

Natural Disaster Preparation Manual

Checklists, tips and contacts to assist your preparation, recovery and resilience for a natural disaster.

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Introduction

Cyclones, floods and severe storms can have a significant impact on your business by damaging or destroying protected cropping structures, equipment and plant stock. This Natural Disaster Preparation Manual is designed to be used in production nurseries as a broad guide to assist business owners and managers prepare the nursery for cyclone and flood conditions.

The Natural Disaster Preparation Manual contains fact sheets, checklists, tools and tips. Designed specifically for the nursery industry, the pack can assist you to increase your business' ability to bounce back after a natural disaster, reduce the downtime and hasten the return to production.

Snapshot of the nursery industry

The Queensland nursery industry is a significant horticultural sector with a combined supply chain (production to retail) valued at more than one billion dollars annually. The industry employs approximately 6,000 people spread over more than 2,000 small to medium sized businesses including production nurseries and retail outlets. At the time of Cyclone Debbie crossing the east coast of Queensland in March 2017, nursery production was forecast to contribute more than \$902million (farm gate) to the state economy (Queensland Government AgTrends update, April 2017).

The Queensland production sector of the industry is located predominantly along the coastline of the state, between the Tweed River in the south to Cairns in northern Queensland with pockets of producers situated in various inland locations such as Mareeba and Toowoomba.

Nursery design and layout favours flat land with access to healthy waterways. Although flood plains provide the ideal layout site, the challenges of building a nursery on a flood plain become obvious during a flood. The topography of the property should always be taken into account during nursery planning. Nursery sites are sometimes located on steep, sloping sites, or exposed flat land. During a cyclone wind speeds can increase over hills and the most vulnerable structures and highly valued plants should be relocated and positioned in the most protected locations.

Family owned nurseries

Another dynamic influencing the resilience capacity of the nursery industry is the high number of businesses that are operated by spouses or multi-generational families. Often, the nursery owner / manager lives on the same site as the nursery. This factor increases the level of stress in a natural disaster as both the nursery business and homestead is threatened.

Business recovery needs to be treated as a priority for the family-owned nursery because the livelihood of the family depends on the ability of the nursery to return to production as soon as possible. The responsibility of the family-owned nursery to staff and the local community can also be a stressor, as the nursery owner wants to retain key, trained staff, be capable of making weekly payroll, and retain a position of influence within the local community. Evidence collected after Cyclone Debbie (2017) and Cyclone Marcia (2015) show an average income loss experienced by nurseries is over \$350,000 with full recovery taking up to three years. The Natural Disaster Preparation Manual is produced by the Nursery & Garden Industry Queensland as part of the STC Debbie Agriculture Industry Recovery and Resilience Project.

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1 / Before

2 / During

3 / After

4 / Checklist

5 / Rebuilding



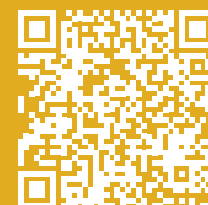
1 / Before

Weeks Before Cyclone Season

In the weeks leading up to storm season you need to prepare the nursery site to protect yourself, staff, family, stock and infrastructure. Usually winter is a good time to clean up a nursery site, stocktake and repair any infrastructure or irrigation systems. GIQ provides nurseries with resources and best practice advice on how to build and prepare your nursery to survive a natural disaster.

To access resources visit:

W / www.greenlifeindustryqld.org.au/natural-disaster-resources



To contact Greenlife Industry QLD

E / Info@greenlifeindustryqld.org.au

P / (07) 3277 7900

12 Preparation Questions for Nursery Owners / Managers

Here are twelve questions you can ask to help understand where your risks are located:

- 1

If a cyclone or flood event came through the site, what could the nursery look like afterwards?
- 2

Are trees located too close to sheds, shade houses, pump houses?
- 3

Do plants need protection from sunburn after the cyclone or fungal infections after flooding?
- 4

Do you have spare shade cloth, cable ties, gloves, chainsaw and irrigation equipment?
- 5

Are chemicals securely stored?
- 6

How will you irrigate stock if there is a power outage?
- 7

Is insurance paid and up-to-date for adequate stock coverage? Do you have business interruption insurance? Where are insurance documents stored?
Insurance Ph: _____
- 8

Do you have a computer system back-up?
- 9

Do you have a portable lithium powerbank, portable lithium power station, solar-charged torches, lanterns and batteries for phones, devices, radio?
- 10

Do you have an evacuation plan for you, family and staff? Communicate this out to all parties.
- 11

Will you be isolated and do staff know what to do after the event?
- 12

Do you have good industry communication networks that could include: WhatsApp groups, social media groups, email newsletters and weather alerts.

Each nursery site is unique and you need to apply these general procedures to your own site

- ☐



Stocktake
Do a quick stocktake: move the most valuable stock away from the potential disaster zone: off site or to higher ground. Which plants can you afford to lose?
- ☐



Moving Plants
Make a plan on how plants will be moved before and after the cyclone and instruct staff on how and who will perform these tasks.
- ☐



Deliveries
Assess despatch schedules, rearrange deliveries of growing media, pots or plants, and talk to clients expecting deliveries next week.
- ☐



Securing Items
Secure all loose items and materials. Ensure all dangerous substances such as chemicals are safe, secure and inventoried. Pallet wrapping has been effective in securing expensive items such as chemicals and fertilisers to secure and weigh them down.
- ☐



Photos
Take photos and video footage – before and after the cyclone/flood.
- ☐



Phone Charger / Power Bank
Fully charge portable lithium powerbank and portable lithium power station, mobile phones, laptops, ipads. Do you have portable solar chargers?
- ☐



Fuel
Fuel up all vehicles and spare fuel drums for generator.
- ☐



Food & Water
Ensure you have 3 days of food and drinking water supplies for family and pets.
- ☐



Clothing
Have ready-to-wear heavy covered shoes, long trousers, long sleeves, gloves and safety glasses.
- ☐



Generator
Test generator and arrange a back-up generator.
- ☐



Neighbours
Talk to your neighbours and share your emergency evacuation plans. Know your exit routes.
- ☐

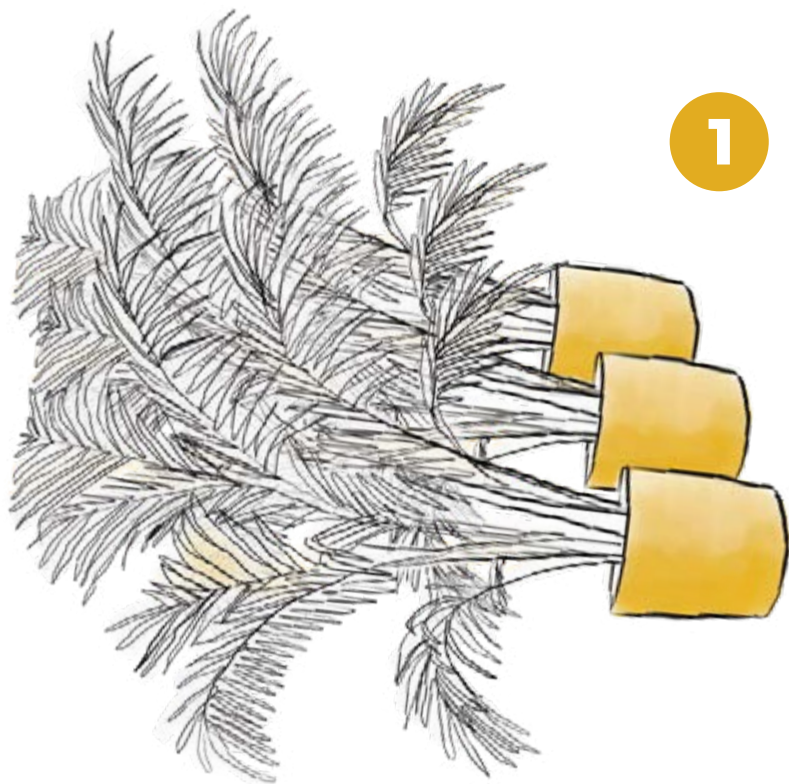


Documents
Secure critical business documents into waterproof, plastic containers.
- ☐



Computers
Back up your computer and elevate / move computers.

Hints and Tips for protecting plants in a cyclone

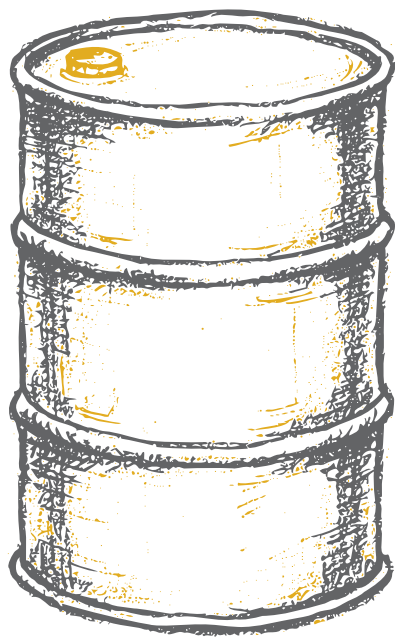


1 Lay down larger plants all in one direction.



2 Cut and drop shade cloth over plants where appropriate.

3 Move higher value plants to a protected area. Some nurseries have 'sheltered' areas (embankments, gullies or natural depressions) or sheds, growing media bays where plants can be stored and protected.



4 Secure all chemicals in storage to ensure they are well sealed and will not move or fall over.

5 In cyclonic wind conditions, assess whether to place small trays and pots on the ground or under benches to reduce the chance of being blown about.



Hints and Tips from Fellow Nursery Owners / Managers



Elaine Duncan
Elaine, of Flourish Plants North Queensland has experienced 3 cyclones. Here's her advice:

“ One of the biggest lessons I've learned is to think about recovery before the cyclone arrives. If you have shade cloth in place, you may want to consider slicing it in sections to allow the wind to pass through. Otherwise, it can act like a giant sail, putting enormous pressure on cables and infrastructure. Once a cyclone is approaching, it's almost impossible to remove the shade cloth safely.

It's also important to have repair materials on hand before a disaster. Road closures can make it difficult to source supplies when you need them most, so keep adequate stocks of shade cloth, weed mat, pegs, irrigation fittings and other essential materials to protect and restore your nursery as quickly as possible.

Make sure your important business records are backed up to the cloud, including insurance documents, financial records and other critical information. Having these accessible can make the recovery process much smoother.

Finally, have a plan for assessing and treating plants that have suffered wind or water damage. Not every plant will be a loss, and knowing how to triage, treat and recover salvageable stock can make a significant difference to your recovery.

48-24 hours prior

In the day prior to an anticipated cyclone or flood, walk through the nursery and identify anything that could come loose in high winds. Signage, hanging baskets, empty containers and equipment need to be secured, tied down.

Talk to staff and ensure they know your preparedness plans. Contact GIQ and use social media, radio and neighbours for updates on potential impact.

Helpful Websites

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Greenlife Industry Queensland
 www.greenlifeindustryqld.org.au


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Queensland Farmers' Federation: Industry Recovery and Resilience Program
 www.qff.org.au/projects/irro


- 

Queensland Government Get Ready
 www.getready.qld.gov.au


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Bureau of Meteorology
 www.bom.gov.au/cyclone/about/intensity.shtml


- 

ABC Emergency Network
 www.abc.net.au/emergency/what-to-do-during-a-cyclone/102645930


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Master Electricians Association
 www.masterelectricians.com.au/consumers


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Workplace Health and Safety
 www.worksafe.qld.gov.au/safety-and-prevention/hazards/workplace-hazards/dangers-in-your-workplace/storms-and-floods



2 / During

During the Disaster

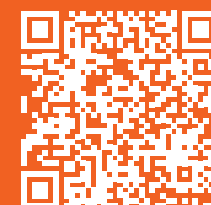
Whether facing a cyclone, severe storm, flooding event or other natural disaster, conditions can change rapidly and remain hazardous for an extended period. High winds, heavy rainfall, flash flooding, fallen trees and power outages may continue long after the initial weather system has passed.

During the event, follow all warnings and instructions issued by Police, Emergency Services and local authorities. Do not take unnecessary risks or venture outside until it is safe to do so.

Prioritise the safety of yourself, your family, staff and pets. It is normal to feel anxious or concerned during a natural disaster. Remain calm, stay informed through official information channels, and maintain adequate food, water and essential supplies. Your personal safety should always take precedence over protecting property, equipment or plant stock.

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Here is general advice for you, your family and staff to follow during the cyclone.

If you shelter at home:

- ➔ Turn off all electricity, gas and water; unplug all appliances. Assess need to wrap electrical plugs in waterproof plastic.
- ➔ Keep your emergency kit close at hand.
- ➔ Bring your family into the strongest part of the house.
- ➔ Keep listening to the radio for cyclone updates.
- ➔ If the building begins to break up, shelter under a strong table, bench or heavy mattress.
- ➔ Beware the calm eye of the cyclone: stay inside until told it is safe to go outside.
- ➔ Comfort children.

Tip from Darryl Madder – Building for the Next Cyclone

Queensland growers understand that severe weather is not a matter of if but when. Few know this better than Darryl Madder from Mad About Plants, who has spent more than 26 years growing in North Queensland and has experienced some of the state’s most destructive cyclones.

While Cyclones Larry (2006) and Yasi (2011) didn’t deliver a direct hit to his nursery, the impact on the region was profound. The experience changed the way Darryl approached the design and operation of his business, with every improvement aimed at making the nursery more resilient before the next disaster arrived.

“Having experienced many cyclones over our 26 years in operation, including two of Queensland’s most devastating cyclones, Larry in 2006 and Yasi in 2011. I witnessed firsthand the devastating effects on businesses and the people involved. Although we were fortunate not to experience a direct hit from the eye of either cyclone, the damage across the region was significant.”

“When Yasi came only five years after Larry, many people had simply had enough and, for their own preservation, gave up on their dreams. After seeing the turmoil created, and for the sustainability of our own business, I decided to invest in our structures to hopefully, or maybe foolishly, sustain our future.”

Learning from Experience

Darryl found that the greatest losses weren’t always caused by collapsed buildings, they often came from damage to crops as structures failed around them.

“Most of our stock and consequent turnover losses came from stock damage as the structures and shade cloth were whipping around as they tore apart. For this reason, we moved away from steel structures, which bend and are not easily repairable.”

Those lessons led to a series of practical improvements that have made the nursery significantly more resilient.



Resilience in Action

The following images show some of the changes Darryl has implemented over the years to better prepare his nursery for future cyclone events.



1. Flexible timber structures

Rather than traditional steel frames, Darryl's three main one-acre growing structures are supported by **timber posts installed without concrete footings**. This allows the posts to flex during extreme wind events rather than permanently bending or failing.

2. Stronger structural support

Every supporting wire cable throughout the structures is **tensioned to three tonnes**, providing exceptional strength while still allowing controlled movement under high wind loads.



3. Designing to reduce wind loading

The shade houses have been constructed with **sloping sides** to reduce wind resistance, while newer structures are built **as low as practical** for the crop and irrigation requirements. Lower profiles help minimise wind pressure during severe weather.

4. Allowing the wind to pass through

Older, higher structures have been fitted with **hail netting along the sides**, allowing wind to flow through the structure instead of creating a "windsock" effect that can dramatically increase pressure on the framework.

5. Temporary cyclone preparation

Before a cyclone approaches, **temporary ropes are secured across the plastic roof between each truss**, helping to hold the covering in place and reduce movement during extreme wind events.

6. Building power resilience

The nursery has also invested in **solar power and battery storage**, allowing the business to operate independently of the electricity grid and reducing the impact of prolonged power outages following major storms.

The Takeaway

There is no single solution that makes a nursery cyclone-proof. Instead, resilience is built through a series of practical improvements that each reduce risk and improve recovery.

Darryl's story demonstrates that every cyclone provides an opportunity to learn. By reviewing what failed, strengthening vulnerable areas and investing in smarter infrastructure over time, businesses can greatly improve their ability to withstand future disasters.

The changes made at Mad About Plants weren't implemented overnight, they were built on years of experience and a commitment to continuous improvement. As Darryl's journey shows, preparing before the next cyclone arrives is one of the best investments a nursery can make in its long-term future.



When an official evacuation order is issued:

- Act immediately. You and your family should follow directions; seek a public shelter or stay with friends/family further inland or on higher ground.
- Check with your neighbours that they have received the updated information.
- Turn off all electricity, gas and water; unplug all appliances.
- Lock your doors.
- Make sure everyone in your household is wearing strong shoes and suitable clothing.
- Take your emergency survival kit; commence your evacuation plan. Details on what to include in your emergency survival kit: www.getready.qld.gov.au
- Visiting from out of town? The local council or emergency agency will let you know your best options for evacuation.
- If you cannot take your pets with you, make sure they are in a safe place. (garage, laundry, etc). Leave them with food and water. Do not tie them up.
- If you are driving when a cyclone hits, immediately park in an area that is clear of trees, powerlines and water courses. Stay inside your car.
- Stay calm. Keep listening to your ABC Local Radio station listen online or via the ABC Radio app, and/or check ABC Emergency's social media accounts for updates and instructions.
- If safe to do so post updates on relevant social media to help warn people of dangers in their area.
- Keep our phone number handy: (07) 3277 7900 as we will have staff taking calls during natural disasters to help give updated information or assist where possible.

Source: ABC Emergency
<https://www.abc.net.au/emergency/what-to-do-during-a-cyclone/102645930>





3 / After

After the Disaster

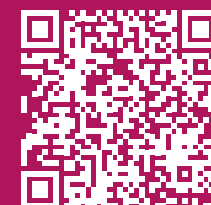
Following a cyclone, severe storm, flood or other natural disaster, there will be immediate priorities as well as longer-term recovery activities that may continue for weeks or months.

Safety must always remain the highest priority. Do not commence clean-up or damage assessment activities until all people are accounted for and authorities have confirmed that the immediate threat has passed. Be aware that hazards may still exist, including damaged structures, fallen powerlines, unstable trees, contaminated floodwater, and unsafe roads or access points.

Once it is safe to do so, begin assessing damage, documenting losses, and implementing your business recovery plan. Early action, careful record keeping and clear communication with staff, customers, suppliers and insurers can significantly improve recovery outcomes and help your nursery return to production as quickly as possible.

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Initial Assessment

Safety is the first and most important aspect of recovering from a severe weather event.

- ➔ Listen to local radio for official warnings and advice.
- ➔ Stay indoors until it is safe to walk outside.
- ➔ Look out for damaged power lines, bridges, buildings, trees, and under no circumstances should you enter floodwaters in your vehicle or in person.
- ➔ Heed all warnings and avoid sightseeing.

☐



Photos

Take photos and video of the damage and storm / flood waters.

☐



Protective Clothing

Ensure that protective clothing and safety equipment is worn during the initial inspection and clean-up process, wear heavy covered shoes, gloves, long sleeves and safety glasses.

☐



Gas Leaks

Check for gas leaks. Don't use electric appliances if wet.

☐



Chemical Leaks

Check that no chemical leakage has occurred and all dangerous substances are safe, secure and cross-checked against the pre-disaster inventory.

☐



Building Safety

Make sure all buildings and production facilities checked for safety before entering. Obtain an official assessment before reconnecting or using electricity, water and gas supplies.

☐



Stock & Infrastructure

Make a preliminary assessment of stock, shade cloth and infrastructure damage.

☐



Neighbours

If you are able to get out of the property safely, check on your neighbours.

☐



Contact Us

Contact GIQ and inform them of the initial damage. GIQ staff will complete a Damage Estimate Form for your nursery and can report your situation to Queensland Government Agriculture Coordination Group to activate resources.

☐



Insurance

Contact your insurance representative and request a loss assessor to visit the property.

Recovering and protecting plants after a cyclone

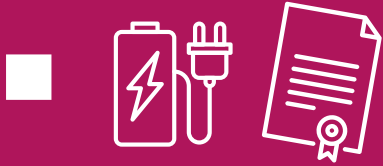
➔ Depending on your site location and the type of damage experienced, your stock may require specialist technical advice.

Safety is the first and most important aspect of recovering from a severe weather event.

- 1 Enact plans to protect and stabilise surviving plants, ensuring that they are not subject to excessive water or sunlight. Assess where to locate your most valuable stock.
- 2 Install back-up irrigation to maintain the plants.
- 3 If shade structures are lost and plants are exposed to continual high levels of moisture and humidity, they may be more susceptible to fungal disease.
- 4 If plants are unprotected they may also be exposed to damaging levels of sunlight. Make basic repairs to shade structures using stored supplies where safety permits you to do so.
- 5 Over the next few weeks, weeds may become a problem within the crop and around the property when shade structures are lost, crop foliage is reduced and there is a higher level of light reaching the soil or growing medium.
- 6 Check with your local Council and State Government about assistance with the initial clean up and removal of rubbish and debris. There may be funding assistance to reimburse costs associated with the removal of debris and site clean-up.
- 7 If you are struggling to find information, please reach out to Greenlife Industry QLD so we can point you in the right direction. We will be sending out communication around any funding available for primary producers after a disaster, so make sure your email is up to date in our system info@greenlifeindustryqld.org.au 07 3277 7900 if you are member or register for our newsletters and alerts through the QR Code.

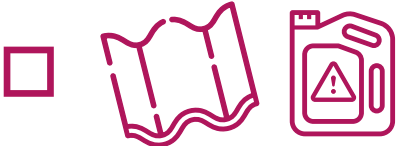


Steps for planning to do work safely



Electricity Clearance

Check that an electricity clearance has been given before attempting to use it.



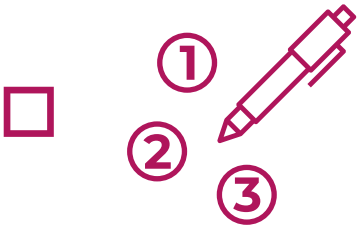
Dangerous Materials

Identify any likely asbestos containing materials or dangerous chemicals.



Assess

Assess what work needs to be done.



Order of Work

Work out the order of the work to be done so that new risks are not introduced, e.g. think about how you will get access to the areas where the work is to be done, or the possibility of creating instability from removing things in the wrong order.



Potential Problems

Consider what could go wrong during the clean up and repair work. Be prepared.



Tools & Equipment

Work out what tools and equipment will be needed to do the work safely.



Equipment Check

Check the correct equipment is available and is in good working order.



Worker Skills

Check that the people required to operate the equipment have the right skills and competencies and ensure supervision of less skilled workers is available. Equipment such as chainsaws are dangerous in the wrong hands.



Fatigue

Check that people allocated to perform work are not fatigued.



Protective Equipment

Make sure that workers have the correct personal protective equipment (for example rubber-soled shoes, gloves, hats, sun protective clothing and high visibility vests) and it is worn correctly.



First Aid & Drinking Water

Check that appropriate first aid, clean drinking water and hand hygiene measures are available and there is access to medical treatment in the event of an injury occurring.



Toilets

Check that there is access to toilet facilities.



Counselling

Highlight any counselling services available to staff and encourage their use.

Source: Queensland Government Workplace Health and Safety website
<https://www.worksafe.qld.gov.au/safety-and-prevention/hazards/workplace-hazards/dangers-in-your-workplace/storms-and-floods>



Use the QR Code for more information around Work Health and Safety laws, risk management, head stress calculations and much more when it comes to your business obligations for safe work during all the stages of a storm.

Clean-up

- ➔ Identify who of your regular staff are able to safely come to work.
- ➔ Provide safety equipment, establish a roster and together assess priority areas.

Damage to the site may appear overwhelming and disheartening to you and staff. Prioritise activities, including initial tidying and recovering surviving plants. Your trusted staff will know what the site looked like prior to the event, which stock was moved and will be able to help you to assess damage, and plan the clean-up.

- ➔ Enact your plan on how stock will be moved and consider any risks or damaged structures that might require a re-think of your plan.
- ➔ You may have access to volunteers and charity groups who can assist with the clean-up. That's great. They can help move stock, clean up torn shade cloth and hose out muddy shade houses. If they handle plants, ensure that trained nursery staff provide instruction on to safely remove mud from pots without damaging the plant. You don't need additional damage to stock caused by willing volunteers.



Remember, your obligations under Queensland's health and safety laws still apply. By being vigilant and maintaining safety during this difficult time, you can help reduce the risk of death, injury and illness to yourself, your workers and others involved in the clean up and repair effort.

Source: Queensland Government Workplace Health and Safety website
<https://www.worksafe.qld.gov.au/safety-and-prevention/hazards/workplace-hazards/dangers-in-your-workplace/storms-and-floods>

Disaster impact survey for primary producers

The disaster impact survey for primary producers is a voluntary and anonymous survey for primary producers to tell the Queensland Government about the impacts of a natural disaster event. By completing the survey soon after a natural disaster, it assists in seeing a clear picture of the extent of the natural disaster and in activating disaster recovery assistance as quickly as possible. Your survey response can be used as supporting evidence for your application once support packages are announced.

It is **not an application for assistance**.
The Disaster Impact Survey can be found at :
<https://www.business.qld.gov.au/industries/farms-fishing-forestry/agriculture/disaster/impact-survey>

Risk management

It is important that you assess the potential for hazardous conditions and/or exposures before attempting any clean-up and recovery activity.

- 1 Identify the hazards – information on common cleanup hazards and protective measures.
- 2 Assess the level of risk – the likelihood of exposure to the hazard, and the consequences (what harm could be done).
- 3 Control the risk – identify and implement a control as per the hierarchy of controls.
- 4 Review the control measures – to ascertain the effectiveness of the control implemented and to make sure you haven't introduced a new risk.

Based on an initial assessment of hazards, you may need to provide workers or volunteers with the appropriate information, training, supervision or equipment to safely perform cleanup and recovery work.

Managing volunteers during clean-up and recovery

- ➔ Even under circumstances involving recovery cleanup and recovery activities, persons conducting a business or undertaking (e.g. local councils and employers) and workers (including volunteers) have duties under the Work Health and Safety Act 2011.
- ➔ For the purposes of the Act, a person is a volunteer if they undertake work for an employer without being paid a wage or salary. They may, however, be reimbursed for any out of pocket expenses they incur directly while carrying out the volunteer work (e.g. reimbursement for direct outlays of cash for travel, meals and incidentals). Out of pocket expenses do not include loss of wages or salary while carrying out the volunteer work.
- ➔ This should not be an onerous requirement. The best way to manage the health and safety of volunteers is to treat them as you would a paid worker.
- ➔ Establish a sign-in / sign-out register for all volunteers and visitors to site.

Initial Assessment

All volunteers MUST sign-in at the start and sign-off at the end of their shift. Volunteers should be made aware of the potential dangers and the proper safety precautions through a group safety briefing or induction before commencing any recovery or cleanup work. This will help lessen the risk of volunteers hurting themselves, other volunteers, workers or others who may be affected by their actions or omissions.

Before volunteers start their work you should outline:

- ➔ Personal safety issues (hydration, fatigue, breaks, hygiene etc)
- ➔ Cleanup crews should work in teams, particularly as experience levels between volunteers can differ and they can look out for each others safety
- ➔ Existing and potential hazards and the proper safety precautions
- ➔ Health and safety procedures (e.g. instructions for equipment they will be using)
- ➔ How to use personal protective equipment provided
- ➔ Tasks and boundaries of their role (e.g. only take on work they know they can safely carry out, know their own limits and consider the impact of any existing health issues, areas not deemed safe to enter by authorities yet)
- ➔ Who to talk to if they have any health and safety concerns and how to report any health and safety incidents and hazards
- ➔ What situations they should remove themselves from
- ➔ Emergency procedures
- ➔ How they can report injuries that may occur while doing recovery work and how to access first aid treatment.

Designate team leaders

You should designate a professional nursery person/s with health and safety knowledge and skills to be responsible for the management of volunteers and their health and safety.

Source: Queensland Government Workplace Health and Safety website
<https://www.worksafe.qld.gov.au/safety-and-prevention/hazards/workplace-hazards/dangers-in-your-workplace/storms-and-floods>

Initial Clean-up

- ☐ **Take Photos and Video**
Take photos and video of damage. Use prepared stock list inventories and the GIQ checklists to document all information.
- ☐ **Contact Insurance**
Contact your insurance agent and request a loss assessor to visit the property.
- ☐ **Keep Records**
Maintain accurate record-keeping of all expenses and losses including the resources (people, equipment and consumables eg. fuel) used to assist with the clean-up. Retain tax invoices, receipts, quotes. If there is government funding assistance provided, you will need to show evidence of damage and the expenditure.
For more information on Natural Disaster Recovery Grants currently available, contact Queensland Rural and Industry Development Authority: www.qrida.qld.gov.au
- ☐ **Contact GIQ**
with an update on your business damage and likely need for government assistance. Talk to GIQ about the type of technical support you might need to deal with plant health issues, contaminated dam water or mould spores on shade houses.
- ☐ **Contact Suppliers**
for plants and equipment. Determine the likely time to replace damaged stock and equipment. Contact suppliers of fertilisers, containers, chemicals, growing media etc. so that you are sure of access to all the production requirements for your surviving plants.
- ☐ **Contact Customers**
explaining your situation and its impact upon them and their orders. Confirm the markets for your products and keep your customers up-to-date on your activities and expected date of business resumption.
- ☐ **Check Supply Chain**
Check the roads, transport companies and all other components of the supply chain to ensure the continued movement of your products.
- ☐ **Physical and Mental Health**
Remember to check on the health and wellbeing of your staff, family and yourself. Fatigue, irritability, forgetfulness, anger, fear and depression can be evident months and years after a natural disaster. There is a range of support services available to individuals and business owners that can assist with the mental health issues following a crisis including the support of children during this time.
- ☐ **Assess Your Staff**
Assess your staffing levels during the period from clean up to returning to full production. This time period may be days, weeks, months or years before you return to a profitable level of production. You may need to seek advice on your rights as an employer and responsibilities to employees.
- ☐ **Contact your accountant**
or trusted financial adviser and ask them to work with you to ensure the business is financially viable during this recovery period.

4 / Checklist

A Checklist for After a Disaster

This checklist provides you with a guide to identify infrastructure, stock, vehicles and buildings that may have suffered damage.

Nurseries that also have a residence on site, can use the checklist for domestic structures.

This information can be shared with GIQ, your insurance agent and QRIDA to commence your application for any funding assistance that may be available.

To access resources visit:

W / www.greenlifeindustryqld.org.au/natural-disaster-resources



To contact Greenlife Industry QLD

E / Info@greenlifeindustryqld.org.au

P / (07) 3277 7900



Damaged Areas	Damaged Yes / No	Level of Damage Minimal(Mi) / Moderate (Mo) / Severe (S) / Wiped out (WO)	Notes
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Buildings

potting sheds, packing sheds, storage sheds, pump houses

Roof	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	Roof material is:
Walls	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Structure & supports	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Rain gutters	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Doors	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Windows	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Furniture / Seats	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Lighting	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Electrical – interior	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Potting Machinery	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Nursery Benches	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Nursery Trolleys	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Pumps	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Irrigation systems	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Pots	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	Size:
Pots	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	Size:
Pots	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	Size:
Pots	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	Size:
Pots	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	Size:
Trays	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Equipment:	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Equipment:	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Equipment:	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Plant Labels:	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Other items:			

Estimate \$\$ of damage to Buildings = est. \$

Damaged Areas	Damaged Yes / No	Level of Damage Minimal(Mi) / Moderate (Mo) / Severe (S) / Wiped out (WO)	Notes
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Growing Structures

Roof	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	Roof material is:
Vents	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Structure & supports	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Rain gutters	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Flashing	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Walls	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Skins / Plastic / Shade Cloth	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Doors	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Screens	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Nursery Benches	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Irrigation	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Electrical – interior	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Electrical – exterior	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Lighting	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Fans / Air-con	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	

Estimate \$\$ of damage to Buildings = est. \$

Farm Vehicles

Tractor	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	Make/model/registration:
Forklift	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	Make/model/registration:
Motor Vehicle	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	Make/model/registration:
Motor Vehicle	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	Make/model/registration:
Truck	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	Make/model/registration:
Quad Bike	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	Make/model/registration:
Golf Buggy	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	Make/model/registration:
Other Vehicle/s	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	Make/model/registration:

Estimate \$\$ of damage to Buildings = est. \$

Damaged Areas	Damaged Yes / No	Level of Damage Minimal(Mi) / Moderate (Mo) / Severe (S) / Wiped out (WO)	Notes
Plants / Stock			
	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	Roof material is:
	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Estimate \$\$ of damage to Buildings = est. \$			

Damaged Areas	Damaged Yes / No	Level of Damage Minimal(Mi) / Moderate (Mo) / Severe (S) / Wiped out (WO)	Notes
House / Residence			
Roof	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	Roof material is:
Walls	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Structure & supports	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Rain gutters	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Doors	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Windows	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Lighting	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Electrical – interior	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Electrical – exterior	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Garage / Carport	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Fans / Air-con	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Household Contents	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Household Contents	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Household Contents	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Household Contents	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Household Contents	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Household Contents	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Household Contents	☐ Yes ☐ No	☐ Mi ☐ Mo ☐ S ☐ WO	
Estimate \$\$ of damage to Buildings = est. \$			
Total estimate \$\$\$ of damage = est. \$			
Notes			



5 / Rebuilding

Rebuilding After a Disaster

Recovering from a natural disaster is not only about restoring your nursery to its previous condition—it can also be an opportunity to improve the resilience, efficiency, and long-term sustainability of your business.

Before commencing repairs or rebuilding works, contact your insurance provider or broker as soon as possible to discuss your policy coverage, claims process, documentation requirements, and any conditions that may apply to repair or reconstruction works. Ensure you have photographed and documented all damage and obtained approval where required before undertaking major repairs or disposing of damaged assets.

A well-planned rebuild can help reduce future risk, minimise business disruption, and strengthen the long-term viability of your nursery operation.

To access resources visit:

W / www.greenlifeindustryqld.org.au/natural-disaster-resources



To contact Greenlife Industry QLD

E / Info@greenlifeindustryqld.org.au

P / (07) 3277 7900

Things to Consider

- Many nursery businesses have traditionally featured temporary or unsecured facilities. Shade houses made of shade cloth supported by a strong, yet basic frame structure are often constructed but are not necessarily robust enough to withstand a cyclone.
- When selecting shade cloth, a more open weave may be preferable to reduce wind resistance if this also provides an appropriate level of light protection for the plants. Designs might also include the option to remove wall panels from igloos or shade cloth from shade house structures. This would mean that they can be prepared prior to an event to allow the wind to blow through.
- As we have seen from the experiences of nursery owners in Far North Queensland, slashing and dropping shade cloth from the frames might be the preferred method of immediately protecting plants from the after-effects of a cyclone.
- Weigh up the benefits of re-constructing an inexpensive and more easily replaceable structure with the possible longer-term costs of losing the structure in a weather event compared to building a more robust wind resistant structure. There are several structure systems on the market that are tailored to specific climate and crop needs. You might want to assess the benefit to your business of installing an igloo structure or a retractable roof system shade house.
- In a high wind event, loose materials and items can often do the most damage to property and plant stock. Be aware of this when designing the facilities. Consider the likelihood that any part of the structure could become airborne and incorporate ways to avoid this in the design, items that may be vulnerable in a storm include advertising materials, signage, guttering, awnings and vents. For example, overhead or suspended irrigation systems can be more vulnerable in storms and cyclones than other methods of irrigation. This may need to be considered during the nursery re-design.
- The topography of the property should be taken into account during nursery planning.
- Wind speeds can increase over hills and the most vulnerable structures and valuable plants should be positioned in most protected locations.

- Nurseries built on flat flood plains may need to assess the cost-benefit of moving pads to higher ground. Some nurseries located on the Gold Coast hinterland have experienced multiple flood events and successfully made the decision to redesign the sites, and cut and terrace growing pads onto higher ground.
- Your plants are probably the most valuable assets in a nursery. Repairing damaged structures will be essential, but conserving as many pots as possible during that process is also critical to speeding up the recovery process and getting back to operating a profitable business. A nursery design should consider elements that will protect plants before, during and after a natural disaster and will provide back-up irrigation and power if necessary.
- Identify your high value stock and plants that can be despatched to bring quick, immediate income after a natural disaster. As the emotional effect of a cyclone takes hold of you and nursery staff, it will be a difficult decision as to which plants are healthy and which will need to be dumped. As one nursery owner said after experiencing the catastrophic effects of Cyclone Debbie, "they are all my babies". Consider contacting a trusted nursery professional to help you make decisions on plants to be kept or dumped.
- Plant health issues will emerge immediately after a cyclone or flood event. Fungal infection is common in nurseries after a flood event as mud covers the growing media, suffocates the plant and humidity increases. Seek technical advice on how to deal with plant health issues by contacting your local agronomist or ask GIQ for recommendations.
- If you decide to re-design your nursery site after a natural disaster, it is highly recommended that advice is obtained from professionals with experience in the construction of nursery facilities. The consultant/s should have knowledge about structural engineering, nursery structures, irrigation and energy efficiency to best suit the local area and property layout.
- If you are planning to make changes to the use of the site, flow of water or plan to install a new structure, always check with local planning authorities on regulations and certification requirements.



Recover from exhaustion, fatigue and shock

It is very easy to be overwhelmed by natural disasters.

We can put into place the best practices and preparations, but there will always be an element of a natural disaster you cannot control or predict.

What do you do? How do you cope? How do your team members respond?

- ➔ An added boost of adrenalin during a crisis, can be like a shot of caffeine – great in the short-term, but it leaves you empty, tired and fatigued.
- ➔ There are many services to assist with mental health and personal recovery after a crisis, and we can prepare our bodies to take on a crisis and manage well our response to the event and post-event clean-up. If you continue to run on adrenalin, it may cause health problems down the track.
- ➔ Stressful events are extremely taxing on our health and ability to function rationally. Medical research and your own memory tells us that a critical event can be remembered, re-lived for many years, and the simple act of talking about it, can trigger the same adrenal-shock response. It's a natural chemical reaction in your body triggered by memory. For example, when you smell a scented rose, you trigger a pleasure chemical; but when you smell mouldy floorboards, you trigger a memory of flood waters.
- ➔ When we do not address the physiological and nutritional deficiencies during a crisis, we suffer from adrenal overload.

Effects of Adrenal Overload

- | | | |
|--|---|--|
|  Shaking hands |  Shortness of breath |  Headache |
|  Muscle fatigue |  Exhaustion |  Brain fog |

Herbs and remedies to add to your First Aid Kit



Ashwagandha



Rhodiola



Siberian Ginseng

If you have time to prepare your business for an impending cyclone or flood, you have time to prepare your body for the impact of adrenalin. The use of adaptogenic herbs can help. Always seek professional medical advice before taking supplements.

Ashwagandha (*Withania somnifera*), *Rhodiola* (*Rhodiola rosea*), *Siberian Ginseng* can be used as supplements pre, during and post-cyclone. These herbs support our adrenal glands and help us modulate our moods – this can help us maintain control over our stressful circumstances. These adaptogenic herbs can be taken as recommended 2 – 3 times daily until you feel back under control, calm and confident.



Emergency contact information



Emergency

000 Triple zero
(112 from mobile)
Police, Fire and Ambulance

132 500
State Emergency Service
(SES)

Bureau of Meteorology (BOM)

QLD General Warnings	1900 969 922	www.bom.gov.au
QLD Tropical Cyclone Warnings	1300 659 212	www.bom.gov.au/cyclone
QLD Land Weather and Flood Warnings	1300 659 219	www.bom.gov.au/qld/warnings
Australian Tsunami Threat Information	1300 TSUNAMI 1300 878 6264	www.bom.gov.au/tsunami

Radio

ABC Local Radio	www.abc.net.au/local
Commercial Radio Australia (CRA)	www.commercialradio.com.au

Nursery Industry

GIQ	(07) 3277 7900	www.greenlifeindustryqld.org.au
Queensland Farmers Federation		www.qff.org.au/news-events

Mental Health

Lifeline's crisis hotline	13 11 14	www.lifeline.org.au
Beyond Blue	1300 224 636	www.beyondblue.org.au
13 YARN if you are an Aboriginal or Torres Strait Islander person	13 92 76	www.13yarn.org.au
Children health concerns 13 HEALTH	13 43 25 84	www.childrens.health.qld.gov.au

Good to Know

State Emergency Service (SES)	132 500	www.ses.qld.gov.au
Emergencies (Police, Fire, Ambulance)	000	www.triplezero.gov.au
Housing assistance 13 QGOV	13 74 68	www.housing.qld.gov.au
Community Recovery Hotline	1800 173 349	
Ergon Energy	13 16 70	www.ergon.com.au
Energex	13 62 62	www.energex.com.au

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