# South West Regional Resilience Strategy

Balonne Shire Council · Bulloo Shire · maranoa Regional Council · Shire of Murweh · Paroo Shire Council · Quilpie Shire · Queensland Government

## Document details

| | |
|---|---|
| Security classification | Public |
| Date of review of security classification | May 2022 |
| Authority | Queensland Reconstruction Authority |
| Document status | Final |
| Version | 1.0 |
| QRA Reference | QRATF/20/4153 \| GD 0647 |



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**The South West Regional Resilience Strategy is a partnership between the Queensland Government and the South West Queensland Regional Organisation of Councils (SWQROC) member councils.**

| Council/website | Disaster Dashboard |
|---|---|
| **South West Queensland Regional Organisation of Councils (SWQROC)** | www.swqroc.com.au |
| **Balonne Shire Council** www.balonne.qld.gov.au | www.balonne.qld.gov.au/community/disaster-and-emergencies |
| **Bulloo Shire Council** www.bulloo.qld.gov.au | bulloo.qld.gov.au/disaster-management |
| **Maranoa Regional Council** www.mymaranoa.org.au | maranoa.qld.gov.au/disaster-management |
| **Murweh Shire Council** www.murweh.qld.gov.au | murwehelb-986543602.ap-southeast-2.elb.amazonaws.com/ |
| **Paroo Shire Council** www.paroo.qld.gov.au | www.paroo.qld.gov.au/disaster-management |
| **Quilpie Shire Council** quilpie.qld.gov.au | dashboard.quilpie.qld.gov.au |

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*Below: Balonne. Courtesy SWQROC.*

# Foreword

The boom and bust cycle of flood and drought is endemic to our region. We value the rains when they come: vital for our landscape and livelihoods. Lived experience of this cycle has taught us to value the things that make us resilient - our networks, our sense of community, our connection to the landscape and our strong desire for a happy and healthy lifestyle. As the Collaborative Cornerstone, we are some of the most resilient communities in Queensland.

However, the cycle, our landscape, weather and climate continue to change. Our drive towards continuous improvement and sustainability for our communities is being challenged. To forge a resilient and sustainable future we will draw upon the skills, knowledge and experiences of all members of our community - working together in new ways with mutual respect, to collectively drive our region from strength to strength.

This Strategy is about building our longer-term capacity to adapt to changing circumstances and the inevitable natural hazard impacts, in a healthy, productive and constructive way. Building on our strengths, creating and harnessing opportunity to do things differently.

Our region is working hard to attract a new wave of investment and economic opportunity. We envisage a future where we prosper but are also able to cope with whatever nature throws our way. To achieve this our Collaborative Cornerstone will work together to create shared solutions to common problems. Embedding resilience in all that we do, creating solutions and pathways that strengthen our baseline in ways suitable for our landscape are essential foundations for a stronger more resilient future.

Samantha O'Toole

Mayor, Balonne Shire Council

# Acknowledgments

The Queensland Government thanks the following councils, agencies and organisations for their contribution to this Strategy:

- Balonne Shire Council
- Bulloo Shire Council
- Maranoa Regional Council
- Murweh Shire Council
- Paroo Shire Council
- Quilpie Shire Council
- South West Queensland Regional Organisation of Councils

## Acknowledgment of Country

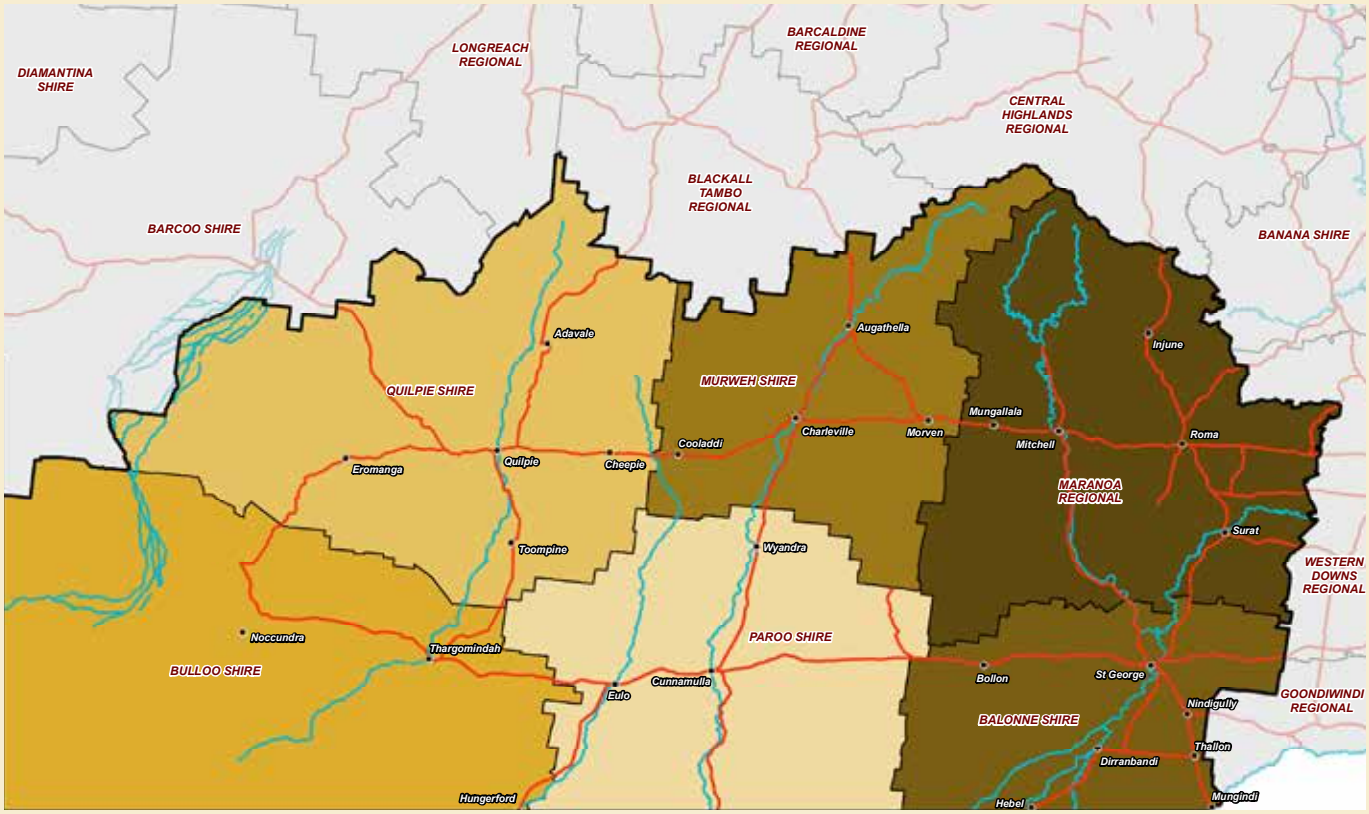
We acknowledge the Traditional Owners and Custodians of this Country.

We recognise and honour their ancient cultures, and their connection to land, sea and community.

We pay our respect to them, their cultures, and to their Elders, past, present and emerging.

*Image: Lake Wyara. Credit: Department of Environment and Science.*

## South West region




# *The Collaborative Cornerstone*

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# The Collaborative Cornerstone

## Our vision

***We are among Queensland's most resilient communities.***

***We are caretakers of natural systems which are unique in their intrinsic values from the Cooper to Currawinya.***

***We embrace the cyclical nature of our landscape through flooding rains to severe drought and seek to live in harmony with the natural and replenishing waters of our river systems.***

***We welcome visitors to our country to live and experience our special part of Australia.***

***Our people are connected by the spirit of our landscape.***

***We are connected physically by roads as a lifeblood for our economy and community and we value our collaborative approach of the cornerstone country.***

***We share a common wealth of grazing country and a diverse economic base in mining across communities form Maranoa to Bulloo, flourishing tourism in Murweh and Paroo, the fertile agricultural pursuits of the Balonne and new ventures emerging in Quilpie and across this baseline lies our strength.***

***We understand change and risk, the origins of severe storms, lightning strikes, bushfire and the increasing summer temperatures.***

***We value consistency in support and reliability in infrastructure to enable a prosperous future.***

*Image: Bulloo Red sand hill, Bulloo Shire. Courtesy SWQROC.*

# About the Strategy

Resilience is everyone's business. Resilience in the South West is dependent on a shared but also collective responsibility model.

This Strategy encourages a role for everyone in the South West to rally around and deliver upon a common description of regional resilience, reflecting the voice of our locals. It highlights key opportunities to build disaster resilience that are unique to our region.

The end goal is for resilience in the South West is to shorten and minimise recovery to future disaster events, and to enable transformation and adaptation to the range of stresses and shocks we experience in the South West.

## Aims

- tell the unique story of resilience in the South West
- bolster on what needs to be done to improve disaster resilience in the South West
- deliver a clear Regional Resilience Strategy and Local Action Plans to further strengthen disaster resilience for our region.

## Objectives

- identify the region's disaster resilience priorities
- identify actions and initiatives to address resilience needs
- prioritise the identified actions and initiatives
- connect priorities to future funding and resourcing opportunities
- articulate how risk-informed disaster resilience actions and projects meet local needs and align to state and national disaster risk reduction and resilience policy objectives.

*Image: Maranoa Bungil Creek. Courtesy SWQROC.*

# The Collaborative Cornerstone

## Values guiding our resilience pathway

The Strategy reflects our values in the South West, which are unique and make us who we are. There are four underpinning values that guide our resilience pathway. There are four underpinning values that guide our resilience pathway

### People at the core

The people of the South West are our strength. We value our diversity of culture, new-comers and old-timers, dedicated to community and strongly connected to place. Our people are capable innovators. People are what gives our communities a strong fabric and greater resilience.

### Prosperity through landscape

We are caretakers of the land that provides us with our economic base. We understand its behaviours and accept its' sometimes harsh and cyclical nature, but this brings opportunity and forges our community foundations. We value our lifestyle close to the land.

### Steadfast support

We care for many people who are visiting and working. We depend on state and regionally significant supply chains which are vulnerable to interruption. Our climate is cyclical, but support is required in a steadfast and consistent way to ensure we do not experience unintended stresses. We value support that recognises boom and bust as business as usual, and the gap from population base to population present as resilience issues.

### Collaboration and empowerment

We are our future. We value the skills and capacity needed to build an independent region. Local leadership, empowerment and collaboration is paramount in seeking fit for region and fit-for purpose solutions to build resilience.

*Image: Cotton. Courtesy SWQROC.*

## Strategic alignment

The Queensland Government is committed to strengthening disaster resilience so our communities are better equipped to deal with the increasing prevalence of natural disasters.

By 2022, every region across Queensland will be part of a locally-led and regionally-coordinated blueprint to strengthen disaster resilience.

The Strategy is a deliverable under the Queensland Strategy for Disaster Resilience (QSDR) and Resilient Queensland - the statewide long-term blueprint support Queensland's vision of becoming the most disaster resilient state in Australia.

The South West Regional Resilience Strategy aligns the Queensland Strategy for Disaster Resilience (QSDR) and Resilient Queensland, and with national and international disaster risk reduction and sustainable development agendas articulated by the Sendai Disaster Risk Reduction Framework and the National Disaster Risk Reduction Framework.

This Strategy supports and aligns to the Queensland Disaster Management Arrangements (QDMA) and builds upon the Queensland Emergency Risk Management Framework (QERMF), Regional Drought Resilience Plan, developed by the Queensland Department of Agriculture and Fisheries and the Queensland Climate Adaptation Strategy (QCAS).

*Figure 1. The South West Regional Resilience Strategy disaster resilience policy line of sight to local, regional, state, national and international levels.*

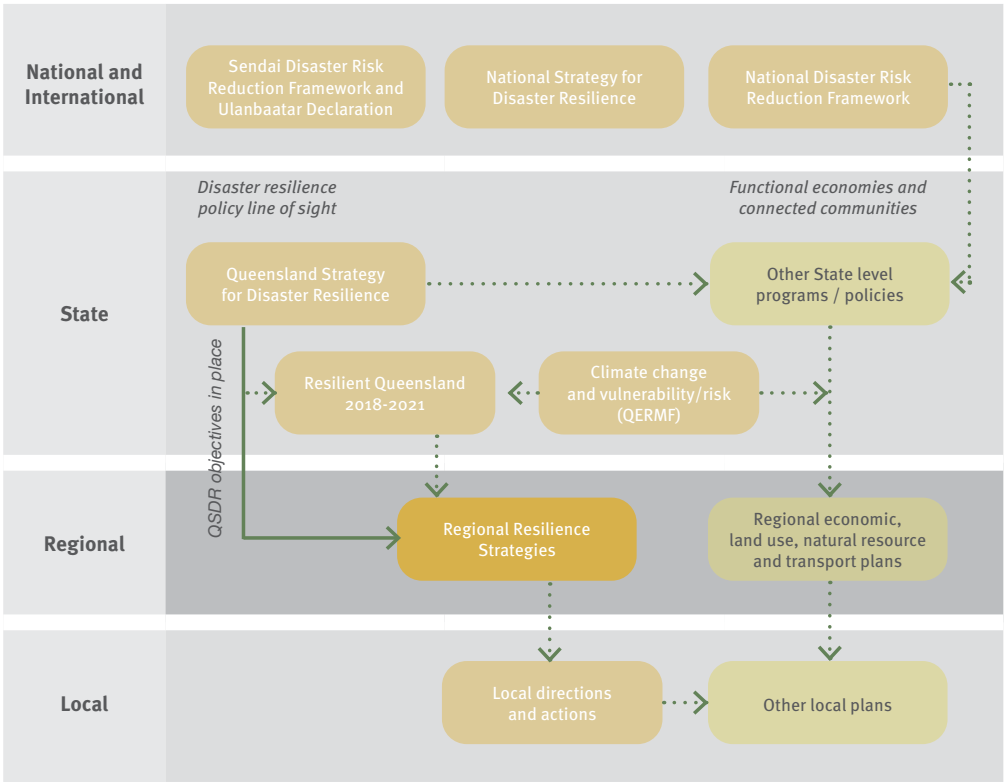



*Image: emus, Murweh. Courtesy SWQROC.*

# Our locally-led approach

This strategy has been developed using a community-led approach with the voice of the locals. To build resilience means to think and deliver systematically – to deliver what is needed in the places it is needed.

We have applied CSIRO's Resilience Adaptation Pathways Transformation Approach (Q-RAPTA) process is a resilience building approach tailor-made for the Queensland context.

An approach that is locally-led, regionally coordinated and state facilitated has allowed us to draw on local leadership and direction for this Strategy to ensure local needs and priorities of the South West are reflected.

This approach means identifying and prioritising regional resilience needs that we can strengthen over time by matching these needs with real funding and resourcing opportunities.

This approach allows for greater collaboration and coordination of resilience efforts across our region, guided by the principles of:

- local leadership
- flexibility and adaptation
- shared responsibility and collaboration
- prioritisation
- resilience becoming business as usual.

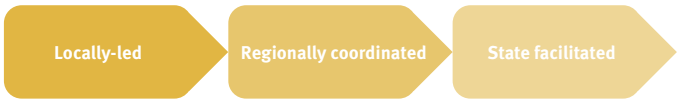



*Figure 2. The Resilient Queensland implementation delivery approach (adapted from CSIRO).*

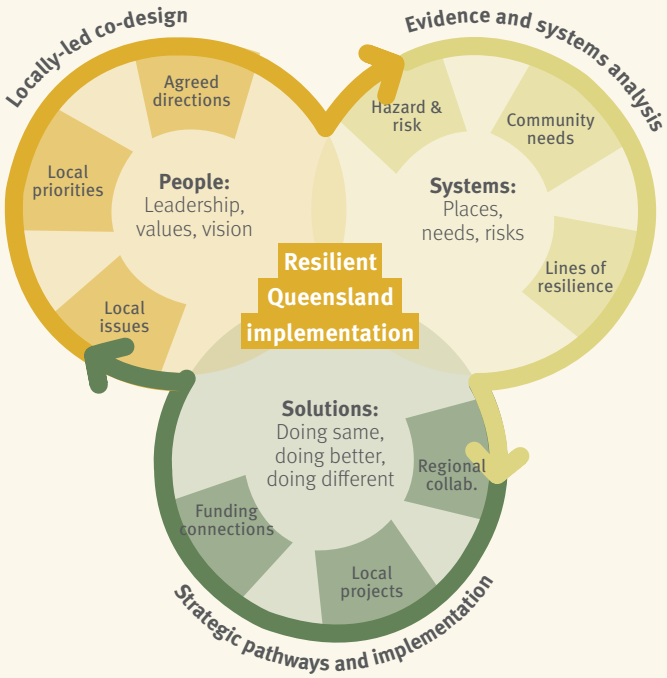



*Image: Sheep shearing, Quilpie Shire. Courtesy SWQROC.*

## How the strategy has been developed

This Strategy has been co-designed with local representatives, through multiple engagement opportunities using regional "Big Map" workshops and active listening. The Strategy is developed with the input of elected officials, disaster management group members, council officers, local landowners and community groups.

The process has applied the latest in resilience thinking:

- relationship and trust-building engagement
- co-design with locals
- risk-informed
- place-based strategies
- locally-led and regionally coordinated solutions
- integrated multi-objective responses.

The Strategy has a multi-dimensional and cross-disciplinary approach and considers the five elements that contribute to systems-based resilience: human and social; economy; towns and infrastructure; roads and transport; and environment.

The strategy was developed taking a disaster resilience lens to our economic, social, and environmental systems to ensure the best of disaster management and risk reduction practices can brought into effect in the South West over time.

Our engagement with local representatives reflected a deep understanding of local and regional issues and a desire to find collective responses these needs.

This context is then matched to an understanding of the exposure and vulnerability of each council area within the region to a range of hazards informed by the Queensland Emergency Risk Management Framework (QERMF), including flooding, bushfire, heatwave, severe wind and earthquake.

Drought and other natural hazards are considered by the Strategy where they have been raised as an issue at the local level.

The impacts of climate change are a key component to long-term resilience and are incorporated, both in terms of relationships with hazards but also by alignment of the Strategy to the Sector Adaptation Plans developed for the Queensland Climate Adaptation Strategy (QCAS).

*Figure 3. The five elements of resilience that contribute to systems-based resilience.*

## Elements of resilience

The multi-dimensional and cross-disciplinary approach of this strategy contemplates five elements that contribute to systems-based resilience. These are:

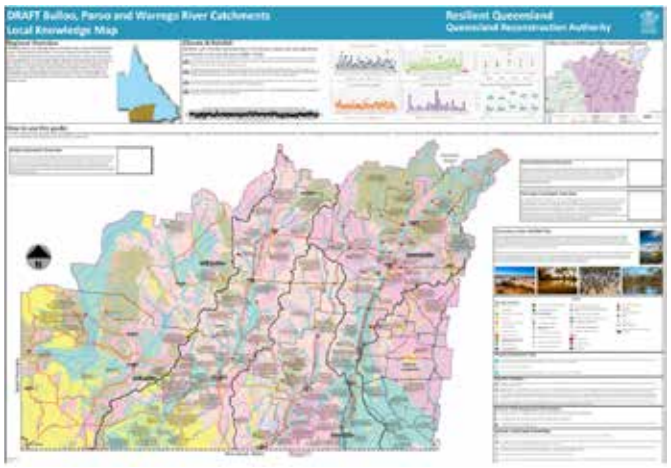

*Image: Baldy Top Lookout, Quilpie Shire. Courtesy SWQROC.*

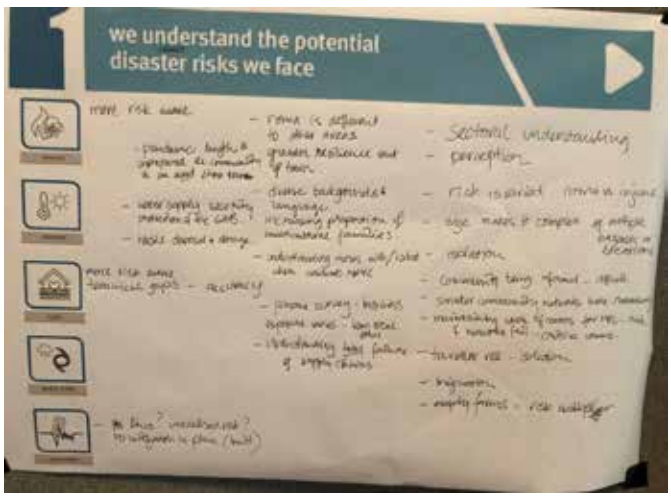

## Local Knowledge Maps

Local stakeholders identified a significant amount of knowledge held by landowners and old timers about the functioning of the flood plains in the good years and how water traverses the landscape of the South West during floods. Local Knowledge Maps were developed using our "Big Map" techniques, compiling insights on catchment characteristics and flood behaviour provided by local land managers. The information collected is digitised and transferred to a catchment map and returned to the region to help better understand the catchments and their unique characteristics. The maps are intended as a practical tool to help assess what type of flood is likely to occur and indicate expected speed, volumes and depths.

Local Knowledge Maps were prepared for all catchments of the South West: the Bulloo, Paroo, Warrego and Balonne-Condamine River systems.

> ***"The creation of these local knowledge maps is a great initiative and will benefit the district landowners during future floods. They are a practical tool, reflecting our deep knowledge of our rivers and catchment behaviour. Being involved and sharing that knowledge was a great experience."***
>
> Helena and Danny Salmon, Ardoch Station, Bulloo River.




## Case study: Roma Saleyards

The Roma Saleyards is the largest cattle selling centre in Australia. Opening in 1969, the saleyards processed 56,251 cattle, compared with current operations of 300,000 to 400,000 head of cattle processed annually.

Being both National Saleyard Quality Assurance (NSQA) and European Union (EU) accredited, Roma Saleyards offer a modern, safe and fully maintained facility situated on almost 50 hectares, with auctions occurring weekly.

The saleyards and the beef industry itself are entrenched in Roma's history and play a key part in the region's economic growth. The regions roads and supply chains are integral to supporting this foundational economic activity.

The Roma Saleyards Master Plan was developed to 'value add' to the saleyards precinct, and the $8.6 million project received funding for the multipurpose centre on 2018. which includes an administration centre, amenities, canteen and the interpretive centre which is now open to the public offering further tourist and visitor experiences for the region. The new facilities also include new stud stock selling arena with state-of-the-art audio visual facilities and upgraded parking facilities for Saleyards users.

The Roma Saleyards delivers huge economic benefits, stability and to the region and provides easy access to services for rural producers. The Multi-Purpose Facility officially opened in January 2020, enhancing economic resilience for the broader region.

## Case Study: Bulloo – The Greenest Shire in the West

At the end of the 19th Century Thargomindah was one of the few places in Australia that enjoyed the benefits of reticulated water and electric street lighting. Thargomindah's location above the Great Artesian Basin is an underground water resource in which large volumes of water are trapped in layers of permeable sandstone between layers of impermeable mudstone. Thargomindah became the first town in Australia, and just the third in the world, to produce hydro-electric power for street lighting by using the water pressure from the Artesian Basin.

In 1891 drilling commenced on a bore to supply the town with water and in 1893 an exceptionally good supply was struck at 808 metres (2650 feet) with the water at 84°Celsius. The project was completed in 1898.

The journey continues as Council has recently installed water cooling infrastructure that will use renewable energy to cool the hot artesian water for town drinking water supply. In addition, 23 sites across the shire, are now solar powered, significantly reducing costs and reliance on grid power.

Thargo continues to be waterwise with recent installment of water meters. It is not currently a requirement to have a water meter but Council is moving towards having all properties metered to properly monitor consumption of this precious resource.

*Image: Roma Saleyards. Courtesy Maranoa Regional Council.*

*Image: Thargomindah Power Station 1898. Courtesy SLQ image 39213.*

The Strategy reflects previous and existing work at the state, regional and local levels to ensure it is taken forward, and not 'reinvented', and provides a further mechanism to connect local needs to further funding opportunities at the state and federal levels. In addition, it complements and maintains consistency with the strategic approach adopted by the various other strategies that have been developed in the region, including the State Recovery Plan 2019–2021.

This Strategy culminates in resilience pathways that provide a linkage between locally-identified actions or projects, and the state, federal and international policy environment. That way, the need for a particular project or action can be justified by it meeting a regional pathway to resilience that meets one or more objectives of the Queensland Strategy for Disaster Resilience.

This Strategy is supported by Local Action Plans setting out the specific projects and initiatives that are needed to deliver on the aspirations set out by the Strategy. These Local Action Plans are provided to partner councils to implement.

The Strategy aligns with the following risk management, recovery resilience and adaptation planning initiatives, strategies and plans:

- Queensland Resilience, Adaptation Pathways and Transformation Approach project (QRAPTA)
- Queensland Emergency Risk Management Framework (QERMF)
- Queensland State Natural Hazard Risk Assessment and hazard-specific risk assessments prepared by Queensland Fire and Emergency Services
- Climate Change Sector Adaptation Plans
- Queensland Climate Resilient Councils Climate Risk Management Framework and Guideline
- Boundless Opportunities papers

*Figure 4. Strategy development process reflects the CSIRO Q-RAPTA resilience building approach tailor-made for the Queensland context.*

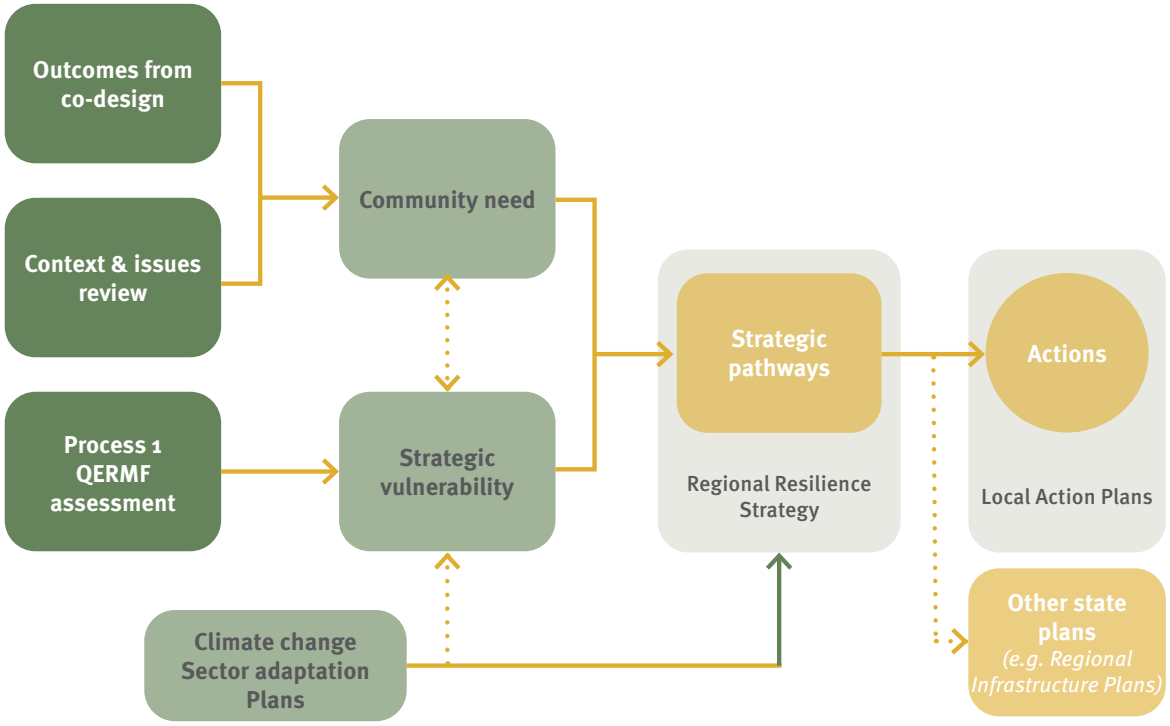



*Image: Wheat harvesting, Balonne Shire. Courtesy: SWQROC.*

# The Collaborative Cornerstone

## Resilience in the South West

Being resilient is part of life in the South West and it is the cornerstone of pretty much everything we do.

The South West aspires to a resilient future that is drawn from our values. Being resilient is part of life in the South West. It is our inner strength that gets us through the seasons. This inner strength is strongly associated with our values, which connect us to our communities and the land. Living on the land, we understand the landscape and accept our role as caretakers of the land valuing its importance to our livelihoods.

Resilience is a term that means different things to different people. The QSDR defines resilience as:

> ***A system or community's ability to rapidly accommodate and recover from the impacts of hazards, restore essential structures and desired functionality, and adapt to new circumstances.***

In the South West, we have learned a lot about what resilience really means to the people and places of Queensland, how stresses and shocks can affect existing levels of resilience, and how future events and trends will impact the ability to remain resilient.

The people of the South West have told us the health of the underlying social, economic and environmental systems in an area affect its disaster resilience. Our communities that are under sustained pressure from chronic and periodic stresses will be less likely to cope in the long term. Without change something will make these systems break – whether it is the chronic or periodic stress, or episodic shocks like floods.

*Image: Windmill, Murweh Shire. Courtesy: SWQROC.*

## How resilience is affected by stresses and shocks

Our disaster management system has traditionally dealt very well with the event-based episodic or acute shocks like floods, severe storm or bushfire. But we need to continue dealing with more of the systemic issues that worsen disaster events when they occur, and place increased burden on our disaster management system.

Investment and effort in building social, economic, infrastructure and environmental resilience helps to reduce the stresses caused by periodic stresses like drought, and means that communities are better able to cope with episodic events like floods or bushfires when they happen.

*Figure 5. How resilience is affected by stresses and shocks.*

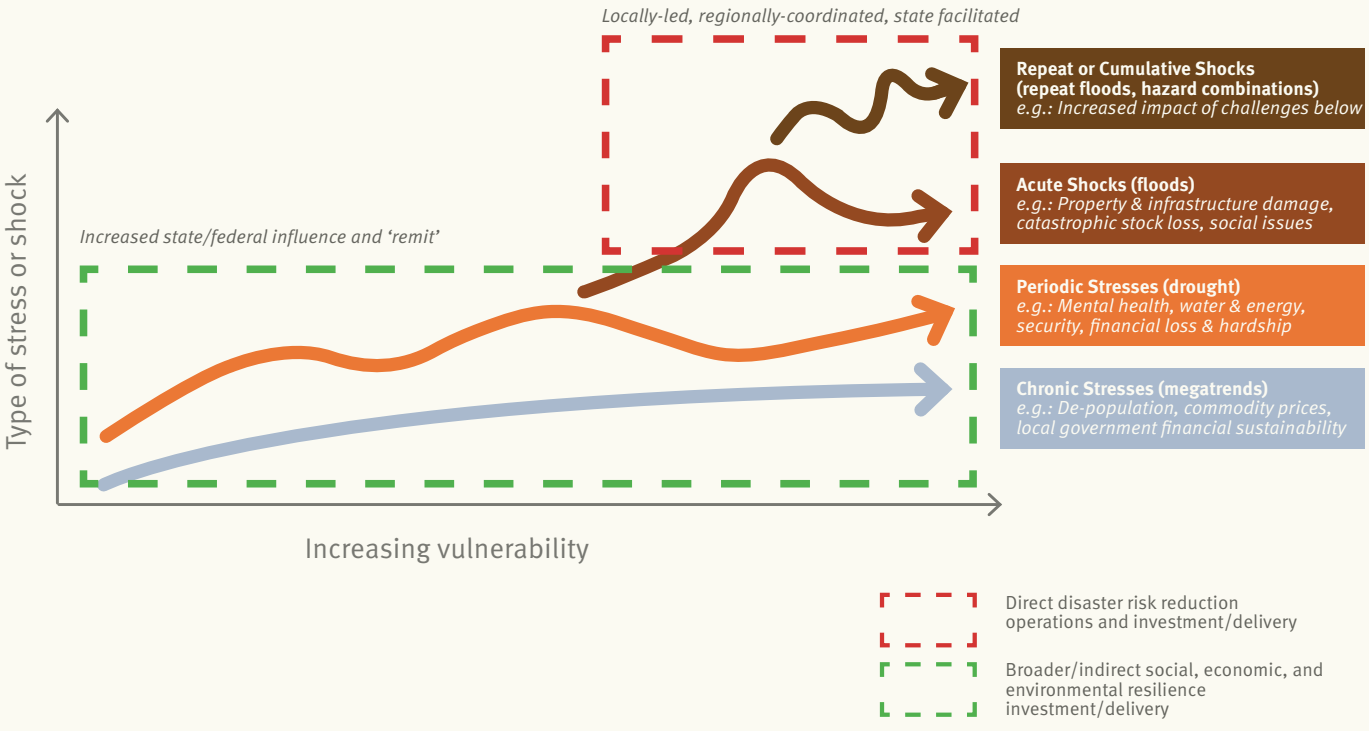



*Image: Train, Quilpie Shire. Courtesy: SWQROC.*

# Our resilience needs

There are many geographic, demographic and climatic events that can have major impacts on the South West.

## Trends

Trends are transformative forces that could change a region:

- demographic shifts including population decline or growth across the region increased multiculturalism and ageing communities
- changing market forces such as consumer demand, industry compliance and travel trends
- changes in property size and tenure with cascading effects to communities
- increased digital enterprise bringing opportunity and shifting focus on essential networks
- climate change
- opportunities in remote learning and working

## Stresses

Stresses are long term situations or circumstances, weakening the potential of a given system and deepening vulnerability – they may be periodic (such as drought) or chronic (such as an ageing population):

- periodic and long term drought to flood cycles as a constant economic uncertainty
- weed and pest outbreak
- fluctuations in reliability and access to essential infrastructure and services
- fluctuations in funding, support services and baseline service provision
- housing availability, diversity, quality and affordability
- availability of in-regional aged and disability care
- some carbon farming methods
- availability, retention and building of a skilled and non-skilled workforce
- risk multiplier of increasing visitor numbers and non-resident workforce
- loss of and ageing volunteers
- interruption to supply chain connections and physical isolation
- changes in community cohesion, pride and social structures.

*Image: Bore, Paroo Shire. Courtesy: SWQROC.*

## Shocks

Shocks are sudden events with an important and often negative impact on the vulnerability of a system and its parts (such as a flood or bushfire):

- flooding
- bushfire and grassfire
- cyclones and storms (severe wind and storm tide)
- heatwave
- earthquake
- biosecurity outbreak
- industrial incidents.

## Core resilience needs

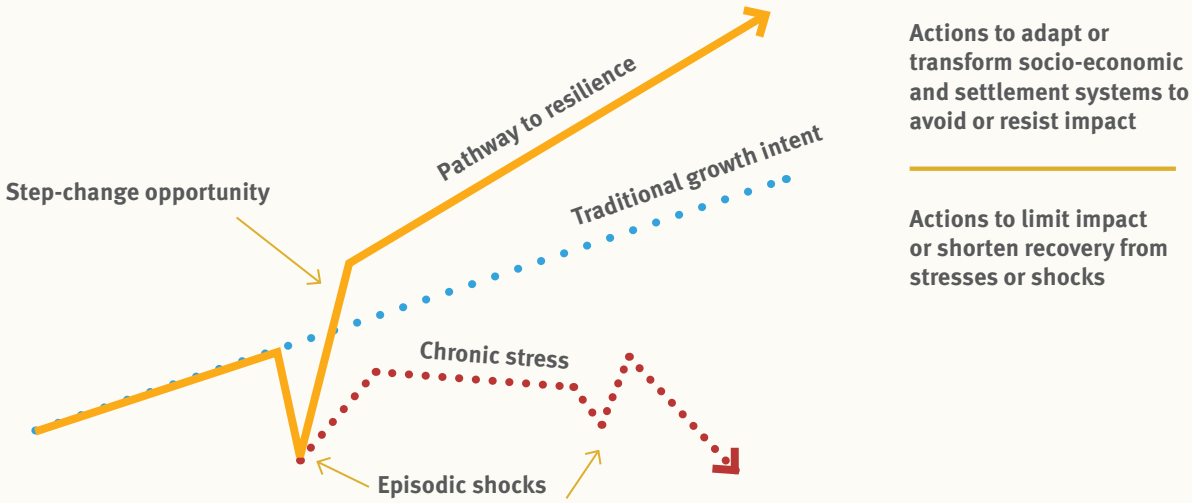
- Improved physical connectivity
- Continued betterment opportunity and enhanced infrastructure resilience
- Reliable and cost-effective energy
- Long-term economic resilience through diversification, catalyst projects and adapting to the new normal
- Ongoing actions to reinforce social wellbeing and community pride and cohesion
- Ongoing actions to maintain population youth and aged and attract new residents
- Support for essential disaster management resources
- Coordinated and stable disability, physical and mental health services
- Support for essential service delivery
- Sustained effort in natural resource management and landscape health

# Rethinking resilience in the South West

To date our focus has been on post-disaster recovery processes, and building resilience through programs like infrastructure improvements that can limit the impacts of recurrent events.

However, with our lived experience of recovery, we now acknowledge the need to proactively identify and deliver over time on initiatives that help avoid the stresses and shocks in the first place – ultimately putting us on a more sustainable track for growth and prosperity.

*Figure 6. Improving our prosperity through resilience (adapted from Joseph Fiksel).*




## Identifying actions that limit impact or shorten recovery from stresses or shocks

This Strategy focuses on identifying actions that limit impact or shorten recovery from stresses or shocks. These will help communities in the immediate aftermath of an event.

It provides pathways for actions to adapt or transform socio-economic settlements or systems to avoid or resist the impact in the first place. This will help our communities in the South West to grapple with long term trends and stresses like climate change, drought, and economic downturn.

This way, we can provide a long-term blueprint for how our region can continue to improve its disaster resilience for years to come.

*Image: Horse rider, Balonne Shire. Courtesy: SWQROC.*

## How we make real and lasting change

To meet our collective challenges we need to actively take steps to reduce disaster risk and equip our South West communities to thrive in spite of the stresses and shocks they face. We need to match community need with funding and support to deliver – by refocusing over time from recovery to prevention and preparedness.

## The changing funding landscape

Under the joint Australian Government-State Disaster Recovery Funding Arrangements 2018 (DRFA), assistance is provided to alleviate the financial burden on states and territories. It also supports the provision of urgent financial assistance to disaster affected communities.

The DRFA replaced the previous Natural Disaster Relief and Recovery Arrangements (NDRRA) on 1 November 2018.

The reforms to the DRFA included, for the first time, a framework to incentivise reconstruction efficiencies to create more funds for resilience and mitigation purposes.

Efforts to realise efficiencies under DRFA are critical to fund resilience and mitigation efforts in the future, and will help change the funding landscape from a focus on reconstruction and recovery to a focus on prevention and preparedness.

We now have a clear forward plan for how we can make lasting change into the future through sustained investment in resilience and mitigation activities. Recent changes in funding arrangements will enable the creation of funds for mitigation and resilience, along with a range of other funding programs (e.g. the Local Government Grants and Subsidies Program, Get Ready Queensland) that support resilience building.

Regional Resilience Strategies will provide the 'long list' of locally-identified actions that can be prioritised against a wide range of possible funding opportunities (including DRFA efficiencies) to build resilience in Queensland communities over time.

*Figure 7. Changing the focus from reconstruction to prevention and preparedness*

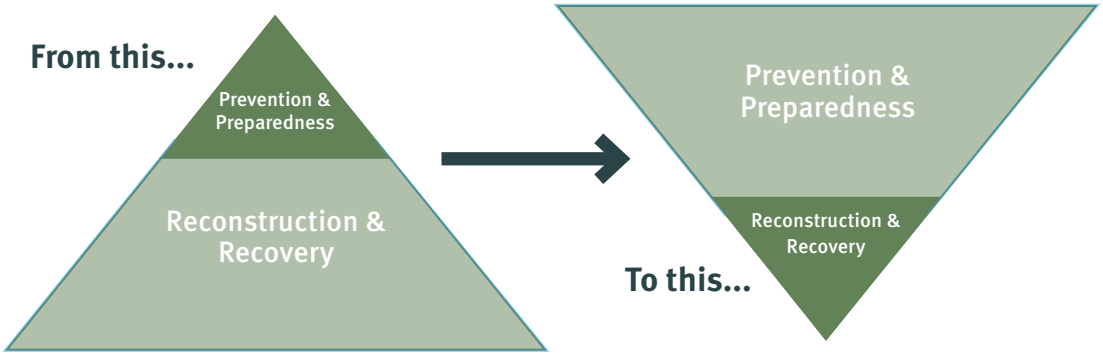
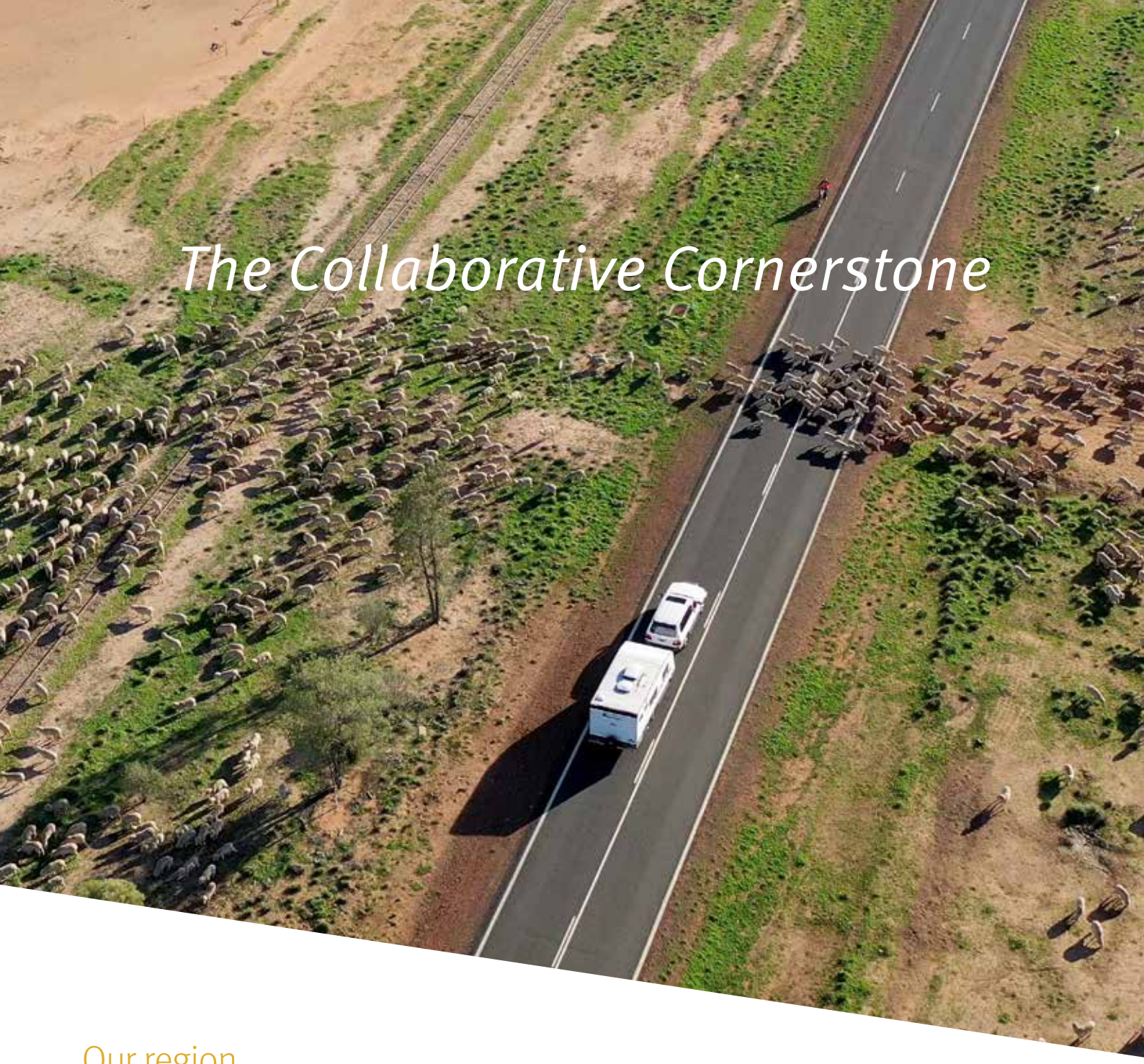



*Image: Bore, Bulloo Shire. Courtesy: SWQROC.*



# *The Collaborative Cornerstone*

## Our region

From the Balonne River in the east, to Cameron's Corner in the west, the South West Queensland Region spans nearly 850km and covers almost 20 per cent of the state across the six local government areas of the South West Queensland Regional Organisation of Councils: Balonne, Bulloo, Maranoa, Murweh, Paroo and Quilpie. This sparsely populated, but breathtaking region is referred to as the 'cornerstone' of Queensland.

The South West is a series of interconnected townships, vital to the regional economy driven by small and big business in grazing, agriculture, oil, gas, petroleum, and livestock trade. The region is diverse in its agricultural base accounting for almost half of sheep and lamb slaughtering in all of Queensland and almost two thirds for goat slaughtering. Irrigated opportunities include cotton and grains.

The region possesses some of the state's best natural assets, from the Brigalow Belt to the Channel Country.

Strategic highways connect the South West with broader Queensland and NSW, heavy freight transport and tourism routes. East to west is connected through the Moonie, Balonne and Warrego Highways and the Adventure Way, while north to south major routes include the Carnarvon and Mitchell Highways. The transport network plays a pivotal role in the regional economy and transportation flows of both people and products.

Tourism is also a growing industry, for all shires of the region underpinned by the natural wonders of internationally recognised wetlands to paleontology.

The region's vibrant towns and communities are underpinned by strong cultural values. There are six major administration and service centres of the region, providing the outlying communities with essentials.

*Image: Sheep muster near Charleville. Credit: Shutterstock.*

## Murweh Shire

As the principal township of Murweh Shire, Charleville supports regional services. The Cosmos Centre and Corones Hotel are Charleville's 'must do' attractions. Charleville is one of four Queensland bases for the Royal Flying Doctor Service of Australia. Charleville is also the Bilby capital of Australia, breeding Bilbies for reintroduction into Currawinya National Park.

The small town of Augathella is on the upper Warrego River which consists of several tributary rivers including the Nive, Ward and Langlo which join the Warrego River further south. Augathella is known as 'Meat Ant Country' boasting a giant Meat Ant sculpture. Murweh townships include Morven, with its new trucking and logistics hub, and Cooladdie, with origins in the rail line.

## Quilpie Shire

'Simply unique' Quilpie is an important railhead for the transportation of cattle and wool. Quilpie is also a centre for the opal industry with displays and opportunity to fossick. Quilpie is home to "The Jewel of the Outback", the exquisite boulder opal. Lake Houdraman is a local landmark and natural lake situated on the flood plains of the Bulloo River just east of town.

Quilpie is home to the iconic dinosaur experience at Eromanga west of the town. To the north is Adavale which is the gateway to several national parks and gorges in the Grey Range. Baldy Top Lookout provides a great vantage point to view the Quilpie landscape or up close from the Bulloo River Walk.

## Bulloo Shire

The Shire of Bulloo is the largest shire in the South West, or 4.26 per cent of the State. 'Thargo' provides a range of facilities for the community and for the gas and oil fields further west in the Cooper and Eromanga basins. In recent years, oil and gas have become significant sources of employment and income for the region.

Bulloo Shire lies on the southern end of the Bulloo River and extends west into Cooper Creek and the vast Wilson River. The exceptional stone constructed Noccundra Hotel is all that survives of the town on the banks of the Wilson River.

## Paroo Shire

Further east, over the Paroo River is the small town of Eulo in the Paroo Shire. The township is often isolated due to floodwaters rising over the bridge constructed in 1928, on the west side of town and the Bow Creek crossing to the east.

Each winter, beekeepers travel to Eulo to feed on the Yapunyah tree, a Warrego variety of Eucalyptus. Apiculture is a growing industry for the region and the outback honey is growing quickly in popularity.

Nestled on the banks of the Warrego River, Cunnamulla is the administration centre for Paroo Shire. The Cunnamulla Fella is an iconic landmark. This larger-than-life statue is a tribute to the Australian stockman, immortalised by Slim Dusty.

The Warrego River runs through the middle of the Shire, with the Paroo River and Nebine Creek catchments running parallel to the west and east of the Warrego River respectively. Wyandra is about 100km north of Cunnamulla and boasts its very own beach on the Warrego River.

## Balonne Shire

The principal town of Balonne Shire is St George, on the banks of the Balonne River traversed by the Jack Taylor Wier. The weir provides the water storage for the township and further upstream is the EJ Beardmore Dam. St George is just south of the convergence of the Maranoa and Balonne Rivers. The Shire includes rivers from two drainage basins: the Balonne-Condamine basin and the Moonie River catchment to the east.

South of St George is Dirranbandi, a small country town centered on cotton farming. The town's levee bank has saved it from Balonne River flooding on more than one occasion. It is widely claimed that the legendary Ned Kelly Gang resided in Hebel area under assumed names and that they frequented the Hebel Hotel.

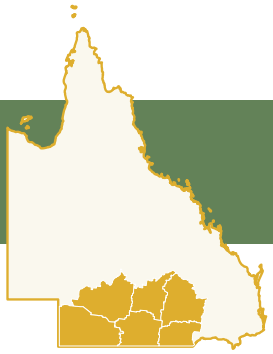
Southwest of St George are Nindigully and Thallon in the Moonie River catchment, and the border town of Mungindi which has two police stations on either side of the border and two time zones in the warmer months due to eastern daylight savings time.

## Maranoa Region

Roma is the principal township of the Maranoa and the largest town in the region providing extensive amenities both business and sporting, numerous education facilities and service industries. The townships in the Maranoa include Roma, Mitchell, Surat and Injune.

Roma is supported by an extensive oil and gas industry and home to the largest cattle-selling centre in Australia: the Rome Saleyards. The Roma area is well known for its natural gas assets and recent increases in demand for natural gas has seen strong industry development throughout the region. However, the Big Rig provides valuable insight into the hardships and heroic stories of the oil drilling and exploration in the past.

# A snapshot of community characteristics



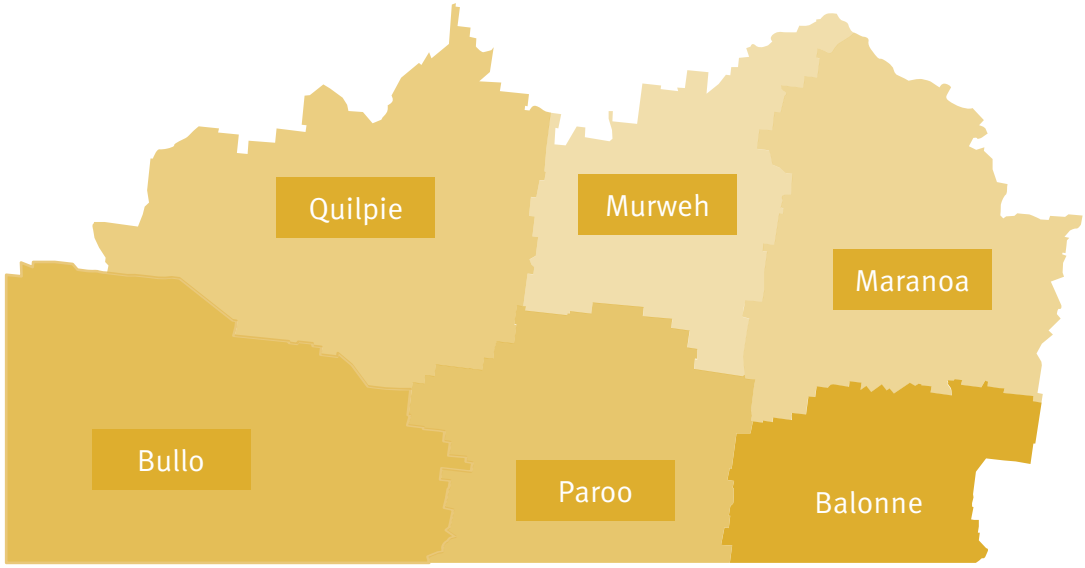
## Top three employing industries:

Agriculture, forestry and fishing (23.2% of employed persons)

Health care and social assistance (10.8% of employed persons)

Public administration and safety (9.2% of employed persons)

6 local governments




Median age is 38

11,108km² of protected areas including National Parks, State Forests and Timber Reserves

11.5% first nations people compared with 4% Queensland average

8,680 dwellings of which 8,060 (92.9% are separate houses)

## Predominant economic drivers:

Agriculture

Mining

# Our landscape

The landscape of the South West is diverse, from the Brigalow Belt in the east, to Channel Country in the west. The northern uplands of the region are formed by the Great Divide collecting vast amounts of replenishing rainfall which flows south into the landscape along the sandy braided channels and spreading out over the vast plains and grazing land, filling out water holes and allowing our acclaimed wetlands to thrive.

This diversity as well as many natural features attracts visitors who seek to experience the landscape's uniqueness. Rugged ranges, gorges and ironstone jump-ups transition to sandy and alluvial plans and the inland dune fields further south and west.

Home to migratory seabirds, internationally recognised wetlands and prehistoric geology, the South West Region is recognised for its diverse landscapes. Located above the Great Artesian Basin and spanning seven river catchments including the southern headwaters of the Fitzroy, the Balonne-Condamine, Moonie, Warrego, Paroo, Bulloo and the Cooper Creek. Many of these rivers connect into the Murray-Darling Basin.

The east of the region is the edge of the Brigalow Belt characterised by Eucalypt-wooded scrub and grassland which transition the region from the subtropical to the semi-arid Mulga land. The flat alluvial plain of the Brigalow Belt is irrigator country, floods are measured in megalitres and are harvested for their value to agricultural production. To the northeast the Carnarvon tablelands rise from the plains gathering the headwaters of the Maranoa and Merivale Rivers. Heavy rains cause destructive floods as the water descends rapidly through the steep landscape. Debris from floods has been recorded at 80 kilometres per hour. Once the river reaches the township of Mitchell the landscape flattens dramatically slowing the raging flood waters.

In the centre of the region, the landscape becomes arid and unforgiving. The Mulga Lands are typically flat with strips of low hills. Mulga are a hardy native: the nutrient-rich leaves provide valuable fodder to livestock. The Warrego and Paroo Rivers dissect this part of the region from north to south eventually draining into the Murray-Darling.

Further west, the Bulloo River is a unique closed catchment. Water from the Bulloo is isolated and drains into ephemeral lakes located at Bulloo Downs where salt marsh and sandhill country straddle the New South Wales Border. During monsoon season in the north, the usually dry Bulloo River swells significantly.

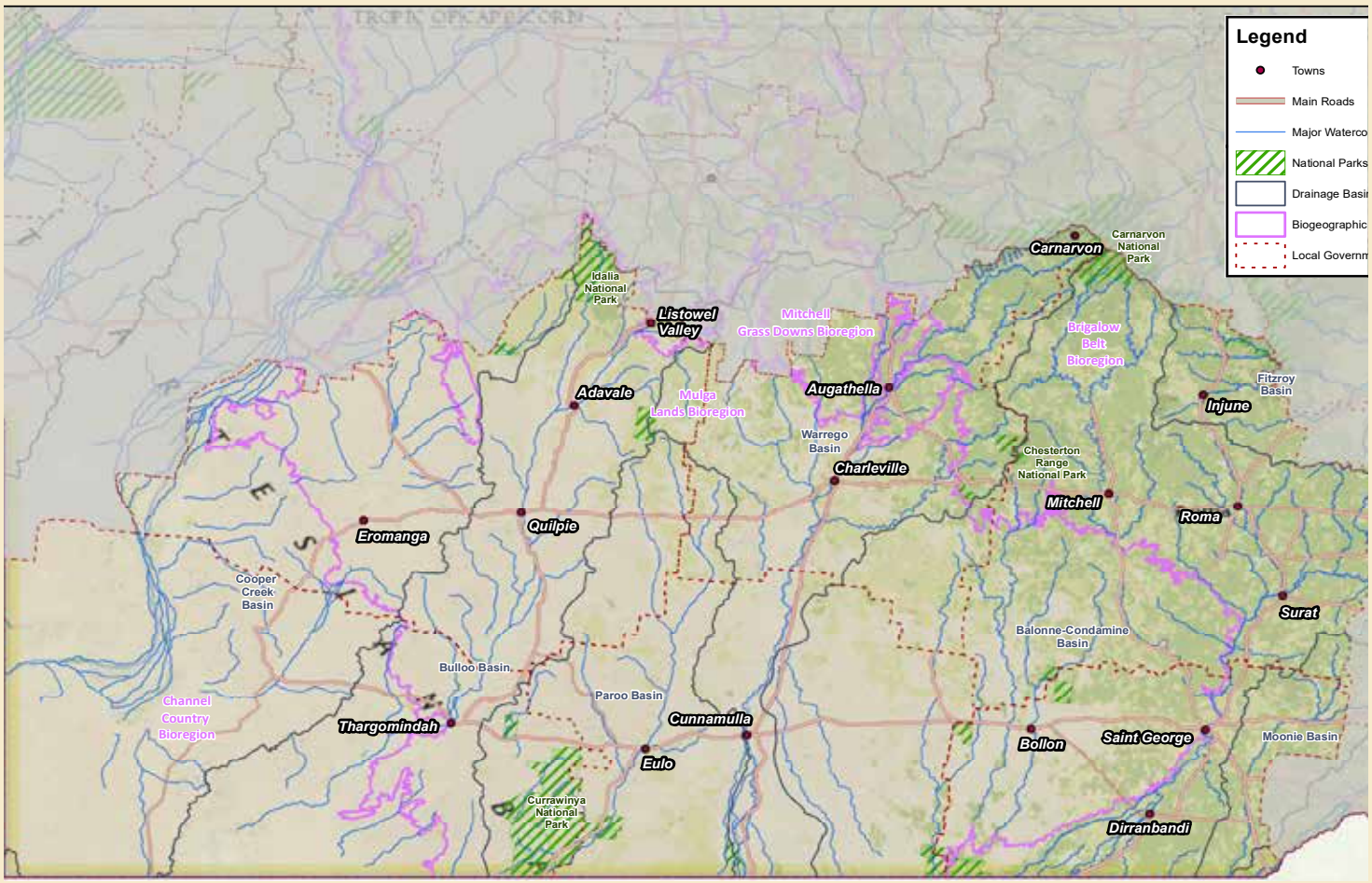
The Cooper Creek in Queensland's Channel Country dominates the far west of the region. This sparsely populated landscape is defined by intertwining river and creek beds that form ancient flood plains. Headwaters of the Cooper begin well outside the South West region, in the White Mountains National Park.

Internationally significant wetlands are scattered around the region which, during periods of wet become home to hundreds of thousands of seabirds and serve as vital breeding grounds. Lake Bindegolly, located 34 kilometres east of Thargomindah is one of a network of three, which join to form a vast ribbon of water after heavy rain.

Together these landscapes support our communities and provide intrinsic connection between people and place.

*Image: Aerial, Murweh Shire. Courtesy SWQROC.*

# The South West region landscape map showing rivers, national parks and wetlands



# The Collaborative Cornerstone

## Case study: Currawinya Lakes Ramsar site

The internationally recognised Currawinya Lakes Ramsar site is one of Queensland's most important wetland areas. It supports an amazing diversity of arid and semi-arid wetland types including the large Lake Numalla (freshwater) and Lake Wyara (saltwater), clay pans, swamps, smaller lakes, and the waterholes of the Paroo River. In addition, the site's Great Artesian Basin springs represent a unique and endangered ecological community. The larger lakes, Numalla and Wyara, have separate catchments and different levels of salinity, with Lake Numalla more influenced by flooding from the Paroo River.

The wetlands support a variety of native animals and plants - and during drought conditions, lake waters become a critical refuge for birds, amphibians, reptiles and native fish. Counts of over 20,000 individual waterbirds and substantial waterbird breeding events - particularly for pelicans, gulls, terns, cormorants and swans, are regularly recorded. Currawinya's wetlands have a special cultural significance to the area's Traditional Owners, the Budjiti people. Currawinya is a great example of interdependence and collaboration across jurisdictions for collective benefit. From pest and weed control programs, and catchment management to tourism experiences, the health of this significant natural feature is essential for regional resilience.

*Image: Currawinya National Park Wetlands. Courtesy Department of Environment and Science .*

# Our climate

Our livelihoods and our way of life are closely linked to the climate. The climate of the South West can be harsh and unforgiving so it is important to understand the risks.

The climate of the South West Rural and Remote Landscapes Region is semi-arid to arid. Our summers are very hot, with maximum temperatures ranging from 33-36°Celsius, but it is not uncommon for temperatures to exceed 40°Celsius. These extreme temperatures can be deadly for the unprepared.

Rain comes to the South West, in the summer months, but is sporadic. Flooding rains are often irregular, interspersed with long periods of drought. When the rains do come, these are in the form of heavy thunderstorms or rain depressions. These downpours can make getting around our region difficult, particularly for those not familiar with our country. The region receives around 340 millimeters of rain each year, with the vast majority occurring between October and March. Generally, the eastern part of the region receives more rainfall then the western part of the region. The annual average evaporation is substantially higher than annual average rainfall.

Over the last 30 years, rainfall has been relatively unreliable from year to year however, annual rainfall has remained relatively stable. Despite this, monthly rainfall averages indicate that the summer break (when rains arrive) is tending to arrive later. Notably, the region has experienced more hot days.

Winters in the South West are mild and dry. It is during these winter months, when the temperature is pleasant, that tourists flock to our region.

*Image: Flooding 2010, Balonne. Credit: Queensland Government, photographer Michael Marston.*

# Natural hazards and historic events

## Flooding

Floods are integral to our livelihoods. They bring much needed water to our dams and replenish our floodplains and wetlands, restoring crucial feedstock for our cattle, sheep and goats.

The South West has a long history of floods with official records dating back to the 1890s. Flooding in the upper part of our catchments, where the terrain is steep, can occur quickly and result in very fast flowing waters within relatively well defined river and creek beds. Once the floods reach the lower parts of the catchment, where the terrain is flatter, the floods spread out over wide floodplains and become very slow moving. Floods across our region can last for weeks, leaving people and towns isolated. Being prepared is essential. We also experience dry floods where rivers are full of water originating from rainfall in another part of the catchment.

Severe storms, tropical cyclones and monsoonal troughs can bring about significant rainfall. While rainfall is the key component leading to a flooding event, there are many contributing factors, including catchment size, land uses, ground moisture and vegetation in and around a water course. In the South West a prominent determinant of flood behavior is speed and elevation as flood water often originate in the fast flowing highlands before widening and slowing across the plains.

Heavy, intense rainfall in the rocky highlands can lead to quickly rising floodwaters, known as flash flooding. This type of event can be difficult to predict and manage in real time, especially if there are no ‘eyes’ in the remote upper reaches of the catchments. Flooding can also occur more slowly, building over hours, days or weeks. This type of flooding event can be significant but welcome and rejuvenating for the vast and flat plains over days and weeks.

Floods impact our transport network, and supply chains often requiring long diversions.

*Image: Flooding 2012 Balonne Shire. Credit: Queensland Government, photographer Michael Marston.*


## Case study: Charleville 1990 floods

The people of Charleville recently commemorated the flood events of 1990, when the river peaked at a record of 8.54 metres after weeks of heavy rain. The subsequent flooding inundated more than 1,000 homes necessitating the evacuation of Charleville.

It started with flooding in Bradley's Gully, which reached near-record levels in Charleville on Thursday, April 12, but which receded quickly. The following Tuesday, almost 250mm fell in the Warrego River headwaters, and the same the following night.

Evacuations across the river were conducted on Thursday as a precaution, and in doing so the SES saw that the river was about to break its banks and flow back into Bradley's Gully. Normally a flood in the Warrego River takes 48 hours to travel from Augathella to Charleville - this time it took only 12 hours. Flooding began in earnest on Friday, April 20 and by that evening the SES boat had trouble rescuing people because it kept hitting submerged vehicles and fences in the dark.

Over 110 people were rescued on Friday night and two small helicopters, had been doing what they could to rescue people on Saturday morning. By that afternoon, wave after wave of army choppers from Oakey were in action, taking all up 700 people from the roof of the Victoria Hotel to an evacuation centre. A tent city was erected by 6th Battalion RAR's 150 personnel and the army began feeding over 3000 people three meals a day. Many people had risked their lives to rescue others and many heroic deeds were carried out.

It took the town about 12 months to get back to any sort of normality, locals say. Remembering the enormous clean-up and recovery effort that took place afterwards. The clean-up saw the birth of Department of Corrective Services work camps, which are still in existence and helping rural communities today.

www.queenslandcountrylife.com.au/story/7219844/charleville-remembers-record-1990-flood/

*Image: Hotel Corones during the Charleville flood, April 1990. Courtesy Queensland State Archives.*


# Flood history

## January 1930

The greater part of the state was in flood caused by heavy rainfall. This resulted in drownings along the Warrego, the inundation of homesteads across the South West with flood waters reaching 3m in Adavale (highest since 1890), and the drowning of thousands of sleep in the Warrego, Paroo and Bulloo Rivers.

## January 1941

Heavy rainfall led to major flooding across the South West region with the Paroo reaching the highest levels since 1910 at Eulo. Bollon was isolated, parts Thargomindah were inundated with the Bulloo at the highest level since 1906 and planes were required to carry fodder to marooned sheep.

## February 1955

Rainfall of 75-175mm caused flooding in the Bulloo, Paroo and Warrego rivers. This required houses to be evacuated and isolated several towns as flood waters surged towards the New South Wales border.

## January 1964

Heavy rainfall from Cyclone Audrey caused significant flooding in the lower reaches of the Bulloo, Paroo and Warrego. The Bulloo was 6.5km wide at Thargomindah and 7,000 sheep drowned. The Paroo reached a width of 35km by the time flood waters reached Hungerford. There were considerable stock losses, and the Warrego washed away kilometres of fencing at Cunnamulla.

## April 1990

Flooding in the Warrego, Maranoa, Bulloo, Paroo and Balonne Rivers caused significant damage across the region, inundating 1,180 of 1,470 houses at Charleville. This event has had the most significant impact on homes in memory.

## February 1997

Heavy rainfall in late January and early February of 1997 lead to major flooding in the Balonne and Maranoa River catchments. The flooding impacted Augathella and Charleville where 80 people and 780 respectively were evacuated. Impacts to the road and rail network also left large groups of travellers stranded

## January 2004

Flooding was widespread across the South West with the Balonne River experiencing major floods at Warkon and Surat of 10.5 metres. The town of St George experienced major flooding and moderate flooding was experienced in Augathella and Charleville. Major flooding also occurred along the Paroo River from Humeburn (6.9m) to Hungerford. Rapid river rises also occurred along the Bulloo River from Adavale to Quilpie with flood peaks recorded in Quilpie and Thargomindah the highest since the early 1970's from 6 metres to 7.8 metres at Autumvale.

## January 2007

The floods occurred following heavy rainfall across the far west of the region in January. Major peaks were experienced in Quilpie on the Bulloo which flowed on to Thargomindah. The Paroo and Warrego also recorded significant falls.

## March 2010

Flooding occurred following an exceptional rain event that affected central Australia, western Queensland and far northern New South Wales. Daily rainfall totals exceeded 100 mm over 1.9% of Australia on the 2nd March which is the largest area in the Australian meteorological records. Major flooding occurred in 14 catchments including all catchments of the South West. Record flood heights were recorded on the Paroo River at Eulo, in Bradley's Gully at Charleville, on Wallam Creek at Bollon, on Bungil Creek at Roma, on the Moonie River at Nindigully and Thallon and on the Balonne River at St. George, Surat, Dirranbandi and Hebel.

In the 24 hours to 9am on the 2nd of March, the highest daily rainfall total in Queensland was 168mm at Old Cashmere and 165mm at Mitchell, both on the Maranoa River. 700 people evacuated Roma and evacuations occurred in Charleville as well. The regions road network was severely damaged, and townships isolated.

## January- April 2011

Widespread and consistent rain over December 2010 and January 2011 where between 300-600 millimeters of rain fell on the Balonne-Condamine catchment resulting in St George and Surat recording peaks twice in one month. The Surat peak of 12.75 metres was a record and the Balonne at St George peaked at 13.2 metres on January 8 and 12.5 metres on January 23.

Flooding in this season was spread across the state and many townships experienced significant effects and notable inundation of homes and threats to existing levees including St George and Surat and more moderate impacts in the lower Balonne.

## January – February 2012

Following a near stationary inland trough and a southward tracking monsoon low from the Gulf of Carpentaria, consistent rainfall of between 100 – 400 millimeters occurred. Record major flooding again occurred along Bungil Creek and the Maranoa and Balonne Rivers. The towns of Mitchell, Roma, St George, Dirranbandi and Hebel were affected. Approximately 700 properties were affected in Roma and Mitchell alone. Charleville recorded the highest flood since the 1990 flood with levels almost reaching the top of the levee.

For a full list of floods and disasters activated for funding assistance visit: [www.qra.qld.gov.au/activations](www.qra.qld.gov.au/activations)

*Image: St George flood marker. Credit: ABC Southern Queensland, Peter Gunders.*

## Bushfire

Bushfires are a natural process. We have a responsibility to manage our land and reduce the risk of bushfire. Mulga comprises large portions of the region's landscape. In the absence of exotic grasses, mature Mulga vegetation will rarely produce enough ground fuel to carry a fire. However, where properties become heavily vegetated and unmanaged, the risk of bushfire will increase. Aside from fuel loads, our weather and climate has a significant role in the intensity to which fire may occur, and how easily fuels may burn.

Significant bushfires have occurred in our region. The Charleville bushfires of 1951 resulted in the loss of 40,000 sheep, 550 stock and 650 kilometres of fencing. The total area burnt was estimated to be 2,834,000 hectares.

Between October 1974 and February 1975, bushfires lasted for five months near Thargomindah. This resulted in the loss of 95 cattle, 6,850 sheep and burnt an estimated 7,300,000 hectares.

The Queensland Department of Agriculture and Fisheries has partnered with the Rural Economies Centre of Excellence to lead the consultation to work with regional communities and develop regional drought resilience plans (RDRPs) to prepare regional communities for and manage future drought risks.

The RDRP program is jointly funded through the Australian Government's Future Drought Fund and the Queensland Government.

The RDRP program builds on and complements the Resilient Queensland work completed by the QRA who supports the design of this program, and is a key program stakeholder.

Throughout the consultation and development of the Queensland Strategy for Disaster Resilience and its implementation plan Resilient Queensland, drought has often been raised as a serious challenge impacting regions. The RDRP program provides the opportunity to have a clear focus on drought risk in the context of regional resilience.

The plans will identify actions to prepare regional communities for future droughts, with a sharp focus on agricultural sector and allied industries. Engagement and plans will account for the unique profile of each region and will include actions that are regionally relevant.

The RDRPs will provide an evidence base and priority actions that regions can use to compile applications for small grants from the Future Drought Fund and potentially other funding sources.

## Drought

The characteristics of drought are like no other natural hazard. The timeframes and severity are unknown; it's hard to know if you are in one until a considerable time passes. They are slow moving, gradual events with cumulative and compounding effects which are often psychological and financial rather than physical. Once the rain comes, recovery is equally long and arduous.

From 1895 to 1903 the whole of Australia was affected by drought, but most persistently the coast of Queensland, inland areas of New South Wales, South Australia, and central Australia. This was Australia's worst drought to date in terms of severity and area. Sheep numbers, which had reached more than 100 million, were reduced by approximately half and cattle numbers by more than 40 percent. Average wheat yields exceeded 8 bushels per acre in only one year of the nine and dropped to 2.4 bushels per acre in 1902 – dubbed the federation drought, the event was repeated a century later as the Millennium drought. The Millennium drought conditions were particularly severe and severely affected the Murray-Darling Basin and virtually all of the southern cropping zones.

Notable droughts include:

- Federation Drought 1895-1902
- January 1965 – June 1966
- April 1982 – February 1983
- Millennium drought April 1997 – October 2009
- April 2002 – January 2003.

Droughts are a normal part of life across the South West. They have led to great innovations and successes of landholders in adapting to the circumstances. Droughts can seem unending and can affect our community's resilience through population decline and limiting our ability to bounce back.

*Image: Banks of the Balonne River near St George, during the prolonged drought of 2019–2020. Credit: Shutterstock.*

## Future climate trends

Looking forward, our climate is projected to bring higher temperatures as well as less rainfall, particularly in winter and spring. This will likely increase the risk of bushfire across our region and impact our agricultural industries which are reliant on seasonal and cyclical rains. Fire weather is determined by aspects of temperature, low relative humidity, high wind and drought factors.

Heatwaves are expected to become more severe and last longer with hotter and more frequent hot days predicted. This will impact the most vulnerable in our community as well as our livestock. Heatwaves are generally driven by a high-pressure system, which pushes hot air from the Australian interior towards the region. This pressure in the upper atmosphere stops the hot from rising, causing it to 'sit' on the affected area.

Most people have adequate capacity to cope with many of the heatwaves experienced in Queensland, as they are low intensity heatwaves. However, less frequent, higher intensity severe heatwaves can be challenging for vulnerable populations and can translate to agricultural, infrastructure, economic and ecosystem impacts.

Even rarer extreme heatwaves are exceptionally intense, impacting upon normally reliable infrastructure like power and transport; heatwaves of this extreme intensity are a risk to anyone who does not take precautions to keep cool. Severe and extreme heatwaves also put significant pressure on infrastructure, such as the failure of essential services and interruptions to transport networks. The failure of such services can have direct flow on effects to human health, by reducing hospital and health care service capacity, for example.

Rains will still come, but they arrive in intense downpours which could cause damage. The boom-and-bust cycle of drought will continue, through it is less defined and likely that we will experience more time in drought. As our climate evolves, it will be important for us to evolve with it to ensure we are able to withstand the stresses and shocks that come with living in the South West.

Flooding may onset suddenly (flash flooding), or build over hours, days or weeks (riverine flooding). The dynamics of a flood are highly dependent upon a range of factors, including rainfall quantities and temporal pattern and catchment characteristic. Climate projections predict more intense downpours and more intense tropical cyclones, both of which may increase the occurrence and intensity of riverine flooding, storm and tropical low events.

*Image: Maranoa Injune Taroom Road. Courtesy SWQROC.*

# Our challenges and opportunities

Our unique region and the landscape as our primary value brings challenges in the face of climate change and natural disasters. We understand our natural cycles, but our challenges are not all natural.

Steadfast support and consistency in service provision, including local people who deliver services to remote regions is a modest commitment that can significantly stabilise small communities and facilitate endurance through natural disasters, boom and bust.

Enabling infrastructure will allow us to get on with it. Access to reliable and affordable energy, water, telecommunications facilitate economic opportunity, enhanced resilience, quality of life in health and education and brings stability, reducing the stresses and shocks of the boom and bust cycle.

With this baseline in place our region can prosper, do things better and do things differently to create a truly landscape dependent resilient region.

## Environment

Characteristics of our environment mean embracing and understanding the long-term boom-and-bust cycle and the consequent changes in the landscape.

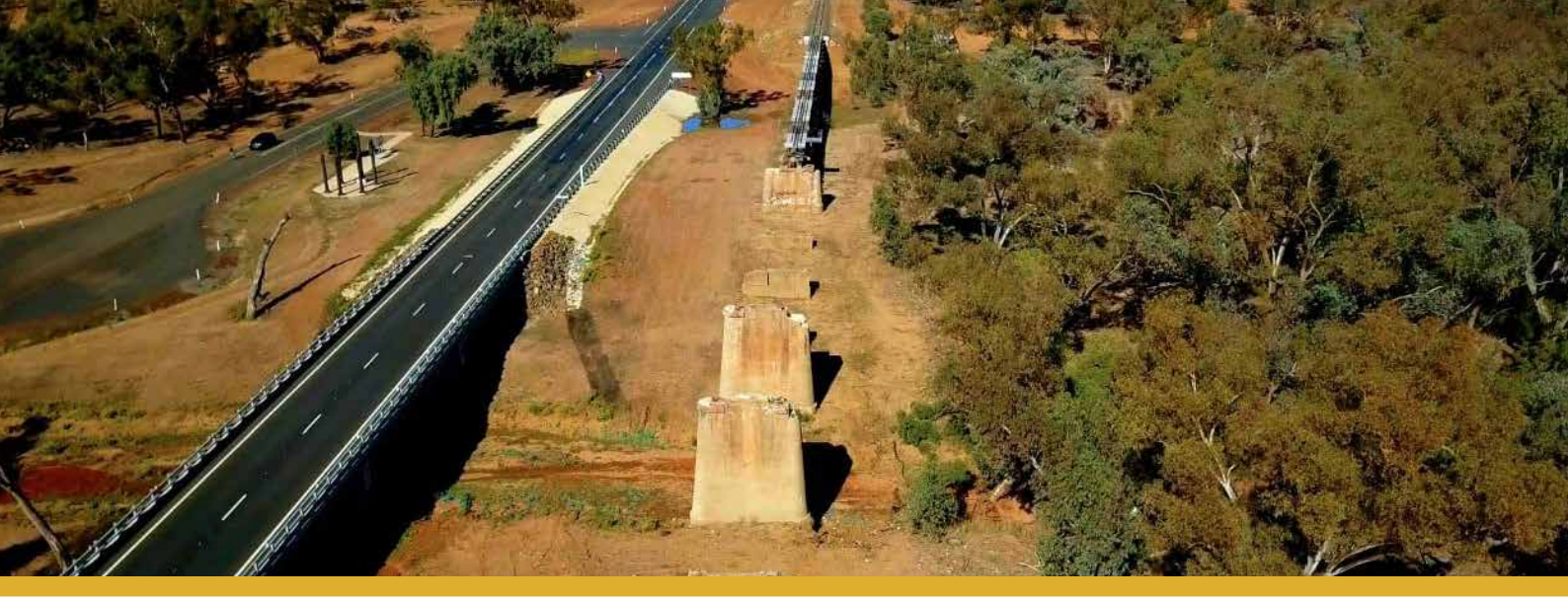
The challenge is sustaining effort, with the boom and bust cycle as the driver of actions, so that consistent support facilitates viability across the cycle. For example, pest and weed management approaches which provide resources and funding at key times of the cycle to optimise results. Feral pigs are a particular issue after the wet while weeds like lignum and parthenium can be better controlled in the dry. Maintaining our natural river systems and water holes free of pest species like carp, is a particular challenge in the face of growing tourism and mobility.

Other recent stresses to our environment stem from the commencement of carbon farming which has led to unforeseen impacts of potentially enhanced fire risk in the build-up of undergrowth and mulga, especially if the properties are not settled. Fire risk is also present in our Cypress industry.

During disasters understanding what is happening in our large catchments is crucial to being prepared and keeping community safe. It also contributes to understanding of the expected impacts on pest and weed distribution and growth as well as pasture health and grazing options.

There are opportunities for doing things differently in a regionally specific best practice approach such as weed control in the road corridors, fire stick programs, resources and knowledge sharing or collaboration with natural resource bodies, state agency partners, and the like to reap regionally beneficial outcomes for our wetlands, catchments and landscapes.

*Image: Quilpie road works. Courtesy SWQROC.*



## Infrastructure

Significant opportunity for greater economic independence and resilience is found in improvements to enabling infrastructure such as reliable and economic energy, water and digital connectivity to access technology, online markets and working remotely – which has always been our way.

Our businesses are innovative and are increasingly looking towards technology to assist with trends in skills shortages, distance, and isolation to build stability and quality of life.

Energy and telecommunications in particular have existing technology that would allow the South West to do better in renewables or locally enhanced systems. The challenge is the investment - notwithstanding the potential savings to be gained by decreasing subsidies or replacing hard and ageing infrastructure. The returns could lessen the need for financial support otherwise. Improvements to enabling infrastructure is an investment in economic independence. The opportunities which reliable, fast and economic telecommunications and energy can bring cannot be understated.

During disasters, redundancy and back up is especially important for these networks. With roads cut, repairs uncertain and a dispersed population, staying connected with back up options is paramount.

Housing shortages, influenced by challenges with access to finance doubles down on our ability to attract permanent residents. Staying is tough, if owning your own home is not an option. A lack of housing options for seasonal workers can in turn cause businesses to give up the search for new staff.

Baseline services including hard infrastructure and a commitment to continuity, funding and access in health programs, justice, education and other services ensures business confidence, investment and continued innovation without unintended stresses. These services – and the locally employed people who provide them - contribute significantly to ensuring a quality of life and enables access to health, education and information streams despite distance and transcending climate cycles.

Support from infrastructure providers in recognising challenges in locations where redundancy is limited, and alternatives even less, means we can work together to do better for infrastructure that is fit-for purpose and enduring.

## Roads

Roads are our lifeblood. There are often no detours and no other options to connect our region. Roads are both a challenge and an opportunity. Road closures are acutely felt in our economy, health, ability to repair and recover, or access to services centres.

Road closures and communications during disaster events can benefit from a stronger regional or collaborative response focused on consistent messaging, a role for all in keeping the region moving and appropriate messaging and information for visitors so they do not become a burden to our limited resources. Local service provision must balance the potential for incidents in the volume of visitors flocking to popular outback experiences versus the usual resident population levels, which can place significant pressure on resources.

Our vital road connections must be shared between essential supply route vehicles, road trains, wide loads and mining equipment to family vehicles towing campers and vans. Keeping everyone informed and safe is a challenge.

After natural weather events we repair our known trouble spots around creeks, floodways, bridges and culverts frequently, and this is a clear opportunity to do better and create greater resilience in our road network. State and nationally significant supply routes through the region present opportunities in identifying routes with a resilience lens to make strategic decisions on road investment.

*Image: Angellala Bridge, Mitchell Highway, Charleville. Courtesy Murweh Shire.*

## People

Our challenging trend for communities is an ageing and declining population. This is exacerbated by larger property sizes which contribute sparser and fewer families on the land and the stop-and-start service provision which brings new people to town, only to take them away again. The community feels deeply the loss of any of our volunteers or old-timer's knowledge.

Conversely, we welcome a high proportion of travelers, visitors, and non-resident workers who are yet to understand the landscape risk as the locals do. As our population swells in the cooler months, sharing knowledge and raising awareness across multiple platforms is paramount, and has the potential for great impacts on our limited disaster management and emergency services.

Our people live here because they love it. Our young people and our old-timers want to stay. It is challenging to provide a quality of life without the steadfast services, communication and access which allows better health, education and innovation outcomes.

The opportunity arises to do better in attracting and welcoming newcomers and multiculturalism to our relaxed lifestyle and new prospects to work remotely with a highly social community.

## Economy

Our economy is challenged by interruptions to infrastructure, road closures during events and access to skills. There are numerous and significant economic opportunities to build and value-add on current enterprise in manufacturing and agriculture in wool, goats, cattle and irrigated crops. The continued cluster fencing program is a prime example of a scaffold that has enabled business to raise the bar.

Our economy has great opportunity to grow, stabilise and reduce stresses which are inherent in our climate and landscape, but this is dependent on a stable baseline of infrastructure and services to provide the business scaffold and realise opportunities to attract new people with broader skill sets and access to markets.

Tourism thrives in the cooler months of the year. Our visitors expect a quality and standard of service and information of any urban area to stay safe, informed and enjoy. Providing local outback hospitality is in our genes. Challenges in standards of service especially online, in staff availability, housing and communications hamper growth in the industry.

However, gaps in our baseline promote innovation in our society and economy, which in turn builds resilience. Resilience is also in our genes.

The challenge is to build confidence in business viability and attracting capital by removing some of the entry barriers or uncertainty in infrastructure, housing, and skills. Some businesses are actively sourcing workers from international locations to address skills shortages.

The challenges and opportunities for the South West can be further highlighted through the climate lens.

*Image: Roma Saleyards. Credit: Shutterstock.*



## Case study: Diversification opportunity in carbon farming

Carbon farming presents an opportunity to help restore balance, using Earth's land-based plant life and wetlands to naturally reabsorb excess carbon dioxide, or changing land management practices to reduce the amount of greenhouse gases emitted from human activities.

There are two ways to farm carbon: by avoiding agricultural emissions or by sequestering $CO_2$ from the atmosphere. Diversification into carbon farming presents an opportunity for land managers to secure another income as well as improve the natural capital in the land. Carbon farming provides a range of additional benefits such as:

- improved water use efficiency
- better protection for stock (through natural shade and windbreaks)
- improved livestock production
- increasing habitat for threatened species
- improved soil quality
- improved fertiliser-use efficiency.

Undertaking a carbon project is a business decision with costs and benefits. However not all decisions are purely financial and considerations such as increased sustainability through diversification, opportunities for succession, alternative land uses for less traditionally productive areas, lifestyle decisions, project co-benefits and personal interest in the products or outcomes being developed, all play a part.

Carbon farming can encourage farmers to stay on the land because the revenue generated by a carbon farming project adds to the total revenue of a property and provides income across the drought cycle.

In the South West the prolific carbon farming projects haze resulted in some unintended consequences such as:

- unmaintained fences and properties
- increased bushfire hazard
- absentee landlords
- contributing to population decline

While corporations buying properties is one aspect of emission reduction projects in the south-west, some graziers have taken the opportunity to divide their business interests and their land. For some. farming carbon is a logical step to create a new income stream and a way to do things differently with long term benefits.

www.qld.gov.au/environment/climate/climate-change/land-restoration-fund/carbon-farming/australia

www.qff.org.au/wp-content/uploads/2021/03/CarbonFarmingFactSheetSouth_2021.pdf

www.abc.net.au/news/rural/2018-03-06/carbon-farming-killing-the-community-or-saving-the-world/9515836

*Image: "An introduction to carbon farming" video.*

## Case study: Diverse opportunity in Quilpie Shire – The Eromanga Story

Eromanga is located approx 108 kilometres west of Quilpie with a population of 45 and has a number of claims to fame starting with being the 'furthest town from the sea' in Australia.

Perched on the cusp of the environmentally fragile but significant Cooper Creek, Eromanga is a paleontological hotspot.

Based on skeletal remains found so far, the most recent discovery in the region is 'Cooper' - Australia's largest dinosaur. Named after Cooper Creek, the dinosaur is currently being described one of the largest animals to have walked the earth. It is the largest skeletal remains of a dinosaur ever to be discovered in Australia and is in the top ten of the largest dinosaurs in the world.

Several dinosaurs have been unearthed and the area is being heralded by scientists as the most exciting and prolific dinosaur site in Australia. The bones and other exciting discoveries are displayed in the Eromanga Natural History Museum, a short drive from Eromanga.

The Eromanga Natural History Museum is open to the public and is an operating scientific and educational institution, holding internationally significant fossil collections.

The Eromanga region also has the claim to fame of being the largest oil producing area in mainland Australia. The township plays host to a mini refinery that has been continuously refining 1250 barrels per day of crude oils into automotive distillates, jet fuel and specialty chemicals.

The Old Royal Hotel, built in 1885, is one of the original buildings and was once a Cobb & Co Staging Post for the history buffs.

www.enhm.com.au/museum/dinosaurs/cooper

www.visitquilpieshire.com/attraction/eromanga

*Image: Eromanga Natural History Museum. Courtesy Quilpie Shire Council.*

## Case study: Doing better – International business opportunities from local goat abattoir expansion

Western Meat Exporters Pty Ltd is a specialist facility designed to produce halal goat and sheep meat for export markets. Established in 1996, it is Australia's first solely built goat processing plant. The company recently announced a $9 million expansion of its facility at Charleville that will provide an additional 60 jobs for the community, plus increasing processing from 460,000 to 900,000 animals per year.

The abattoir is Charleville's largest employer and expansion will enable Western Meat Exporters Pty Ltd to begin value-adding and to look into regional branding.

The majority of the new jobs from the expansion suit young people, including school leavers, and are in areas such as the stockyards, maintenance, trucking, IT, quality assurance, occupational health and safety areas, and in management systems, learning what it took to manage such a large business.

The modernisation of the industry is making it more attractive to youth as the business is able to move from a paper-based system to digital platforms and automation.

The expansion of this facility will help the community of Charleville to not just retain some of its young people but may also encourage other businesses to move to the town, which will bolster economic activity

www.queenslandcountrylife.com.au/story/7142727/western-meat-exporters-announces-9m-expansion

www.westernmeatexporters.com.au

*Image: Goats. Credit: Western Meat Exporters.*

## Climate challenges

Climatic challenges include a forecast of higher temperatures, hotter and more frequent hot days, harsher fire weather and more intense downpours. Changes to drought are less clear.

Rainfall overall may remain similar in quantum but be dispersed and sporadic with less rain during the dry and more intense rain in the summer. More intense episodes could increase vulnerability to assets impacted more frequently. More intense falls will increase erosion and have a reduced infiltration effect with lowered pasture growth. The internationally significant wetlands will experience lower in flows and affect migratory breeding patterns.

Rises in mean temperatures brings with it an increase in the number of hot days experienced giving the effect of an extended summer. The number of the number of hot days (over 350°C) and very hot days (over 40°C) are both projected to increase bringing with them hot nights.

Temperature rises will primarily impact our people. The elderly, children and the ability to work and enjoy our outdoor lifestyle. This will flow on to the availability and use of evaporative cooling or refrigerated air conditioning. Both options have costs in energy and water and implications for increased demand on these networks from both residential and commercial uses.

Economic costs of heat may see a reduction in the tourism season rather than the desired lengthening. Risk to tourists' health and well-being will emerge where low risk awareness can potentially be a burden on emergency services resources. Heat also increases the risk of mechanical failure for business, especially in energy overloads, road surfaces, rubber and plastic components failure of plant and equipment.

Our environment may experience changed behaviours of pest and weeds with impacts to native species abundance and locations. Grazing animals may require more shade, travel shorter distances and require water at closer intervals, while feral animals may extend their reach and be more destructive.

Fire hazards will increase with drier spells or higher fuel loads from intense falls. The primary challenge for fires in our region is distance and isolation and the ability for any rural fire service to reach bushfires.

Cumulatively, these changes add to the baseline of resilience and to avoid unwarranted stresses, maintaining the steadfast services in health and well-being especially, will be paramount. The opportunities for resilience stem from technology, innovation, awareness, and education.

*Image: Thargomindah dust cloud, October 2021. Courtesy ABC supplied by John Ferguson.*

# Our exposure and risks

There are five hazards acknowledged in this strategy of flood, bushfire, earthquake severe storm and heatwave. The following section provides a high-level overview of the nature of hazard exposure across the South West region. Observations are drawn in large part from the 'process one' analysis of each hazard using the QERMF approach across each local government area.

A critical element in understanding risk are the elements of exposure and vulnerability which exist at both a micro and macro scale. For example, specific bridge or culvert assets may be exposed and / or vulnerable to natural hazards however, the resupply network these bridges and culverts support may then also be vulnerable. From a resilience perspective, it is necessary to consider risk consequences across a broad spectrum from asset-based analysis through to strategic and systems-based analysis.

The dominant natural hazards for the region relate to our landscape cycle of flood and drought.

## Flood

Across the region, exposure to flood hazards is shared and expected given the nature of the landscape and the catchments. Catchment behaviours dictate various vulnerabilities depending on warning times, extents, time isolated due to heights, channel widths and receding speed. Flood is not viewed locally necessarily as a disaster event but an essential part of the natural cycle. The contrasting part of the cycle is drought which can have long lasting and deep effects across resilience factors. This long-term event stretches community resilience as it confronts financial, physical and mental health, stresses and shocks to name a few.

Vulnerability across the region increases across the drought and rain cycle as these are expected to become less predictable, droughts longer, temperatures hotter and rainfall more sporadic. The continual drought to flood cycle dominates the vulnerability narrative as it does the landscape.

Assets and facilities especially exposed in the state and local road network. As a primary connector for our region the continued and enhanced functionality of roads is a focus.

## Severe storms

Severe storms include dust storms and the likelihood of high winds and lightning strikes. Infrastructure is exposed across the region to storm debris or high winds for isolated assets such as mobile phone towers, power lines, and communications and airport towers or transmitters. A significant proportion of the regions' flood warning infrastructure is also exposed to either flood risk or bushfire.

## Bushfire

Bushfire risk is common across the region with variations in characteristics depending on the fuel load, remoteness and access, source and property risk. Large areas of the region are state parks and forests, and resources do not stretch to combating remote fires which are often inaccessible and ignited by lightning strikes. Property owners mitigate bushfire risk through good management practices and mechanized fire-fighting. Properties which are not well maintained or not settled pose an additional bushfire risk. With the exception of Bulloo, the frequency and intensity of fire weather across the South West has increased since 1950, with annual fire seasons now arriving almost a month earlier than was the case 70 years ago and extending around a month longer.

## Heatwave

Most people have adequate capacity to cope with many of the heatwaves experienced in Queensland, as they are low intensity heatwaves. However, less frequent, higher intensity severe heatwaves can be challenging and an additional stress for the most vulnerable in the communities: the very young, the senior citizens, expectant mums, those with pre-existing health conditions and the inability to run cooling systems in their homes.

They are also Australia's most costly natural disaster in terms of human impact, with severe and extreme heatwaves being attributed to more than half of all natural disaster related deaths. The heat places addition stresses on water and energy networks and doing things differently to combat extended periods of heat. Businesses, especially those with livestock will need to employ strategies to ensure these conditions do not cause adverse effects. Queensland's potential exposures and risks to heatwaves can be found in the Queensland State Heatwave Risk Assessment 2019 and the Heatwave Management Sub-Plan.

## Earthquake

Contrary to popular belief, the Australian continent is not devoid of tectonic earthquake activity. However, compared to other populated parts of the world, earthquakes pose a lower threat to Australian communities. The combined factors of the youth of Australia's building stock and effective building codes greatly reduces the likelihood of widespread destruction.

For earthquake exposure, most of the region sits within Seismic Hazard Source Zone 29. The Queensland State Earthquake Risk Assessment indicates a common risk level across the region at 41 per cent chance earthquake event of greater than 5.35 magnitude in the next 100 years.

*Image: A microburst north-east of Roma. Courtesy ABC submitted by Peter Thompson.*


The following local government profiles describe the anticipated escalation of local temperatures for heatwave conditions.

## Quilpie Shire

Quilpie lies at the far west of the region sharing its border with South Australia, it is remote with isolated communities and the dominant natural hazard exposure is from increases in mean temperatures and flood stemming from the route of the Bulloo River on the eastern edge of the township. Bushfire is also a clear risk.

Currently, Quilpie Shire can expect 33 heatwave days per year, rising by an additional 10 to 36 additional heatwave days by low to high scenario. Vulnerability of critical infrastructure assets and critical services is increased accordingly, such as the airport, school, emergency services, community care centres, or bridges.

Within the township, mobile phone towers and internet exchanges are particularly exposed to bushfire hazard. The transport network is integral to the livelihoods of the community from both a social and economic perspective. State bridges are particularly vulnerable for both bushfire and flood hazard with all assets exposed. State roads and local roads are also vulnerable flood hazard with all assets exposed. The Quilpie airport is exposed to flood risk which is concerning for evacuation and response or recovery.

A number of critical assets are exposed to bushfire and to flood hazard including the ambulance and hospital.

## Bulloo Shire

Bulloo Shire lies at the far west of the region sharing a boundary with both South Australia and NSW. It is remote with isolated communities and the dominant natural hazard exposure is from increases in mean temperatures and flood stemming from the channels of the Bulloo River on the eastern and southern edges of the Thargomindah township and wide Cobb and Co crossing. Bushfire is also a clear risk.

Currently, Bulloo Shire can expect 33 heatwave days per year, rising by an additional 40 to 76 additional heatwave days by low to high scenario. Vulnerability of critical infrastructure assets and critical services is increased accordingly, such as the airport, school, emergency services, community clinic, or bridges.

State bridges are particularly vulnerable for both bushfire flood hazard with all assets exposed to the to both hazards. State roads and local roads are vulnerable to flood hazard with all assets exposed. Almost half the gas pipelines and power supply infrastructure are also exposed to flood risk.

The Thargomindah police station, school, health clinic and both caravan parks are exposed to flood hazards and the Thargomindah community clinic is also exposed to bushfire hazard.

The annual fire season is now arriving about 25 days earlier than it was 70 years ago and is lasting approximately 13 days longer. Fire weather intensity has also increased by approximately 21 per cent since 1950.

## Paroo Shire

Paroo Shire is located further downstream, with Cunnamulla on the southern banks of the Warrego River and the township of Eulo further west on the Paroo River. Dominant natural hazards risks stem from flood, bushfire and heat.

Currently, Paroo Shire can expect 32 heatwave days per year, rising by an additional 14 to 38 additional heatwave days by low to high scenario. Vulnerability of critical infrastructure assets and critical services is increased accordingly, across the wide range of community services and assets provided across the Shire.

All four state-controlled bridge are exposed to flood risk and two to bushfire risk. Community infrastructure including schools and fire stations are exposed to flood and all health and hospital facilities across the Shire including at Wyandra, north of Cunnamulla which is on the Warrego River.

Like Charleville, the Cunnamulla township has a levee constructed around the town in 1990 for flood protection to at least 10.5 metres on the flood gauge from the Warrego River, however, the Cunnamulla land fill and waste-water treatment facility remains exposed.

*Image: Cobb & Co, Balonne. Courtesy SWQROC.*

## Balonne Shire

Balonne Shire is in the southeast of the region with St George located on the convergence of the Balonne and Maranoa Rivers in irrigator country. Dominant natural hazards risks stem from flood, bushfire, and heat.

Currently, Balonne Shire can expect 31 heatwave days per year, rising by an additional 11 to 35 additional heatwave days by low to high scenario. Vulnerability of critical infrastructure assets and critical services is increased accordingly, across the wide range of community services and assets provided across the Shire.

The town of St George has several levees and flood gates to protect infrastructure and private property. This includes a 1km earth mound of 1m high and a 0.9-kilometer block wall in the township, with the latest additions completed in 2013. Other townships of Thallon, Dirranbandi and Mungindi all have levees.

As for other townships, energy infrastructure is exposed to bushfire risk with three substations impacted. There is also 9.6 kilometres of gas and over 50 kilometres of oil pipeline exposed in the Cunnamulla area. Outlying facilities of wastewater treatment are also exposed. The road network is vulnerable to bushfire hazard in several locations along the Balonne, Barwon and Carnarvon highways. There are many local roads in the medium bushfire risk area especially in the St George, Thallon and Dirran areas.

Buildings exposed to medium bushfire hazard in the Shire include a police station, several schools and the Dirran Health Service which is also exposed to minor flooding.

The Bollon aerodrome is exposed to flood hazard across the runway. There are numerous locations on the state and local road network which are exposed to flood hazard including bridges. Two primary schools and two police station are also impacted.

## Maranoa Region

Maranoa is the most populous council area to the east of the region and arguably the entry point to the South West. The dominant exposure is from increases in mean temperatures and flood stemming from the Maranoa River and Bungil Creek before joining the Balonne further downstream. The district has relatively low levels of exposure for bushfire, especially for built infrastructure within townships.

Assets which are exposed to bushfire risk include some isolated facilities such as four of the regions' water supply resources at medium risk. The Mitchell waste transfer and power stations are exposed to bushfire. Gas pipelines in the area are also subject to bushfire risk.

Currently, Maranoa can expect 28 heatwave days per year, rising by an additional 8 to 44 additional heatwave days by low to high scenario. Vulnerability of critical infrastructure assets and critical services is increased accordingly, across the wide range of community services and assets provided across the Council area.

A significant amount of energy infrastructure is exposed to bushfire including the power station east of Roma and about one third of substations. A majority proportion of the Roma airport is exposed to flood risk which is concerning for critical infrastructure for response and recovery. The Roma Tourist Park is also vulnerable to flood, however the Saleyards and associated infrastructure are not impacted by flood.

The transport network is exposed to both bushfire and floods with 80% of local and state bridges exposed to bushfire and all local and state roads vulnerable to flood. About a quarter of the rail infrastructure is exposed to flood hazard.

One of the region's highest risk areas is the township of Mitchell, nestled in the bend of the Maranoa River which exposes the township to flood risk. The critical infrastructure of the police station and hospital, school and fire station are all exposed to flood hazard along with the town centre, commercial areas and caravan park. The township of Surat on the Balonne River is less exposed. Three fire stations and four primary schools across the district are flood exposed.

## Murweh Shire

Murweh Shire is in the middle of the region and a key pivot point for transport. The dominant risk exposure is flood with recent memory in Charleville and surrounds of damaging flood events. Bushfire is also a clear risk.

Currently, Murweh Shire can expect 30 heatwave days per year, rising by an additional 15 to 38 additional heatwave days under low to high climate scenarios. Vulnerability of critical infrastructure assets and critical services is increased accordingly, across the wide range of community services and assets provided across the Shire.

Charleville townships benefits from a flood levee constructed 2009 by Murweh Shire Council to protect the town from flooding. This levee proved its worth in 2012 when it came close to being overtopped. In 2013, Council augmented their flood mitigation through construction of a diversion and levee system to protect the town from Bradley's Gully.

There are three state bridges which are exposed to flood risk which are all on the Mitchell Highway from Charleville to Augathella. This route runs parallel to the Warrego River.

Augathella is also exposed to flood risk as it is located on the upper reaches of the Warrego river which hugs the north side of the township.

Across the Shire there are a number of facilities and infrastructure exposed to medium level bushfire risk including two schools, three police stations, the Murweh Shire Council building, the RFDS facilities and the Charleville Hospital.

# Our pathways to resilience

This Strategy has been formulated through regional engagement and collaboration with the local governments and stakeholders within the region, and calibrated by drawing upon a spectrum of existing resilience efforts across the region, including a wealth of existing studies, reports, plans and strategies. It also draws upon the strategic observations drawn from the initial assessment of exposure and vulnerability undertaken across the region.

This enables the consideration of both locally identified community needs and strategic vulnerabilities derived through risk informed information, which when considered together, can be used to bolster resilience initiatives across the region.

The concept of resilience action can be considered in the context of three options or opportunities:

'Doing same' – some parts of the system may be able to continue successful functioning even with disruption. However, other parts of the system will not endure major disruptions and to 'go back to normal' after disasters is reinforcing existing vulnerabilities.

'Doing better' – some parts of the system may be amenable to incremental changes and adjustments, allowing for improved decisions and actions based on updating knowledge.

'Doing differently' – large parts of the system will not be able to withstand increasing frequency or magnitude of disruption and will require a step change to deliver on goals and things that are valued. System structural changes can be achieved by addressing root causes and re-prioritising.

For the South West, the doing same, doing different and doing better model encompasses the following examples:

- providing forums for exchange and supporting community networks
- a continuing role for a regional resilience officer
- sharing resources and finding common solutions to regional issues
- active participation in regional boards and working groups relating to resilience actions such as Southern Landscapes NRM, Regional Roads Groups and District Disaster Management Groups.
- continuing existing work, collaboration and partnerships across the region on specific projects or initiatives which contribute to resilience
- focusing on skills and education development in the region to retain population, enhance local capability and provide new lifestyle opportunities for existing and new residents.

*Image: Balonne River. Credit: Shutterstock.*

# Strategic pathways to champion resilience

A range of strategic pathways to inform collaborative approaches to regional resilience objectives have been identified. These strategic pathways form a regional 'blueprint' for coordinated resilience and prosperity action across South West Queensland.

The strategy draws upon the spectrum of existing resilience efforts both undertaken and underway across the region.

Acknowledging the integrated, complex, and far-reaching concepts of resilience, the objectives of this strategy are focused on strategic themes and pathways which align with aspirations of the region, from people and social, towns and infrastructure, transport, economic and environmental perspectives.

The themes and pathways are further supported by a range of regional and local actions which link back to the Queensland Strategy for Disaster Resilience, aligning with the Queensland Government's state-wide priorities and commitments for disaster resilience.

These strategic pathways and actions will be moved forward under the direction of SWQROC as well as individual stakeholder groups.

The strategic pathways identified below form a 'blueprint' for coordinated resilience action for the South West region. Each strategic pathway is mapped to its corresponding QSDR objective, referenced by the bullet point colouring.

| | Resilient society | Resilient towns and infrastructure | Resilient transport | Resilient economy | Resilient environment |
|---|---|---|---|---|---|
| Doing same | Maintaining social connectedness. 2 | Promoting our lifestyle and quality local services . 2 | Enhancing road safety and awareness of road users. 1 | Continuing successful promotion of our scenic landscapes 2 | Continue successful partnerships with NRM bodies, and traditional owners. 2 |
| Doing same | Working together to build a stronger region. 2 | | Ensuring support and preparedness for incident response during peak season. 1 | | |
| Doing same | Valuing inter-generational local knowledge and legacy. 1 | Celebrating the ongoing resilience of our bush communities. 4 | Maintain physical connection through good quality roads. 4 | Promoting local business, local jobs and local lifestyle 2 | Recounting stories of our past natural hazards to maintain local understanding of risk. 1 |
| Doing better | Striving for local empowerment 4 | Striving for reliable and consistent services and networks. 4 | Developing pathways for road network betterment, resilience, and safety. 4 | Supporting small business to grow and prosper through cross industry training and partnerships 4 | Enhancing and sharing our landscape knowledge and our inevitable weather cycle. 1 |
| Doing better | Understanding the risks our landscape brings and preparing for its cyclical nature 1 | Prospering though consistent support from state agencies and networks. 2 | Maintaining relationships with regional transport bodies and reinforcing supply chains . 2 | Finding opportunities to enhance skills and capacity. 3 | Supporting initiatives for healthy country and maintaining pest free river systems. 4 |
| Doing better | Celebrating cultural diversity and attracting people to our region. 1 | Supporting prosperity through small business innovation. 2 | Using the network to support economic diversification and business opportunities. 2 | Encouraging new opportunities in agriculture, mining, and tourism. 3 | |
| Doing different | A thriving south-west with the right skills and resources 3 | Investing in new technology. 3 | Exploring alternatives for access to markets. 3 | Exploring new opportunities in carbon farming 3 | Working together to understand catchments from top to bottom. 2 |

1 we understand the potential disaster risks we face

2 we work together to better manage disaster risk

3 we seek new opportunities to reduce disaster risk

4 we continually improve how we prepare for, respond to and recover from disasters

## Delivering over time

The strategic pathways provide the broad themes that address the region's identified resilience needs. Staging and focusing the right effort at the right time is also critical to advancing resilience in a sustainable way.

Being able to describe what is needed and when is a key aspect of coordinating whole of government and collective responses to locally identified needs.

The diagram below provides a conceptual roadmap to understand key actions and investment priorities for the region, and when they might be applied, having regard to funding mechanisms and broader delivery programs of investment. It anticipates that stresses and shocks will continue to happen into the future – but it provides the 'trigger points' for key interventions at the relevant points over time (before and event, during, and after) that are needed to help sustain socio-economic growth into the future.

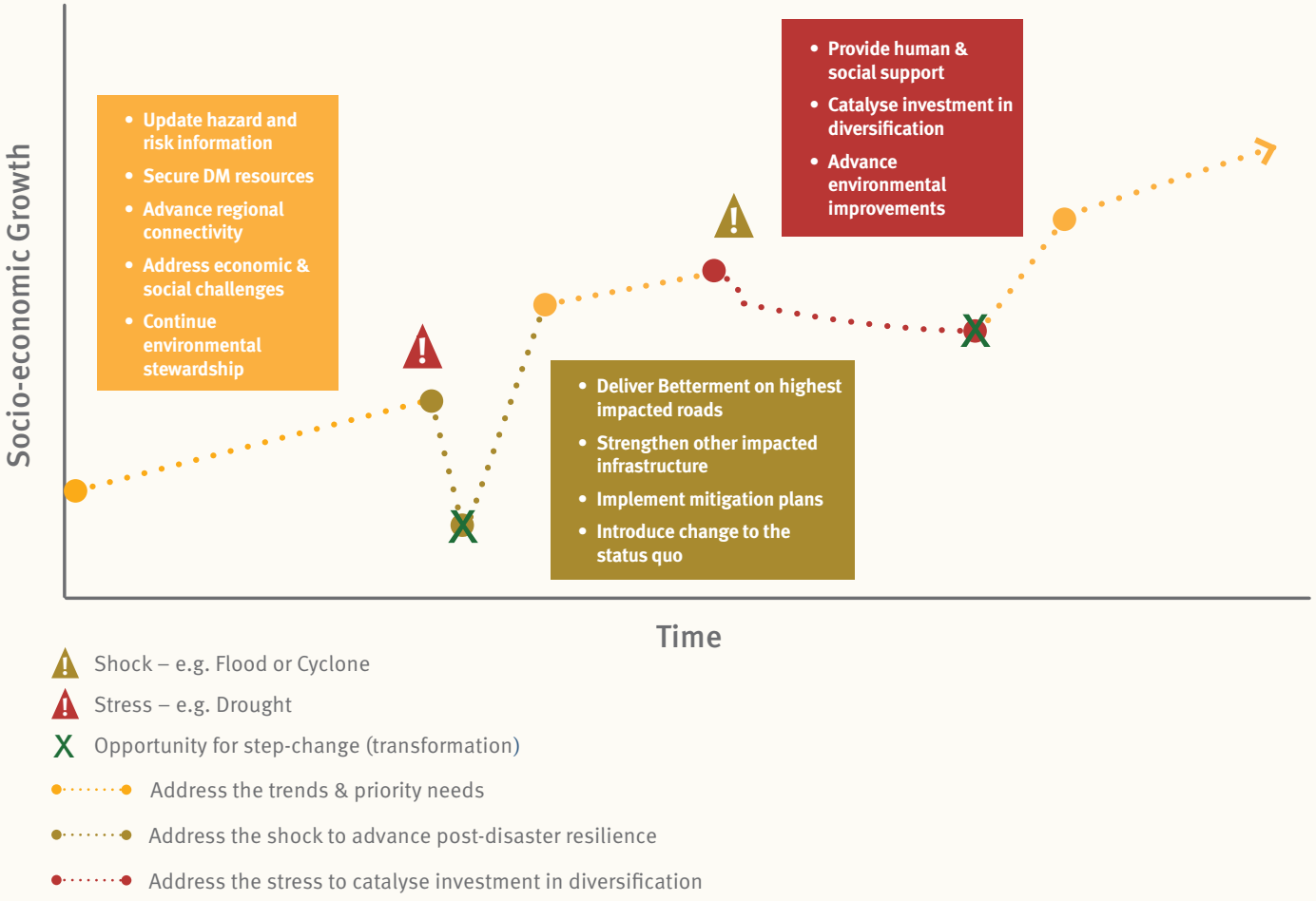
This can be used as a mechanism to understand key recovery and resilience priorities ahead of time, so that when an event occurs, all stakeholders are already aware of the key needs of the region following an event which enables post disaster efforts to be better coordinated and streamlined.

The phased approach, demonstrated by the figure above, acknowledges that resilience is a journey and is punctuated by events that change our circumstances. Sometimes, it is easier to achieve changes to the status quo after an event, when the consequences are in clear memory. As challenging as events are, they also present opportunities for change so that today's lessons can be retained and put to work for future benefit. In other periods, under 'blue sky' conditions, other opportunities also exist to build hazard and risk information datasets, undertake monitoring and plan for uncertain times.

Importantly, this approach means that efforts, projects and activities need not be all done at once. Individual local government circumstances will dictate what is needed and when certain actions are best carried out depending on local priorities and needs at any given time.

## Future action and investment priorities and phasing

*Figure 7. Improving our prosperity through resilience (adapted from Joseph Fiksel).*



## Action planning

A local action plan relative to each local government in the region supports the implementation of this Strategy. The action plan identifies a suite of potential projects, that if implemented, would contribute to improving resilience to natural hazards at both the local and regional level. It is calibrated to provide direction on how to pivot actions as events occur and circumstances change.

Each local government will be primary driver for implementing the local action plan, however it is acknowledged that not every action identified is the responsibility of the local government, with some actions requiring involvement by state agencies, local stakeholder groups, charities, NRM bodies and community groups. Where this is the case, Council can work with stakeholders to share these actions and projects.

# *The Collaborative Cornerstone*

*Image: Balonne Shire. Credit: Sean Scott.*

# Implementation

## Working together to implement the strategy

This Strategy will be implemented as a partnership across the six local governments of the South West region. Actions will be driven through local leadership and regional resourcing under the direction of the SWQROC, with appropriate support from other coordinating entities including district disaster management groups, regional resilience officers, state government agencies, and not-for-profits.

This approach recognises that while actions are best delivered locally, multi-disciplinary regional level support is also required to encourage cross jurisdictional collaboration, provide technical assistance and proactively assist project implementation.

Opportunities that exist to strengthen community and climate related disaster resilience in the South West region led by the SWQROC across the objectives of the QSDR focusing on regional level collaboration, sharing and learning.

## Enduring governance and funding arrangements

This strategy provides an opportunity and support how local governments, and stakeholders work together to achieve common resilience outcomes for the South West region. It seeks to inform strategic and coordinated approaches to climate-related disaster resilience activities to align funding and action.

Under this model, the strategy acts as the regional 'blueprint' for coordinated and sustained action. An agreed governance arrangement will support the implementation of the strategy and an enduring commitment to championing resilience into the future. Stakeholder-identified key requirements for the successful implementation of this strategy are:

- a broad, multidisciplinary approach to resilience building
- sustaining governance arrangements, funding, and resource capability for implementation of resilience actions over time
- a clear understanding of how resilience arrangements interplay with Queensland Disaster Management Arrangements
- greater collaboration between government and non-government organisations to optimise resilience service delivery and efficiency
- clarification of the proposed resilience implementation arrangements at state, regional and local levels so that local actions can be programmed and delivered accordingly.

This model is underpinned by the role for everyone in delivery including:

## Local leadership

Local governments are encouraged to establish their own multi-disciplinary resilience working groups to transition community and climate-related disaster resilience to front-of-mind in all local government functions. This could be achieved by combining existing recovery group arrangements with an ongoing resilience focus over the calendar year.

## Regional coordination

Regional coordination through the SWQROC with a strong link to other existing related governance arrangements such as the relevant District Disaster Management Groups (DDMGs). An opportunity also exists to leverage the existing SWQROCs Regional Resilience Officer to drive the strategy outcomes.

## State support

As a locally-led and regionally coordinated strategy, the role of the State is intended to be one of provision of enabling measures such as administration of grant funding programs, delivery of core governmental functions that interface with resilience building, and facilitation/coordination of support that can assist implementation.

*Image: Baldy Lookout and mulga lands Quilpie. Credit: Shutterstock.*
*Back cover: 2010 floods, Balonne. Courtesy SWQROC.*

www.qra.qld.gov.au/regional-resilience-strategies/south-west