

Redlands Coast

# Bay and Creeks Plan Action Plan

2021–2026



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# Background

This Action Plan outlines how Council will continue to protect and enhance the resilience of the creeks and bay. High priority actions have been identified for the next five years for successful implementation of the *Redlands Coast Bay and Creeks Plan*.

This Action Plan was developed in consultation with internal stakeholders. An internal implementation guide has been developed for the delivery of actions internal to Council.

The Plan and supplementary Action Plan align with and operationalises Council's implementation of the *Lower Brisbane-Redlands Coastal Catchment Action Plan (CAP)* that Council endorsed in 2018.

Managing our waterways to provide the best possible mitigations from past, present and future impacts will be a complex process that will require cross-collaboration by all stakeholders.

All actions that are implemented under this plan must:

- Follow at a minimum, Best Management Practices (BMP) for all on-ground works;
- Take into consideration project timing and costs;
- Ensure appropriate approvals and permits are in place;
- Follow all organisational codes, procedures and policies; and

- Comply with all legislation, such as the *Environmental Protection Act 1994* (including meeting General Environmental Duty, section 44OZG and the Duty to Notify) and *Biosecurity Act 2014* (including General Biosecurity Obligation).

The progress of the implementation of these actions will be reported on each year. The success of each action is to be assessed based on the 'Performance Measures' outlined.

To guide adaptive management, performance indicators to evaluate action success will be developed and monitored for all on ground projects. During implementation of the Action Plan, emphasis should be placed on collaboration, partnerships, knowledge sharing and capacity building to complement and add value to existing plans, policies and programs. This is in line with the *Lower Brisbane-Redlands Coastal Catchment Action Plan 2018*.

Actions are subject to funding and resourcing and are not limited to the pathway outlined in the Implementation guide. Many of the actions have been selected based on meeting multiple goals of the plan.



# Stakeholders, Acronyms and Definitions

Table 1. Redland City Council departments directly involved in waterway management.

Acronym	Group	Acronym	Unit or Team
CAG	City Assets		Civic and Open Space Asset Management
		CTIAMU	Civil and Traffic Infrastructure Asset Management
		MIAMU	Marine Infrastructure Asset Management
		WIAMU	Waste Infrastructure Asset Management
			Water and Wastewater Infrastructure Asset Management
CETG	Communication, Engagement and Tourism		Media, Communications and Community Engagement
CGG	Corporate Governance		Indigenous Partnerships and Programs
COG	City Operation		City Sport and Venues
		PCU	Parks and Conservation
		RDMMU	Roads, Drainage and Marine Maintenance
			Waste Operations
CPAG	City Planning and Assessment		Engineering and Environment
			Infrastructure Planning and Charging
			Planning Assessment
			Strategic Planning
CSG	Corporate Services Group		Business Innovation and Development

Acronym	Group	Acronym	Unit or Team
			Business Information Systems
CWG	City Water	CARU	Compliance and Reporting
			Network Operations
			Wastewater Operations
	General Counsel	RLSU	Risk Liability Services
ERG	Environment and Regulation	CSU	Compliance Services
		DCU	Development Control
		EEU	Environment and Education
		HEU	Health and Environment
			Strategic Property Unit
	People and Culture	PDU	People Development
PDG	Project Delivery		Construction Projects
			Design and Technical Services
			Infrastructure Projects
CEDG	Community and Economic Development		Strategic Economic Development
			Strengthening Communities
SAPMG	Strategic Asset and Portfolio Management	AMU	Asset Management

Definitions	
<b>Blue carbon</b>	Carbon captured by the world's tidal and marine ecosystems. Natural way of reducing the impact of greenhouse gases on our atmosphere, through sequestration (or taking in) of carbon.
<b>Carbon and nutrient trading</b>	Market based approach to lowering greenhouse emissions (carbon) or releases of nutrients.
<b>Offsets</b>	<p><b>Point Source Water Quality Offsets</b> As defined in the latest Department of Environment, <i>Point Source Water Quality Offsets Policy</i>. An existing or potentially new environmental authority (EA) holders under the <i>Environmental Protection Act 1994</i> (EP Act) can offset the water quality impacts of wastewater discharge to receiving waters.</p> <p><b>Environmental Offset</b> As defined in the <i>Environmental Offsets Act 2014</i>. An Environmental Offset compensates for unavoidable impacts on significant environmental matters, (e.g. valuable species and ecosystems) on one site, by securing land at another site, and managing that land over a period of time, to replace those significant environmental matters which were lost.</p>
<b>Off-site solutions</b>	<p><b>Off-site stormwater water quality management solutions</b> As defined in the latest Department of Environment, <i>State Planning Policy State Interest Water Quality Policy 5 (b)</i>--<i>Off-site stormwater quality management</i>. Off-site solutions provide flexible options to achieve the State Planning Policy, State Interest Water Quality for the post-construction phase stormwater management design objectives, in-lieu of on-site compliance for stormwater quality.</p>

Indicative Costs (per annum)*	
BAU	Business as Usual (within existing resources, officer time and budgets)
Low	Below \$15,000
Medium	\$15,000 - \$100,000
High	Over \$ 100,000
FCD	Future costs to be determined
* Subject to budget consideration and Portfolio Management Office processes	

Time Frames	
Ongoing	These actions will continually be dealt with throughout the life of the plan
Immediate	The actions will commence in the next 12 months
Short	The actions will be undertaken in the next 2 years
Medium	The actions will be undertaken in the next 3.5 years
Long	The actions will be undertaken in the next 5 years

A close-up photograph of a laboratory setup. In the foreground, a glass beaker contains a dark liquid. A clear plastic pipette is positioned above the beaker, with a small amount of liquid being dispensed into it. In the background, several other glass beakers are visible, some containing clear liquids. The scene is brightly lit, creating reflections on the glass surfaces.

# Decisions Based on Science

*Outcome: Strengthen science based knowledge of the effects of population growth and climate change on the health and resilience of the waterways to ensure management actions meet current and future needs.*

One of the greatest challenges is to understand how a changing climate and growing population will affect the creeks and Moreton Bay. Future management actions need to allow for both systematic changes and natural fluctuations.

The primary emphasis of this objective is to ensure we are planning for the future in a strategic way, monitoring the trends, undertaking research, using science and innovation to drive coordinated, strategic and resourced management actions. This ensures that prioritised actions will provide the most value for time and money.

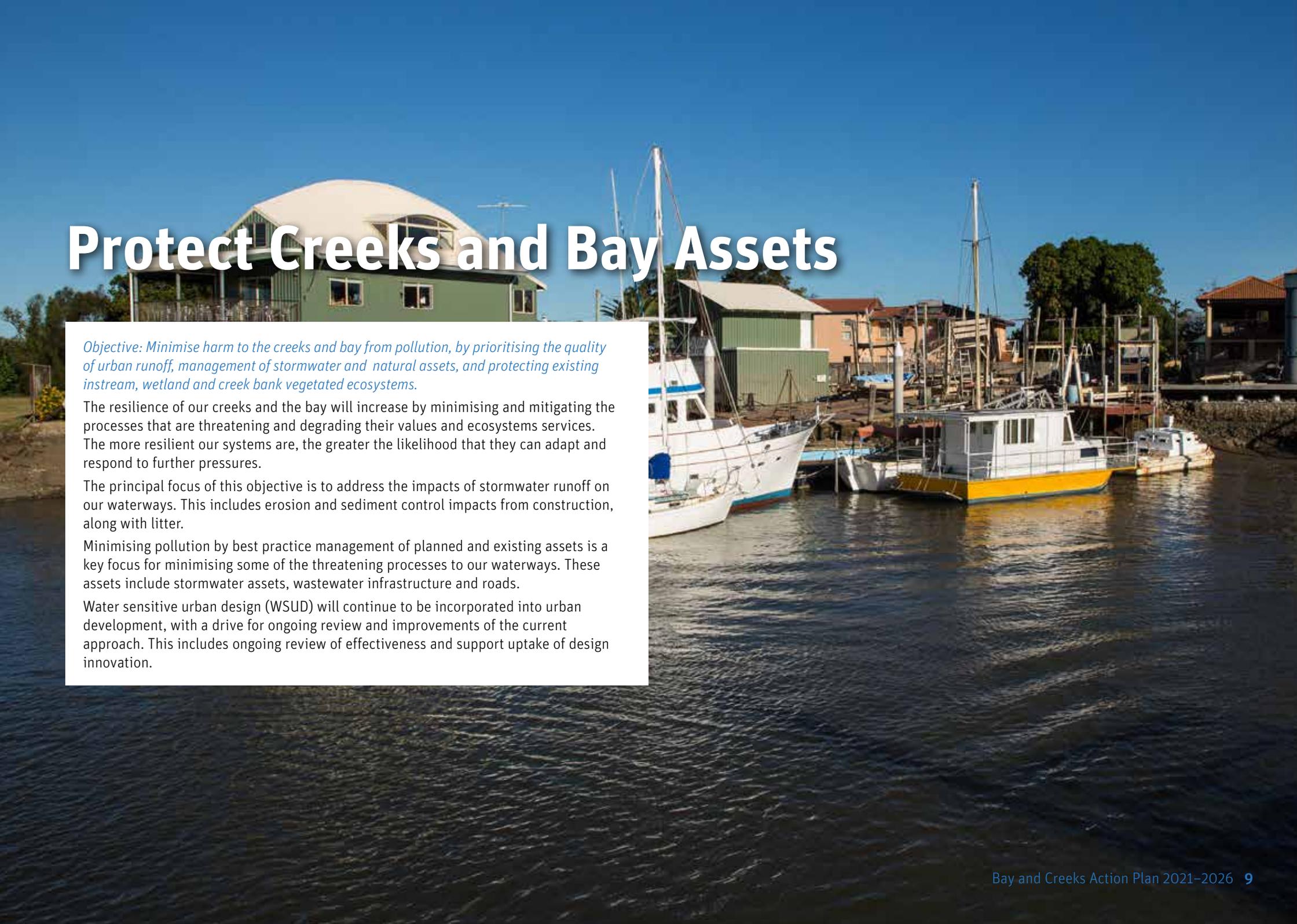
Strategic research and monitoring of conditions and trends will be undertaken for the early identification of issues, to trigger and drive actions, inform ongoing planning, and to evaluate progress of our management actions. This will allow for adaptive management principles to be adhered to. Council will also look for innovation and partnerships to leverage resources for providing optimal outcomes for our community.

Table 1. Decisions based on science.

Priority Outcome	Action number	Action	Performance measures	Timeframe	Responsibility	Partners	Cost estimate
<b>Innovative opportunities and partnerships</b> Seek and support innovative opportunities and partnerships.	1	<b>Planning stage</b>					
		Investigate opportunities and partnerships that drive innovative approaches, such as restoration and monitoring.	A detailed and costed report identifying potential partnerships and opportunities.	Short	EEU	All Stakeholders	Low
		Investigate opportunities and challenges associated with transitioning in the direction of becoming a Water Sensitive City.	A detailed and costed report identifying opportunities and challenges into transitioning into a Water Sensitive City.	Medium	EEU	All Stakeholders	Medium
		<b>Implementation stage</b>					
		Networks, partnerships and collaboration with other local governments, industry bodies and other relevant agencies that contribute to ongoing improvements and regional initiatives have been established, maintained or enhanced.	Number of collaborative projects undertaken and meetings attended per year.	Ongoing	EEU	All Stakeholders	FCD
If supported, commence transition to Water Sensitive City.	Annual progress report of the transition to a Water Sensitive City.	Long	TBD	All Stakeholders	FCD		
<b>Targeted Monitoring Program</b> Monitoring programs are undertaken that align with Council's current and future needs.	2	<b>Planning stage</b>					
		Review of monitoring program (water quality, aquatic habitat) including communication and data management is undertaken to ensure program aligns with Council's current and future needs.	A report that details the finding of the audit and fully costed prioritised recommendations for the future monitoring programs.	Short	CARU, EEU, MIAMU, WIAMU	CAG, CIG, COG, CPAG, CWG, ERG	Medium
		<b>Implementation stage</b>					
Run monitoring programs based on monitoring review recommendations.	Annual report of the findings of the monitoring programs and recommendations from monitoring programs.	Ongoing	EEU, MIAMU	CAG, COG, CPAG, CWG, ERG	FCD		
<b>Research</b> Targeted research and/or modelling programs are undertaken to guide future management actions.	3	<b>Planning stage</b>					
		Review existing research and/or modelling programs to identify knowledge gaps to guide future research.	Detailed report identifying and prioritising research gaps.	Short	EEU	CAG, COG, CPAG, CWG, ERG	Medium
		<b>Implementation stage</b>					
Priority research based on gap analysis report is undertaken.	Number of priority research projects undertaken to fill knowledge gaps.	Medium	EEU	CAG, COG, CPAG, CWG, ERG	FCD		

Priority Outcome	Action number	Action	Performance measures	Timeframe	Responsibility	Partners	Cost estimate
<b>Stormwater solutions</b> Deliver innovative sustainable stormwater solutions and maintain existing stormwater quality treatment infrastructure.	4	<b>Planning stage</b>					
		Investigate stormwater retrofit locations.	A detailed costed report identifying and prioritising stormwater retrofit locations.	Medium	EEU	CAG, COG, PDG	Medium
		Investigate opportunities to develop innovative stormwater solutions.	A detailed costed report identifying and prioritising innovative stormwater solutions.	Medium	CTIAMU	CAG, COG, EEU, PDG	Medium
		Review current state and investigate opportunities to obtain greater outcomes through Water Sensitive Urban Design (WSUD).	A detailed report that details the finding of the WSUD review and fully costed prioritised opportunities.	Medium	CPAG	CAG, COG, CWG, ERG, PDG	Medium
		<b>Implementation stage</b>					
		Retrofitting has occurred at identified highest priority locations.	Number of locations retrofitted per year.	Long	CAG	CPAG, EEU, PDG, RDMMU	FCD
Priority project opportunities identified in planning stage have been implemented.	Number of stormwater solutions projects finalised per year.	Long	CAG	CPAG, EEU, PDG, RDMMU	FCD		
<b>Adaptive Management</b>	5	Annual review of Action Plan to evaluate success against goals, actions and performance measures.	Annual progress of actions incorporated into Operational Plan reporting.	Ongoing	EEU	All stakeholders	BAU





# Protect Creeks and Bay Assets

*Objective: Minimise harm to the creeks and bay from pollution, by prioritising the quality of urban runoff, management of stormwater and natural assets, and protecting existing instream, wetland and creek bank vegetated ecosystems.*

The resilience of our creeks and the bay will increase by minimising and mitigating the processes that are threatening and degrading their values and ecosystems services. The more resilient our systems are, the greater the likelihood that they can adapt and respond to further pressures.

The principal focus of this objective is to address the impacts of stormwater runoff on our waterways. This includes erosion and sediment control impacts from construction, along with litter.

Minimising pollution by best practice management of planned and existing assets is a key focus for minimising some of the threatening processes to our waterways. These assets include stormwater assets, wastewater infrastructure and roads.

Water sensitive urban design (WSUD) will continue to be incorporated into urban development, with a drive for ongoing review and improvements of the current approach. This includes ongoing review of effectiveness and support uptake of design innovation.

Table 2. Protect Creeks and Bay assets

Priority Outcome	Action number	Action	Performance measures	Timeframe	Responsibility	Partners	Cost estimate
<b>Best practice operations</b> Implement best practice environmental management on all Council sites and for all Council works.	6	<b>Planning stage</b>					
		A review of risk has been undertaken of the current state of Council's operations.	A detailed risk assessment report with recommended mitigation options.	Medium	CARU, EEU	CAG, COG, CWG RLSU	Medium
		Based on outcomes from the Risk Assessment Report, investigate innovative solutions to improve waterway outcomes.	A detailed and costed report prioritising innovative solutions recommendations.	Medium	CARU*	CAG, COG, CWG, ERG, RLSU	FCD
		Based on outcomes from Risk Assessment Report investigate priority improvement projects.	A detailed and costed report prioritising improvement projects/processes.	Medium	All operational stakeholders		Medium
		<b>Implementation stage</b>					
		Where risks/gaps have been identified, processes or procedures have been developed to manage risk.	Number of plans and procedures created or updated.	Medium	All operational stakeholders		BAU - Low
		Development of an erosion and sediment control /surface water runoff procedure for Council works has been developed, along with site specific plans for high risk sites and activities.	Number of Erosion and Sediment Control/Surface Water Procedure and site specific plans completed.	Medium	CARU	All operational stakeholders	Medium
		Deliver priority improvement projects based on Risk Assessment Report.	Number of projects completed.	Medium - Ongoing	All operational stakeholders		TBD
Improved communication between Council teams.	One Team Environmental Steering Committee has met quarterly.	Ongoing	CARU	All operational stakeholders, ERG	Medium		
<b>Best practice asset management</b> Implement best practice asset management.	7	<b>Planning stage</b>					
		Undertake review of all relevant asset classes.	A detailed report detailing findings and recommendations.	Medium	AMU, EEU	CAG, COG, CWG, ERG, RLSU	Medium
		Development of waterways related maintenance programs to strategically plan and prioritise key locations.	Detailed maintenance program approved.	Medium	COG	CAG, CPAG, CWG, ERG	Medium
		<b>Implementation stage</b>					
		Priority opportunities that have been identified during planning stage have been presented for future capital or operational works budgets.	Number of successful capital or operational works budgets bids per year.	Long	All infrastructure and operational stakeholders	CAG, COG, CWG, ERG	FCD
Asset maintenance programs have occurred in a strategically planned manner.	Asset maintenance programs have occurred in a strategically planned manner.	Long	All asset owners	CAG, COG, CWG, ERG	FCD		

Priority Outcome	Action number	Action	Performance measures	Timeframe	Responsibility	Partners	Cost estimate	
<b>Develop internal knowledge</b> Increase education of internal staff and contractors in applying best practice management in all operational programs.	8	<b>Planning stage</b>						
		Undertake training based gap analysis for Council officers informed by risk assessment associated with operational, regulatory and assessment roles.	Detailed report identifying training requirements.	Short	CARU	All Stakeholders	BAU	
		<b>Implementation stage</b>						
		Training has been developed or made available based on training gap analysis.	Number of identified officers completed training modules.	Medium	CARU	All Stakeholders	FCD	
		Increase education of internal staff and contractors in applying best practice management in all operational programs.	Awareness training has been incorporated into staff inductions and within induction handbook.	Medium	CARU, PDU	All Stakeholders	Low	
<b>Assessment and compliance</b> Ensure legislative obligations are met by industry through the approval assessment and compliance processes.	9	<b>Planning stage</b>						
		Establish Urban Stormwater/Erosion And Sediment Control Working Group to: <ul style="list-style-type: none"> <li>• Drive continual improvement</li> <li>• Identify legislative changes and</li> <li>• Undertake risk reviews of activities.</li> </ul>	Number of working group meetings and risk reviews undertaken per year.	Short - ongoing	EEU	CAG, COG, CPAG, ERG, RLSU	BAU	
		Risk assessment has been undertaken to identify gaps, barriers and opportunities in current assessment and compliance processes and tools.	A detailed report identifying gaps, barriers and opportunities in current assessment and compliance processes and tools.	Short	CPAG, DCU, HEU	CAG, COG, CPAG, CSU, CWS, RLSU	Medium	
		Workshop with key stakeholders to brainstorm opportunities to encourage greater ownership of outcomes, such as such as erosion and sediment control by industry.	A report detailing opportunities to educate and encourage industry to achieve improved outcomes.	Medium	EEU	CAG, CEDG, COG, CPAG, CWS, ERG	BAU	
		<b>Implementation stage</b>						
		Key procedures, work instructions and planning tools have been reviewed when key amendments have occurred to legislation, policy, planning tools or best practice.	Number of updates per year.	Ongoing	CPAG, CSU, DCU, HEU	CPAG, ERG	BAU	

Priority Outcome	Action number	Action	Performance measures	Timeframe	Responsibility	Partners	Cost estimate
<b>Biosecurity</b> Undertake biosecurity management to enhance the assemblage of native species.	10	<b>Planning stage</b>					
		Develop a pest fish monitoring program.	A fully costed monitoring program developed.	Medium	EEU	CAG, COG, CWG, ERG	Low
		Research and develop a community education and engagement program.	A detailed and costed report of opportunities and recommendations for the program.	Short	CSU, EEU	Biosecurity Working Group	Low
		Review latest trends and innovative solutions for ongoing management of biosecurity.	Detailed and costed report identifying innovative solutions for biosecurity management.	Medium	CSU, EEU, PCU	Biosecurity Working Group	Low
		<b>Implementation stage</b>					
		Commence Pest Monitoring program.	Number of monitoring and associated management actions completed.	Long	EEU, PCU	COG, EEU, PCU	
Deliver solutions identified in the planning report.	Number of projects delivered.	Medium	CSU, EEU	Biosecurity Working Group	FCD		
<b>Offsets and off-site solutions</b> Review, develop and implement framework to manage offset and off-site solutions.	11	<b>Planning stage</b>					
		Review offsets and off-site solutions framework to manage offsets/off-site solutions.	Detailed and costed frameworks and associated recommendations to manage offsets/off-site options.	Medium	CAG, CPAG, CWG, EEU	CAG, COG CPAG, CWG, ERG, SAPMG	Medium
		<b>Implementation stage</b>					
If approved, undertake recommendations of proposed offsets/off-site framework.	Number of recommendations implemented per year.	Long	TBD		FCD		



# Restore Degraded Systems

*Objective: Restore resilience of the creeks and the Bay by improving habitats, biodiversity, connectivity and natural flows through corrective remediation works including actively eroding areas.*

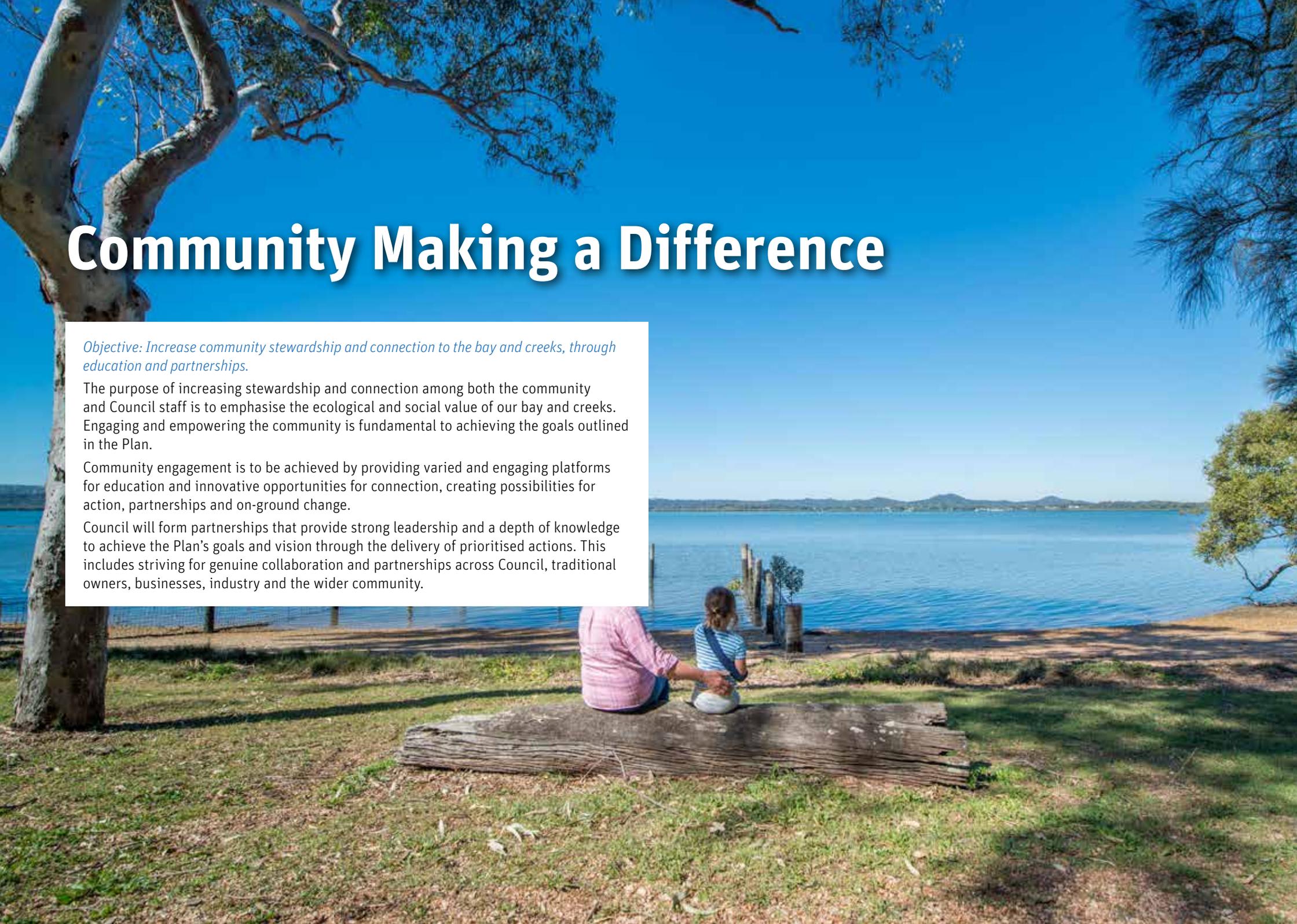
This objective is to undertake restoration of degraded assets and improve habitats, biodiversity, connectivity and natural form and flow.

Restoration of habitats and naturalising flow (including fauna passage) will be a major focus for managing native aquatic fauna and biosecurity (pest fish).

Table 3. Restore degraded systems actions.

Priority Outcome	Action number	Action	Performance measures	Timeframe	Responsibility	Partners	Cost estimate
<b>Habitat restoration</b> Restore degraded areas at priority locations by improving habitat, biodiversity and connectivity, along with addressing threats.	12	<b>Planning stage</b>					
		Identify and map known potential restoration areas.	Map produced to identify established and known potential restoration areas.	Medium	EEU	CAG, COG, CSG, CWG	Medium
		Develop restoration plans based on prioritised mapping of potential restoration areas.	Number of costed restoration plans completed.	Medium	EEU	all Infrastructure and operational stakeholders	FCD
		<b>Implementation stage</b>					
		Prioritised habitat restoration projects commenced.	Number of priority habitat restoration projects undertaken per year.	Medium - ongoing	EEU	CAG, COG, CWG, PCU, PDG, SAPMG	FCD
<b>Creek erosion</b> Restoration of actively eroding creeks.	13	<b>Planning stage</b>					
		Develop tool/s to capture and assess extent of waterway/gully erosion.	A detailed report of tool developed and trialed.	Short	EEU	AMU, CAG, COG, CWG, ERG	Low
		Develop restoration plans based on prioritised mapping of actively eroding creek areas.	Number of costed restoration plans completed.	Medium	EEU	CAG, COG, CWG, ERG, PDG	Medium
		<b>Implementation stage</b>					
		Undertake trials of waterway, bed and/or bank restoration.	A detailed report and tool/s outlining the outcome of the trails for future works.	Long	EEU	CAG, COG, ERG, PDG, SAPMG	FCD
<b>Natural flows</b> Restore natural flows of water, including reducing fauna barriers and reconnecting waterways without causing adverse hydraulic or ecosystem impacts.	14	<b>Planning stage</b>					
		Develop a plan for the reduction of fauna barriers across the city.	A detailed and costed plan that identifies and priorities removal and/or retrofitting of fauna barriers.	Medium	CAG, EEU	COG, PDG	Low
		Review the current approach to manage artificial water bodies across the city.	A detailed report of the review findings and proposed recommendation to improve current processes.	Long	EEU	CAG, COG, CPAG	Low
		<b>Implementation stage</b>					
		Best practice has been embedded as standard practice in the design, install, repair or upgrade of existing hard infrastructure in waterways.	Audit of projects indicate 100% achievement of best practices in all projects.	Medium - ongoing	CAG, COG, CPAG, CWG, PDG	EEU	Medium
		Commence prioritised retrofit and/or removal of existing high priority barriers to fauna passage and improve habitat connectivity.	Number of fauna barriers removed or retrofitted.	Long	CAG, EEU	CAG, COG, CWG, PDG, SAMP	High
		Recommendations from artificial water bodies management are implemented.	Number of recommendation actions from review implemented.	Long	CPAG, PCU	CAG, COG, EEU, PDG	FCD

# Community Making a Difference

A scenic view of a bay with a large tree on the left and a person sitting on a log in the foreground. The background shows a clear blue sky and distant hills.

*Objective: Increase community stewardship and connection to the bay and creeks, through education and partnerships.*

The purpose of increasing stewardship and connection among both the community and Council staff is to emphasise the ecological and social value of our bay and creeks. Engaging and empowering the community is fundamental to achieving the goals outlined in the Plan.

Community engagement is to be achieved by providing varied and engaging platforms for education and innovative opportunities for connection, creating possibilities for action, partnerships and on-ground change.

Council will form partnerships that provide strong leadership and a depth of knowledge to achieve the Plan's goals and vision through the delivery of prioritised actions. This includes striving for genuine collaboration and partnerships across Council, traditional owners, businesses, industry and the wider community.

Table 4. Community can make a difference

Priority Outcome	Action number	Action	Performance measures	Timeframe	Responsibility	Partners	Cost estimate
<b>Community participation</b> Support community participation and scope opportunities to increase community engagement, leveraging resources to direct and contribute to management associated with our bay and creeks.	15	<b>Planning stage</b>					
		Development of a Community Engagement Program that identifies opportunities for community led restoration, monitoring and research.	A detailed Community Engagement Program which identifies key opportunities for community participation.	Medium	EEU	CAG, CEDG, CETG, CCG, COG, CWG, ERG	Low
		Development of Citizen Science Program	A detailed program with prioritised citizen science projects.	Medium	EEU	CETG	Low
		Investigation into the feasibility to develop a Catchment Coordination Association to direct and contribute to waterways action and management.	A detailed report of the feasibility and requirement to create a Catchment Coordination Association.	Long	EEU	All operational and infrastructure stakeholders	Medium
		<b>Implementation stage</b>					
		If supported, establish a Catchment Coordination Association.	Inaugural catchment coordination meeting held and network terms of reference developed.	Long	EEU	All stakeholders	FCD
Commencement of robust citizen science projects.	Number of robust citizen science projects undertaken.	Long	EEU	All stakeholders	FCD		
<b>Environmental education and extension</b> Support our community in their actions and decision making by providing education, advice and resources.	16	<b>Planning stage</b>					
		Develop a Bay and Creeks Education and Awareness Plan.	A detailed and costed Bay and Creek Education and Awareness Plan developed.	Medium	EEU	CAG, CETG, CCG, COG, CWG, ERG, PDG	Low
		<b>Implementation stage</b>					
Implementation of the Education and Awareness Plan.	Number of campaigns and review of the success of the campaigns.	Medium	EEU	All operational and infrastructure stakeholders, CAG, CETG, COG, CWG, ERG, PDU	FCD		
Identify targeted works on priority private properties to increase resilience of our bay and creeks.	Number of projects undertaken on private properties in the Environmental Partnerships Program.	Medium	EEU	ERG, WIAMU	BAU		

Priority Outcome	Action number	Action	Performance measures	Timeframe	Responsibility	Partners	Cost estimate
<b>Private wastewater treatment</b> Minimise contribution of pollutants to our bay and creeks from wastewater treatment on private property.	17	<b>Planning stage</b>					
		Undertake audit to identify the current level of compliance of maintaining wastewater treatment on private properties in priority areas.	A detailed report of the audit findings.	Medium	DCU	CWG, EEU, HEU	Low
		If low level of compliance is identified, further research and review undertaken to outline options to improve level of compliance of maintenance on wastewater treatment on private property.	A detailed and cost plan identifying options to improve compliance.	Medium	DCU	CWG, ERG	Low
		<b>Implementation stage</b>					
		Targeted program to improve maintenance of private wastewater systems commenced.	Number of compliant properties (reduced from baseline figures).	Medium	DCU	CETG, CWG, ERG	BAU



# Appendix 1

Alignment of *Redland Coast Bay and Creeks Action Plan* (BCP-AP) to the actions of the *Lower Brisbane-Redlands Coastal Catchments Action Plan*.

CAP Action	CAP Actions	CAP possible implementation pathway	Specified Redlands Coast locations	Actions within BCP-AP	Details of implementation through BCP-AP
1	Address bed and bank instability at 10 priority locations through on ground works including bank stabilisation, riparian and instream rehabilitation and weed management to benchmark standard, where possible.	Collaboration between BCC, RCC, LCC, ICC, SEQW and community groups.	Sites listed include Eprapah and Upper Tingalpa with locations within to be confirmed.	1 (Innovative opportunities and partnerships) 11 (Offsets and off-site solutions) 12 (Habitat restoration) 13 (Creek erosion) 15 (Community participation)	Identify, assess and prioritise areas. Followed by scoping projects, sourcing funding and implementation.
2	No reference to RCC (action associated with Oxley Creek).				
3	Undertake trial of saltmarsh rehabilitation techniques (to benchmark standard) to address damage caused by vehicles, including vehicle exclusion barriers, revegetation and stabilisation.	Collaborative project between HLW, RCC, BCC, QYAC and community.	Locations to be determined, and may include Ormiston, Redland Bay and Russell Island.	1 (Innovative opportunities and partnerships) 11 (Offsets and off-site solutions) 12 (Habitat restoration) 15 (Community participation)	Identify, assess and prioritise areas. Followed by scoping projects, sourcing funding and implementation.
4	Identify suitable areas, retrofit innovative stormwater solutions within a precinct and apply the Living Waterways approach to deliver on broader benefits of water sensitive urban design, such as urban cooling and social amenity through the use of emerging and innovative technologies.	Partnership approach between local governments and developers with support from HLW and water utilities.	Thornlands and other appropriate locations determined by stakeholders.	1 (Innovative opportunities and partnerships) 2 (Monitoring) 4 (Stormwater solutions) 7 (Best practice asset management) 9 (Assessment and compliance) 11 (Offsets and off-site solutions) 15 (Community participation)	Identify, assess and prioritise areas. Followed by scoping projects, sourcing funding and implementation.  Link of Urban Vegetation Plan regarding urban cooling.
5	Reinstate fish passage at three priority locations, as ranked in the Greater Brisbane Fish Barrier Prioritisation Study (completed 2016).	Collaboration between DES, DAF, HLW, BCC and RCC.	Fellmonger Park on Hilliards Creek, Ormiston listed.	1 (Innovative opportunities and partnerships) 12 (Habitat restoration) 14 (Natural flows) 15 (Community participation) 16 (Environmental education and extension)	Scope and research projects. Monitor impacts on fauna assemblage. Develop project plans. Source funding and implement projects.
6	Establish six partnership (twinning) projects to share knowledge, expertise and leverage funding to improve waterway management outcomes across the catchment.	Cross-organisational partnerships between BCC, RCC, LCC, ICC, HLW, QYAC and community groups.	Projects and partnerships to be determined (2 per year).	1 (Innovative opportunities and partnerships) 4 (Stormwater solutions) 11 (Offsets and off-site solutions) 12 (Habitat restoration) 13 (Creek erosion) 14 (Natural flows) 15 (Community participation) 17 (Environmental education and extension)	Identify, assess and prioritise areas. Followed by scoping projects, sourcing funding and implementation.

CAP Action	CAP Actions	CAP possible implementation pathway	Specified Redlands Coast locations	Actions within BCP-AP	Details of implementation through BCP-AP
7	Enhance existing Erosion and Sediment Control regulatory activities (including monitoring, auditing, reporting compliance and education using a risk-based approach) to minimise environmental impacts from approved developments and activities. Includes erosion and sediment control during construction and stormwater quality improvement devices.	Partnership approach between local governments and developers with support from DES and HLW.	Active development sites.	2 (Monitoring) 7 (Best practice asset management) 9 (Assessment and compliance) 16 (Community education and extension)	This action is to be addressed mostly through action 9 Assessment and compliance). This is to be achieved by continual improvement of policy, process and procedure to ensure legislative obligations are met by industry through the approval assessment and compliance processes.
8	Deliver the SEQ Erosion and Sediment Control and Urban Stormwater Capacity Building Program in priority locations through training in and demonstration of best practice in erosion and sediment control using high-efficiency sediment basins for treating on-site stormwater runoff for council officers and industry.	DES in partnership with HLW, local councils to build knowledge and, with industry, to build awareness and capacity.	Deliver training at the Healthy Land and Water/ Redland City Council demonstration site and through training days and knowledge sharing in conjunction with local governments.	1 (Innovative opportunities and partnerships) 9 (Assessment and compliance) 15 (Community participation) 16 (Environmental education and extension)	This action is to be addressed mostly through participation in innovative partnerships associated with education and community participation.
9	Embed updated SEQ Environmental Values, Water Quality Objectives and accompanying aquatic ecosystem mapping under the <i>Environmental Protection (Water) Policy 2009</i> into local planning schemes.	Partnership approach between local governments and developers with support from DES and HLW.	Across Lower Brisbane-Redlands Coastal Catchment.	1 (Innovative opportunities and partnerships) 9 (Assessment and compliance)	RCC representatives to assist in review of Water Quality Objectives and once in place RCC to ensure requirements are incorporated into or planning tools.
10	Identify key issues, information gaps and clarify the regulatory framework for the sustainable management of shallow groundwater aquifers to support waterway health, wetlands and groundwater recharge.	A committee with representatives from BCC, RCC, LCC, DNRME, DES, HLW and SEQW.	Apply the clarified regulatory framework in two land use management scenarios including Leslie Harrison Dam Catchment.	1 (Innovative opportunities and partnerships)	Given RCC does not manage Leslie Harrison Dam, If requested an RCC representative is to participate on committee associated with relevant Catchment.
11	Build towards a greater body of knowledge of surface and groundwater resources on North Stradbroke Island to better inform water resource planning by: identifying existing data and assess data gaps establishing a centralised data collection, storage and sharing framework.	Collaborative project between QYAC, SEQW, DNRME, RCC, Redland Water and DES.	North Stradbroke Island groundwater catchment.	1 (Innovative opportunities and partnerships) 17 (Private wastewater treatment) 15 (Community participation)	RCC major contribution to this action is a compliance audit on documentation provided on private wastewater treatment systems. These system can potentially impact on ground water resources.
12	Identify Indigenous landscape values (both with Native Title and without) using the DES ecosystems service manual developed for appropriate inclusion of indigenous landscape values in catchment and land management activities.	Indigenous groups in partnership with DES and local governments (BCC, RCC, LCC and ICC).	Priority sites to be identified after developing the guide.	1 (Innovative opportunities and partnerships)	If requested RCC representatives can provide in-kind support to this project.

CAP Action	CAP Actions	CAP possible implementation pathway	Specified Redlands Coast locations	Actions within BCP-AP	Details of implementation through BCP-AP
13	<p>Embed urban waterway management technical guideline (under development) into waterway restoration designs.</p> <p>Ensure the appropriateness for this catchment, that it builds on existing information, including the Streambank, in-channel and riparian rehabilitation guidelines DNRM 17102 (under development), along with recognition of Indigenous landscape values (action #6).</p>	Collaborative project between DES, BCC, RCC, LCC, ICC and HLW. Building on the CRC for Sustainable Cities' riparian guideline and the DNRME guideline (under development).	To improve design outcomes on projects within the Lower Brisbane-Redlands Coastal Catchment.	<p>1 (Innovative opportunities and partnerships)</p> <p>9 (Assessment and compliance)</p> <p>12 (Habitat restoration)</p> <p>13 (Creek erosion)</p> <p>14 (Natural flows)</p>	RCC representatives to assist in development and review of document. If documents meets Redland Coast requirements this is then to be consulted during implementation of action 12 -14 and considered during action 10 (for incorporation into planning instruments).
14	Establish an agreed framework to ensure regular Lidar surveys are performed (e.g. roles, funding, and frequency).	DNRME to lead mapping in consultation with DES, BCC, RCC, LCC, ICC and stakeholders.	Lower Brisbane-Redlands Coastal Catchment.	1 (Innovative opportunities and partnerships)	<p>RCC representative to be available for consultation if opportunity given.</p> <p>At time of development of this plan Redland Coast did not form part of next proposed Lidar run.</p>
15	Undertake detailed mapping and condition assessment of sub-tidal and intertidal wetlands. Classify wetlands using DES's existing methodology and assess risks to key habitats to inform coastal adaptation planning and wetland rehabilitation and restoration planning.	DES to undertake detailed baseline mapping. RCC, BCC, QYAC and HLW to assist with assessing risks.	Brisbane River mouth and Moreton Bay (between SMBIs and Moreton Island).	1 (Innovative opportunities and partnerships)	If requested RCC representatives to provide in-kind support to this project.

Table 2. External stakeholders

Acronym	Other stakeholders
AMCS	Australian Marine Conservation Society
	Australia New Guinea Fishes Association
BIC	Bay Island Conservation Inc.
BCC	Brisbane City Council
	Coochiemudlo Island Coastcare Inc.
	Eprapah Landcare
	CSIRO Water Sensitive Cities
HLW	Healthy Land and Water
LCC	Logan City Council
	Landcare Australia
	Mangrove Watch
	Moreton Bay Coast Care
	Moreton Bay Environmental Alliance
	Moreton Bay Foundation
	Private landholders and business (individuals and associations)
QYAC	Quandamooka Yoolooburrabee Aboriginal Corporation
DAF	Queensland Government Department of Agricultural and Fisheries

Acronym	Other stakeholders
DES	Queensland Government Department of Environment and Science
NPRSR	Queensland Government Department of National Parks, Recreation, Sport and Racing
DNRM	Queensland Government Department of Natural Resources and Mines (Unallocated State Land)
QWSG	Queensland Wader Study Group
	Recreation organisations and associations, e.g. OzFish
	Seagrass watch
	Moreton Bay Ramsar Network
	Reef Check
SEQW	SEQ Water
	SEQ Water By Design Steering Committee
	SEQ Monitoring and Evaluation Steering Committee
	SMBI Coastcare
	Underwater Research Group of Queensland
	Universities and associated research organisations
	WetlandCare Australia
Wildlife Queensland Coastal Citizen Science	





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