert Rivers Catchment Coordinating Committee.
- Moreton Bay Catchment Water Quality Management Strategy.
- SEQWB is developing a catchment model for the North Pine Dam catchment.
- Pumicestone Catchment Plan.
- Lockyer Catchment Management Strategy and land use guidelines for the Lockyer catchment area.
- Establishment of a Water Quality Monitoring Network (includes the Lockyer Catchment Centre, Lockyer Catchment Coordinating Committee, Landcare, and Lockyer Watershed Management Association.)
- Commitments to undertake catchment work in Wynnum, Lota, Bulimba and Cabbage Tree Creeks.
- State of Oxley Creek Catchment Report and Water and Land Use Impact and Management Analysis.
- Bremer River Catchment Management Strategy and Bremer River Catchment State of the River Report.
- Lake Baroon Catchment Management Strategy (Maroochy).
- Gold Coast Catchment Management Strategy.



## Actions Required

Code	Actions	Current Activities	Priority/Localities
<b>Catchment and Water Quality Strategies</b>			
W1(b) 1.8	Implement integrated water quality monitoring programs; e.g. ICM, Landcare, Coastcare, indigenous, Waterwatch.	Commitment from EPA and relevant Councils being negotiated	A Moreton Bay and its estuaries B All other areas
W1(b) 1.9	Ensure monitoring results are readily accessible to stakeholders and the community.	<ul style="list-style-type: none"> <li>• EPA has given a commitment</li> <li>• Stage 3 RWQMS</li> </ul>	A All areas
W1(b) 1.10	Complete and implement a Regional Water Quality Management Strategy, incorporating: <ul style="list-style-type: none"> <li>- consistent approach</li> <li>- model performance criteria</li> <li>- water quality assessment/evaluation</li> </ul>	RWQS under development – due for completion by Dec 2001	A Brisbane River, Moreton Bay and estuaries B Coastal estuaries - northern and southern catchments C All freshwater reaches
W1(b) 1.11	Update and produce regular 'State of the Waterways' reports.	<ul style="list-style-type: none"> <li>• State of Brisbane River and Moreton Bay Waterways</li> <li>• Bremer, Lockyer,</li> </ul>	C
W1(b) 1.12	Support and facilitate existing and establishing community-based groups that are developing and implementing catchment management plans and associated on ground works programs.	All current ICM groups	A Existing areas B All other areas with no current ICM group
W1(b) 1.13	Identify, develop and use catchment health indicators.	Some work on site/issue specific indicators	A
<b>Land use. (see also 'Caring for Our Land' Theme)</b>			
W1(b) 1.14	Identify and promote 'ICM Best Practice' guidelines for local government processes affecting land-use.		A
W1(b) 1.15	Identify eroding or 'at risk' agricultural and other lands that contribute to non point source pollution loads, measure effectiveness of various control methods and encourage implementation of controls and prevention through adoption of Best Practice		A All areas identified B Implement selective trials C Implement successful methods
W1(b) 1.16	Develop non-point pollutant load models to operate at a number of different levels (eg. local, regional).		A Stage 2 Councils, EPA & DNR B All other areas
W1(b) 1.17	Review and amend codes of practice covering use of pesticides and fertilisers, including application conditions and options for changes to practices for the SEQ region.	Being investigated in WMP & RWQMS	B
W1(b) 1.18	Review current arrangements and guidelines for mosquito control and develop a uniform code of practice for SEQ.	EPA has given a commitment	B

Code	Actions	Current Activities	Priority/Localities
<b>Water Storages</b>			
W1(b) 1.19	- Establish integrated water quality monitoring programs for major supply and State-owned dams ( <i>identification of sediment sources and nutrient loads; restoration/stabilisation of degraded lands; blue green algae mitigation plans; links with up and down stream ambient monitoring programs, etc.</i> )	<ul style="list-style-type: none"> <li>• SEQ Water Board</li> <li>• RWQMS,</li> <li>• DNR</li> <li>• Toowoomba City Council</li> <li>• Caloundra Maroochy WB</li> </ul>	B
<b>Groundwater</b>			
W1(b) 1.20	Identify groundwater recharge and discharge points, monitor their condition, and implement incentives for clean water production.		B
W1(b) 1.21	Ensure use of groundwater in SEQ is sustainable and its availability monitored; and develop and implement groundwater management plans for individual aquifers in accordance with ARMCANZ Guidelines.		B
<b>Acid sulphate soils (see also 'Caring for Our Land' Theme)</b>			
W1(b) 1.22	Develop and implement plans to deal with the Lyngbya bloom based on Lyngbya task force findings	Lyngbya – acid sulphate links investigated in RWQMS	A Southern Pumicestone Passage and northern Deception Bay B Other areas as identified
<b>Planning</b>			
W1(b) 1.23	Develop and review water quality regulatory planning mechanisms for use by local government, and develop and implement an appropriate monitoring and evaluation process.		B

**W2      Develop and implement policies, plans, practices and standards for:**  
***( c ) transport operations that impact on regional water supplies.***

***How is the implementation of these actions being coordinated?***

- To be completed.

***Existing major initiatives include:***

- To be completed

**Actions Required**

<b>Code</b>	<b>Actions</b>	<b>Current Activities</b>	<b>Priority/Localities</b>
W1(c) 1.24	Develop and implement an environmental management system for management of port activities.	POBC have given a commitment	A Brisbane River
W1(c) 1.25	Implement the Australian Ballast Water Management Strategy and assess potential for ballast water management to be a protocol or annex to MARPOL 73/78	EPA have given a commitment and being investigated in RWQMS	A Moreton Bay
W1(c) 1.26	Review, in accordance with the Environmental Protection (Water) Policy 1997, waste reception facilities for marinas, moorings, boat-building/repair facilities, etc.	EPA, Brisbane, Caboolture, Ipswich, Pine Rivers, Redcliffe and Redland commitments	B All navigable areas
W1(c) 1.27	Implement the sewage provisions of the Transport Operations (Marine Pollution) Act 1995.	QT has given a commitment	B All navigable areas
W1(c) 1.28	Implement a long-term environmental management plan or program for navigational dredging and disposal of dredged material placement	POBC have given a commitment. Other being investigated in RWQMS	B Brisbane River and Moreton Bay (both inside and outside of port areas).

**W1 Develop and implement policies, plans, practices and standards for:  
(d) managing impoundment release patterns and flood risk**

**How is the implementation of these actions being coordinated?**

- To be completed.

**Existing major initiatives include:**

- Lockyer Catchment Flood Scoping Study.
- *To be completed*

**Actions Required**

Code	Actions	Current Activities	Priority/Localities
W(d) 1.29	Review impoundment operating rules for dams		A Brisbane River catchments B All other areas
W(d) 1.30	Maintain flood warning systems.		B
W(d) 1.31	Improve the legislative and policy framework for protection against flooding; and prepare/update flood emergency plans for developed areas.		B
W(d) 1.32	Develop and implement flood management plans for areas with severe flooding problems and review existing flood management plans;.		A
W(d) 1.33	Conduct flood management activities ( <i>eg, risk assessment, identification of social issues, water harvesting research, determination of environmental flooding regimes, and review of regulatory tools.</i> )		B
W(d) 1.34	Adopt a consistent flood regulation level across local government areas through inclusion of consistent policies /guidelines in local planning schemes	New planning schemes being developed over next 2 years	A Urban areas B All other areas

**W1 Develop and implement policies, plans, practices and standards for:**

**(e) water extraction, water use in agriculture, industry and urban areas, and establish specific environmental flow objectives and criteria for waterways.**

**How is the implementation of these actions being coordinated?**

- To be completed.

**Existing major initiatives include:**

**Regional**

- Griffith University is preparing environmental flow requirements from Wivenhoe Dam to Moreton Bay.
- Report: Developing a Water Allocation and Management Plan (WAMP) for the Logan Catchment.
- Lower Lockyer Irrigation Project.
- Logan River Irrigation Project.

**Actions Required**

Code	Actions	Current Activities	Priority/Localities
<i>Water Allocation and Management Planning</i>			
W(b) 1.35	Define and measure sustainable water yields and link with production capacity		B All high demand/horticultural areas. C All other areas
W(e) 1.36	Continuing review of water allocation.		A Brisbane River, Wivenhoe, Mt Crosby, Logan River. B All other areas
W(e) 1.37	Prepare and implement Water Allocation and Management Plans for all major catchments in SEQ on a priority basis		B Logan and Brisbane (below Wivenhoe Dam), Rivers and Lockyer Creek C Other areas of high growth and demand
W(e) 1.38	Develop and implement land and water management plans and guidelines for significant water users in regulated sections of the region eg. industries and other		B irrigated areas C all other areas
W(e) 1.39	Establish requirements for environmental management plans for all new water intensive projects.	WIP DIP	B All freshwater, upper and middle catchment areas

Code	Actions	Current Activities	Priority/Localities
W(e) 1.40	Develop a conceptual model for key water quality issues in freshwater waterways and impoundments.	RWQMS – subject of current investigations, Stage 3 work	B All freshwater, upper and middle catchment areas
W(e) 1.41	Implement water use monitoring in all urban and rural areas not currently metered/monitored.	Most of SEQ urban water use metered.	B
W(e) 1.42	Establish policies for implementing transferable water entitlements and develop processes to minimise the adverse impacts of inter-catchment transfers		B
<b>Water Supply - Rural and Urban</b>			
W(e) 1.43	Prepare and implement a Regional Water Infrastructure Plan.		A
W(e) 1.44	Review local water supply plans for consistency with the Regional Water Infrastructure Plan and ensure that these form an integral part of sub-regional priorities.		B
W(e) 1.45	Adopt and implement Total Management Plans for water resources infrastructure management ( <i>as per DNR guidelines.</i> )		B
W(e) 1.46	Promote demand management of water supply		B
W(e) 1.47	Establish Conditions to Operate for all State-owned storages.		B
W(e) 1.48	Assess existing and future water supply sources and develop strategies to resolve potential opportunities and problems.		B
W(e) 1.49	Prepare and implement catchment management strategies, with priority given to catchments where raw water quality standards are threatened.	SEQ Water Board , RWQMS, Toowoomba CC, Caloundra Maroochy Water Board	A Pine Dam, Baroon Pocket catchments B Wivenhoe and Somerset catchments C All other water supply catchments
W(e) 1.50	Improve understanding of environmental flows, including links with estuarine and inshore processes.		C
W(e) 1.51	Manage water allocations to ensure that the quality, quantity, timing and duration of water flows through wetlands are appropriate to maintain their natural values.  (Also see Coasts (C2))		B - Regional
W(b) 1.52	Develop and implement incentives for clean water production and efficient use.		B
W(b) 1.53	Identify and promote water conservation opportunities.		B

**W1 Develop and implement policies, plans, practices and standards for:**  
***(f) urban stormwater management, and develop plans for existing and new areas.***

***How is the implementation of these actions being coordinated?***

Each Local Government is preparing Urban Stormwater Quality Management Plans by 2002, in accordance with the Environment Protection (Water) Policy. While it is the responsibility of each jurisdiction to develop and implement its own stormwater management program, the South East Queensland Regional Water Quality Management Strategy, will coordinate this between jurisdictions to ensure complementary programs are implemented.

***Existing major initiatives include:***

**State**

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- DNR Stormwater Improvement Grant funding to Local Government

**Local government / Catchment**

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- Urban Stormwater Management Plan for Redland Shire Council.
- Brisbane City Council Urban Stormwater Management Strategy.
- Brisbane City Council is investigating and implementing the use of wetlands and other stormwater quality improvement devices (SQIDS) for stormwater management and nutrient removal.
- Pine Rivers Shire Council Stormwater Drainage Strategy Plan.
- Brisbane City Council is undertaking numerous stormwater monitoring programs.
- Brisbane City Council Administrative Policy 09.018 'Waterways Protection' requires all work units to undertake stormwater management consistent with the National Water Quality Management Strategy.

**Actions Required**

Code	Actions	Current Activities	Priority/Localities
W1(f) 154	Determine specific stormwater runoff loads to be achieved	Being further investigated in RWQMS Stage 3 work	A Urban areas B Non urban areas
W1(f) 1.55	Coordinate and integrate stormwater management issues through a collaborative effort.	Commitment from EPA, DNR, Brisbane, Caboolture, Pine Rivers, Redland and Redcliffe	B
W1(f) 1.56	Develop and implement catchment management plans, stormwater management plans and local stormwater management plans for developed and developing areas.	Commitments from, Brisbane, Caboolture, , Pine Rivers Redcliffe, Redland and Ipswich.	B All urban and non-urban areas C Northern and Southern

Code	Actions	Current Activities	Priority/Localities
			catchment areas
W1(f) 1.57	Review and implement urban stormwater quality management plans consistent with the Environmental Protection (Water) Policy 1997	EPA have given a commitment	B
W(f) 1.58	Determine the effectiveness of various stormwater quality management practices.	Coast and Clean Seas project to measure effectiveness	A Brisbane, Pine River and Ipswich councils B All other areas
W(f) 1.59	Identify the desired characteristics of receiving waters to ensure development of appropriate stormwater quality measures	RWQMS – Stage 3 collation of historical and current water quality data for SEQ.	B All urban areas
W(f) 1.60	Promote and adopt ‘water sensitive’ design principles for future urban development, through modifications to Strategic Plans and Development Control Plans.	Guideline documents – UDIA involved.	A Current and proposed urban development land B All other areas
W(f) 1.61	Design and implement mechanisms in local government planning to ensure decisions involving infrastructure, adequately assess stormwater management issues.	Planning Schemes under development over next 2 years.	A
W(f) 1.62	Refine and implement an integrated monitoring program for quantifying stormwater pollutants entering SEQ waterways that links with projects evaluating the effectiveness of control methods.	RWQMS – Stage 3	A Stage 2 Councils - implementation of EHMP (Moreton Bay estuaries) B All other areas



**W2 Protect, manage and restore riparian corridors, including streambank management and marine areas.**

**How is the implementation of these actions being coordinated?**

- To be completed.

**Existing major initiatives include:**

**Local government / Catchment**

- Ipswich City Council and Gatton and Laidley Shire Councils are undertaking riparian management through a natural resources inventory and strategic plan provisions.
- A Brisbane City Council program (Habitat Brisbane), is supporting groups involved in catchment rehabilitation with a focus on riparian vegetation and waterways protection.

**Actions Required**

Code	Actions	Current Activities	Priority/Localities
W2.1	Develop strategies, plans and incentive programs to protect, manage and restore riparian corridors, including streambank management and erosion		B upper catchment areas.
W2.2	Develop a reference guide for catchment/community groups documenting latest riparian research, on ground works methodology, woody weed removal methods, demonstration sites and evaluation results		B
W2.3	Identify significant riparian vegetation for protection under relevant Local Laws (particularly Gold Coast and Bremer River.)		B Gold Coast, Bremer River
W2.4	Determine the viability of a restoration and rehabilitation plan for marine plants in all coastal areas/estuaries of SEQ and develop and implement plans where appropriate.	Being investigated in RWQMS	B

**W3 Foster and encourage community involvement and networking in water resource management.**

*(Also refer Understanding and Participation Theme )*

**How is the implementation of these actions being coordinated?**

- To be completed.

**Existing major initiatives include:**

**State**

- 'Healthy Waterways' public involvement and education campaign.

**Regional**

- Queensland Conservation Council has completed an inventory of community groups in Local Government and Integrated Catchment Management Communication Plan: A Strategy for Greater Understanding and Involvement.

**Local government / Catchment**

- A consultative committee has been established for the Logan and Albert Rivers Catchment Management Project developed by Griffith University.
- the SEQ region.

**Actions Required**

Code	Actions	Current Activities	Priority/ Localities
W3.1	Encourage community participation in planning, decision-making and implementation of management plans for SEQ water resources.	<ul style="list-style-type: none"> <li>• NHT programs</li> <li>• DNR support of Catchment and Landcare groups, .</li> </ul>	A
W3.2	Identify and involve key stakeholders with an interest in the use of water bodies and establish appropriate forums between water resource managers, users and educators. <i>(see U1.16)</i>		A
W3.3	Expand community education programs on relevant environmental education topics <i>(eg, riparian vegetation management, best farm management practices, management of stock access to waterways, minimising sources of pollutants in urban stormwater.)</i>		A
W3.4	Identify and incorporate indigenous management technologies in management plans and encourage indigenous participation in management planning and implementation. <i>(See U1.16)</i>	Being investigated in the RWQMS	A
W3.5	Identify local social and cultural values and incorporate these into water resource planning and management.	Brisbane	B
W3.6	Promote the adoption of a 'freshwater protection' ethic.		B
W3.7	Develop/maintain a skills and learning opportunities register and continue to develop/maintain a regional inventory of all existing community organisations and environmental groups. <i>(See U1.17)</i>		C