CQSS2030

CENTRAL QUEENSLAND
Sustainability Strategy 2030

Introduction

The CQSS2030 plan draws on the best available scientific knowledge, as well as global, Australian and Queensland targets, and marries them with what our regional communities want for their future.

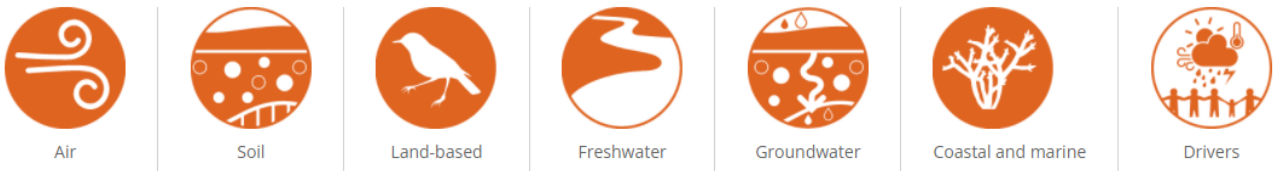
It has been designed to help guide individuals, families, businesses, groups and organisations as well as government. That's because to achieve a sustainable future, we need everyone working at all levels towards the same goals.

We also need to work together as a region to fill critical knowledge gaps, finetune our targets and find a way to monitor and report on our progress towards them. By measuring our progress against regionally relevant targets, we will also be able to demonstrate our contribution to protecting State, National and International priorities. The next critical step requires a coordinated approach across all sectors to combine our knowledge and resources so we can create what scientific circles and our communities are calling for.

CQSS2030 is a living plan

Because science is always evolving, and we don't know everything, this plan is a living document. It represents the best we know now, and our targets and strategies will be updated as we learn more and find ways to do better. You might even notice that some targets have a question mark next to them; this indicates an area our region needs to learn more about.

CQSS2030 is organised around Central Queensland's key natural assets and two drivers – climate and people.



CQSS2030 recommends 33 strategies to reach targets

1 Promote and support management practices that maintain air quality within appropriate guidelines.

2 Monitor and communicate trends in carbon emissions.

3 Promote and support mitigation actions including carbon sequestration and emissions reduction.

4 Improve our understanding of linkages between freshwater and coastal/marine and ground water systems.

5 Identify and protect priority species/ecosystems and critical refugia to maintain viable populations and key ecosystem services.

6 Promote and support management practices that protect/maintain /restore critical refugia, riparian ecosystems and wetlands.

7 Promote and support integrated water resource planning (ground and surface water).

8 Reduce the impact of barriers to aquatic connectivity within and between freshwater and coastal waterways.

9 Build knowledge and awareness about sustainable long-term use of groundwater resources.

10 Promote and support management practices that reduce demands on water resources manage salinity risk and avoid contamination of water sources.

11 Build knowledge and awareness about groundwater dependent ecosystems.

12 Develop, promote and support management practices that protect, maintain and restore critical groundwater dependent ecosystems.

13 Understand and prepare for changes in sea temperatures, ocean acidity and coastal currents.

14 Protect and prioritise the coastal zone as a critical buffer.

15 Understand and prepare for changes in sea level and tidal/storm surges.

16 Understand and address individual threats to maintain ecological services and values.

17 Build knowledge, awareness and skills that minimise negative impacts on natural assets.

18 Identify and protect priority sites and species of cultural significance (Local, regional, state and federal level).

19 Promote and support business/lifestyle choices and practices that minimise negative impacts on our natural assets.

20 Understand and prepare for changes in temperature, rainfall patterns and extreme weather events (climate change).

21 Build knowledge and awareness about soil health management techniques.

22 Promote and support management practices that identify and preserve high quality soils.

23 Promote and support management practices that best maintain and build soils.

24 Build knowledge and awareness about the extent of degraded lands and rehabilitation techniques.

25 Promote and support management practices that restore degraded sites.

26 Build knowledge and awareness about end-of-dry season groundcover/biomass standards by land type.

27 Promote and support management practices that effectively maintain groundcover/biomass.

28 Understand critical elements of habitats and promote and support management practices that conserve these.

29 Understand and address drivers of decline in ecosystem extent and condition.

30 Promote and support vegetation management practices that conserve biodiversity values and ecosystem function.

31 Promote and support management practices that minimise the impacts of weed and pest species.

32 Promote and support management practices that improve vegetation connectivity at the local and regional scale.

33 Increase green spaces in populated areas.

Our plan for Air

As a region, we are lucky to have a relatively low population density, which means air pollution concentrations are lower than more industrialised and urbanised areas. We also have nine air quality monitoring sites across the region that report against Australian standards set by the National Environment Protection Council. On the flipside, we are home to large scale open-cut mining operations, a major coal terminal and one of the oldest energy stations in Australia. Coupled with longer dry seasons, more extreme weather events, vehicles that have low emissions standards, and the majority of our land under agricultural production, our relatively good air quality may not be a given forever.

Chillingly, leading medical professionals are calling for improvements in Australia's air quality standards to help reduce the rise in cardiac and respiratory health problems. This leaves our region in the position of having to decide whether to accept the status quo or do more to safeguard our airways.

Key attribute – Air quality (breathability and visibility)

Goal 1: Air quality (gaseous and particulate matter) is maintained or improved

Targets:	**Flow on benefits:**	**Strategies:**																																
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**
T1: Air quality monitoring at existing sites* does not exceed Environmnetal Protection (Air) Policy 2008 standards for health and wellbeing (monitored monthly, reported annually).																																		
T2: By 2025 public air quality monitoring and reporting is established at additional priority sites																																		
T3: Our region's greenhouse gas emissions are reduced to net zero by 2050 (at least 30% below 2005 levels by 2030)																																		

Our plan for Soil

The biggest challenge we face is identifying and implementing management practices on a broad enough scale to halt and reverse active erosion sites and prevent further soil decline across the many tenures, land uses, land types and properties in our region. While we have access to soil mapping, geological data, and monitoring and modelling systems in place, many unknowns and error margins still exist. Changing weather patterns and hydrological systems, and the resultant changes in landcover and human activity present additional complexities in determining the best path forward. To date, much of the focus has been on reducing end-of-catchment sediment and nutrient loads that harm waterways and the Great Barrier Reef. Ensuring appropriate end-of-dry season biomass for each land type across the region, through integrated land management practices, is our surest path to safeguarding our soils and helping everything downstream.

Key attribute – Soil quality

Goal 1: Condition and extent of stable and/or productive lands is maintained or improved

Targets:	**Flow on benefits:**	**Strategies:**																														
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**
T1: 80% of every land use under Best Management Practices																						■	■	■	■	■		■				■		■

Goal 2: Soil integrity and retention across the region is maintained or improved

Targets:	**Flow on benefits:**	**Strategies:**																														
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**
T1: 90% of agricultural lands have greater than 70% groundcover in the late dry season until such time as appropriate biomass levels are determined																						■			■		■	■						■
T2: Footprint of known active erosion and problem soil sites is stable or declining																						■		■	■	■								
T3: Extent and quality of known healthy soils is maintained or increased																						■	■	■								■		

Our plan for Land-based Ecosystems

Land-based ecosystems are infinitely complex and we still don't understand many of the specific requirements of individual plant and animal species, let alone their interconnections and what they will need as weather patterns and habitats change. We have already lost many plant, animal, and insect species due to significant landscape modifications over the past 200 years, and the trend is one of continuing decline. What remains is operating under duress which means the life-supporting ecosystem services we have enjoyed to date are compromised. Our first challenge as a region is to identify, protect, extend and enhance critical habitats to safeguard what remains so we can continue to enjoy clean air and water, naturally pollinated crops and the other important services they provide. Our second, and perhaps most significant challenge, is to build homes, businesses, industries and economies that promote and protect the natural systems in our region.

Key attribute – Terrestrial ecosystems

Goal 1: The extent, composition, structure and function of terrestrial ecosystems are maintained

Targets:	**Flow on benefits:**	**Strategies:**																														
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**
T1: Maintain and increase remnant and non-remnant vegetation across the region (measured at the end of dry season)						■								■		■													■	■	■	■	■	■
T2: ? Extent and condition of critical refugia including ground water dependent ecosystems (climatic, cryptic and other) is maintained and/or increased						■								■		■													■	■	■	■		
T3: The status of listed regional ecosystems (endangered or of concern) is maintained or improved over time (reviewed annually)						■								■		■													■	■	■	■		

Key attribute – Terrestrial ecosystems (continued)

Goal 2: Native species (plants and animal) diversity is maintained

Targets:	Flow on benefits:	Strategies:																															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
T1: No additional species that rely on our region's terrestrial ecosystems are added to the EPBC or NCA lists						■								■		■													■		■	■		■
T2: Trajectory of known listed threatened species that rely on our region's terrestrial ecosystems is stable or improved						■								■		■													■		■	■		■

Key attribute – Terrestrial landscape patterns (corridors)

Goal 3: Condition and extent of stable and/or productive lands is maintained or improved

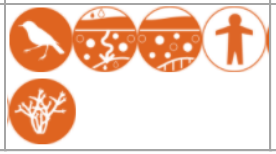
Targets:	Flow on benefits:	Strategies:																															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
T1: Landscape vegetation connectivity is maintained or improved						■																					■		■		■	■		

Our plan for Freshwater Ecosystems

Like land-based ecosystems, surface freshwater systems in our region are extremely diverse, complex and intricately connected with all the other assets and ourselves. Their health impacts ours as well as land-based native plants, animals and ecosystems, those in groundwater aquifers and in downstream coastal and marine areas. Because so much of our region has been modified through agriculture, mining and urban development, and demands on freshwater resources have increased to support our growing population, waterway function and health across our region has changed, and not for the better. Changing weather patterns are also impacting how our waterways function and how well they supply and support the systems around them. While we have a fairly good understanding of their location, extent and water quality, there is a pressing need to identify how we can better protect and preserve all their services and values to safeguard threatened species, broader ecosystem services, and ensure sufficient water of suitable quality for ourselves.

Key attribute – Landscape waterway patterns (includes wetlands and overland flows)

Goal 1: Freshwater flows and connectivity across the landscape sustains human use and natural values

Targets:	**Flow on benefits:**	**Strategies:**																															
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**
T1: Environmental flows required to support critical ecosystem functions (e.g. connectivity, spawning, refugia etc.) are maintained					■		■	■	■		■			■		■																	
T2: Freshwater hydrological regimes and spatial extent are maintained or improved					■		■	■	■		■			■		■																	

Key attribute – Waterway ecosystems

Goal 2: Extent and function of freshwater ecosystems are maintained or improved

Targets:	**Flow on benefits:**	**Strategies:**																																
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**
T1: Extent of waterway vegetation is maintained					■		■	■	■		■			■		■																■		■
T2: No additional freshwater aquatic species that rely on our region's freshwater ecosystems added to the EPBC or NCA lists						■	■		■		■			■		■																■		■
T3: Trajectory of known listed threatened species that rely on freshwater ecosystems is stable or improved						■	■		■		■			■		■																■		■
T4: Extent and function of critical refugia located in freshwater ecosystems is maintained and/or improved					■	■	■	■	■		■			■		■																■		
T5: The overall aquatic ecosystem health score for all sub-catchments is asssessed as good or very good (reported annually)					■		■	■	■		■			■		■																■		

Our plan for Groundwater

Our region's biggest knowledge gap is our groundwater systems and resources. On the whole, they are less well understood and mapped, and subsequently subject to less monitoring, reporting and scrutiny than our other natural assets.
The Queensland Government reports on groundwater levels for some of our region, and the Office of Groundwater Impact Assessment prepares impact reports for the Surat Cumulative Management Area every 3 years. As such we do not really know how past and current groundwater use and land management has impacted our groundwater systems, or surface systems they support. Given groundwater's significance to our industries, waterways and landscapes, this presents a considerable concern. As our weather patterns change and our need for food, water and housing increases, our groundwater will face increasing use, the impacts of which could stretch well beyond our region and generation. Our focus needs to urgently turn towards understanding and sustainably managing this most precious resource.

Key attribute – Groundwater dependent ecosystems

Goal 1: Extent and condition of groundwater dependent ecosystems is maintained or improved

Targets:	**Flow on benefits:**	**Strategies:**																														
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**
T1: By 2025 extent of groundwater dependent ecosystems are mapped and baseline conditions captured and measured																																
T2: Extent and function of groundwater dependent ecosystems is maintained or improved																																

Key attribute – Water levels and pressure

Goal 2: Longterm groundwater levels and pressures are maintained

Targets:	Flow on benefits:	Strategies:																														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
T1: By 2023 knowledge gaps are addressed so that appropriate level and targets can be set for our region's aquifers																																		
T2: Individual aquifer levels, pressures and integrity are maintained or improved																																		

Key attribute – Groundwater quality

Goal 3: Groundwater quality is maintained

Targets:	Flow on benefits:	Strategies:																														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
T1: Water quality at monitored sites is maintained or improved within ANZECC & ARMCANZ parameters and by aquifer set parameters																																		

Our plan for Coastal and Marine Ecosystems

Thanks to the international significance of the Great Barrier Reef (GBR), our coastal and marine ecosystems are among our region's best understood and most extensively studied and reported natural assets. There are however, still significant gaps in our understanding and knowledge, particularly of keystone species, and critical population thresholds and habitats that ensure food chains are sustained (locally and around the globe). Safeguarding the Great Barrier Reef attracts significant investment to our region, however our coastal and marine systems face what could perhaps be described as the most complex combination of pressures and threats. Coastal urban centres coupled with an international port, significant recreation and fishing industries, and discharge from the largest (and predominantly agricultural) catchment draining to the reef all place significant strain on systems that are also at the frontline of rising sea levels and global temperatures. Encouragingly, the progress we make towards targets for other natural assets will only benefit our coastal and marine ecosystems.

Key attribute – Estuarine and shoreline ecosystems

Goal 1: The extent, condition resilience and function of estuarine and coastal ecosystems is maintained or improved

Targets:	**Flow on benefits:**	**Strategies:**																																
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**
T1: Extent and function of high value coastal ecosystems is maintained or improved for seagrass, mangroves, rookeries and roosting sites					■	■		■	■		■			■	■	■				■												■		
T2: Queensland Sustainable Fisheries Strategy 2017-2027 targets met																				■														
T3: No additional species that rely on our region's marine ecosystems added to EPBC or NCA lists					■	■			■		■			■	■	■				■												■		
T4: Supra-tidal wetland hydrological regimes and spatial extent are maintained					■	■		■	■		■			■		■				■												■		

Key attribute – Marine ecosystems

Goal 2: The extent, condition resilience and function of marine ecosystems is maintained or improved

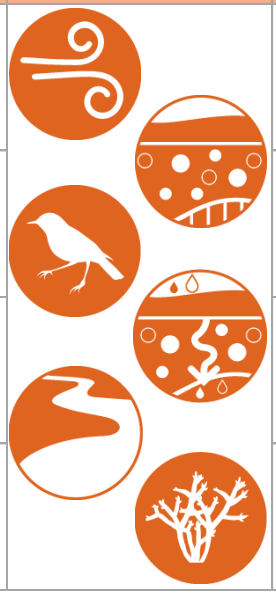
Targets:	Flow on benefits:	Strategies: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
T1: Water quality targets to maintain Great Barrier Reef ecosystems are achieved (set through the Reef 2050 Water Quality Improvement Plan and reported annually through the reef report card)		This will be updated when revised Reef2050 Water Quality Improvement Plan targets are released in 2023
T2: Extent and function of high value marine ecosystems is maintained or improved for seagrass meadows and corals		
T3: Impact of Crown of Thorns to regional coral reefs is negligible and/or reversible within 1-2 years		
T4: No additional species that rely on our region's marine ecosystems added to EPBC or NCA lists		
T5: Trajectory of known listed threatened species that rely on coastal ecosystems is stable or improves		
T6: Great Barrier Reef Marine Park Zoning plan supported - compliance targets met		
T7: Queensland Sustainable Fisheries Strategy 2017-2027 targets met		

Our plan for Drivers (People and Climate)

In August 2021, the Intergovernmental Panel on Climate Change released its 6th Assessment Report, *Climate Change 2021: The Physical Science Basis*. It unequivocally states our planet is warming due to human activity. As a result, our local and global weather patterns are changing, and while this presents very real threats to our coastline, communities, industries and natural assets, there is a lot we can do to prepare our region whilst also reversing other worrying trends. Practices that reduce or eliminate our contributions to climate change also provide significant benefits to ourselves and our natural assets – some immediate and many for the long term. These include improving our air quality, safeguarding our food production systems, and establishing regional water security. If we work together smartly, we can leverage our solutions to establish new industries that meet emerging and growing product and service demands, and most importantly, establish regional job security. The challenges include finding the connections between different sectors, knowledge systems and opinions, and taking the time to work them into effective models that deliver sustainably against the triple bottom line.

Key attribute – Liveability and resilience

Goal 1: Healthy people, environment and economy

Targets:	**Flow on benefits:**	**Strategies:**																														
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**
T1: ?X% of residents and businesses are actively adopting better management practices																																		
T2: ? Region's level of health and wellbeing is maintained or improving																																		
T3: ? The condition of natural sites and native species of cultural significance are maintained or improved																																		
T4: ? By 2030 X% of residents and businesses within the CQSS2030 region understand and are well prepared for changes in temperature, rainfall and extreme weather events (climate																																		

For further information

Visit www.cqss2030.com.au

Contact Fitzroy Basin Association
07 4999 2800

As the leading Natural Resource Management (NRM) body for the region, FBA is responsible for coordinating the review and maintenance of, and making publicly available the region's NRM plan – the CQSS2030.