



Health Information for Flood-Affected Communities

Personal Safety

What do I do after the flood?

Flood water can be extremely polluted so follow these rules to reduce risk of injury, sickness or infection:

- **Do not** eat food which has been in contact with flood water. **If in doubt throw it out**
- Tap water may be used for drinking and food preparation if the local water supply authority has indicated that supplies are safe for consumption.
- Do not handle wet electrical equipment.
- Avoid wading even in shallow water as it may be contaminated - if you must enter shallow flood water, wear solid boots or shoes for protection.
- Beware of snakes, spiders and other animals which may move to drier areas in your house.
- Check with Police for safe routes before driving anywhere.

Inside

- Check your home for damage to windows, wall or roof.
- For emergency assistance call your local State Emergency Service (132 500).
- If you're returning to your home, make sure electricity and gas is off before going inside. Use only a torch until you're sure there's no gas around.
- Check that your neighbours are OK.
- Remove what excess water you can and mop sodden carpets.
- Information on food safety after a power failure is available on the NSW Food Authority website.

- Look out for spiders, snakes and other animals that may have moved inside to escape the flood.

Appliances

- When you return to your home after a flood, do not use any electrical appliances which were flooded, and don't handle any wet electrical equipment.
- Do not try to replace circuit fuses or switch power on to wiring or equipment which has been flooded until the electrical installation is thoroughly dry and has been checked by a licensed electrical contractor.
- Have gas appliances inspected and cleaned to prevent a gas explosion or fire.
- Check your smoke detectors are still working.

Outside

- Beware of fallen power lines, damaged trees and flooded creeks.
- Keep children away from flood waters.
- If you must enter flood waters, wear solid shoes, not thongs or bare feet, and check the depth and current with a stick. Stay away from drains, culverts and water that's more than knee-deep.
- Don't drive until you know it's safe.
- Look out for snakes and other animals.

Household Safety

Use a torch to carry out inspections inside buildings. Never use matches, candles or lighters.

If power points, electrical equipment or electrical hot water systems have been exposed to floodwater or are water damaged in any way, they must be inspected by a qualified electrician before use.

Gas appliances and gas bottles that have been exposed to floodwater should be inspected for safety before use.

If you have lost household power and are using candles or portable light or heating sources, never leave them unattended and ensure they are kept well away from all flammable material. Always extinguish candles or any other open flame before going to bed.

If you have lost household power, turn off all appliances at the power point as they may be affected by a power surge when power resumes.

If drying clothing, keep wet clothing at least 1 metre from heaters or fireplaces and never leave them unattended. If you use a clothes dryer make sure you clean the lint filter each and every time you use it.

If you have a garage or shed take extra care with any stored chemicals and fuels. Handle with extreme caution and use the recommended protective equipment such as gloves and safety goggles. If you are concerned about contact with chemicals, contact your local Fire Station for advice.

In the event of fire, leave the house and call 000 (triple zero) for the Fire Brigades.

Children's Toys

Children's toys affected by floodwater should be discarded if they are soft toys or moulded plastic toys with air injection holes.

Solid toys should be disinfected.

Food, Water and Kitchen Cleanup

Tap water may be used for drinking and food preparation if the local water supply authority has indicated that supplies are safe for consumption.

Dispose of all food (including frozen) that has come into contact with floodwaters. Some canned food may be kept but if the can is dented or damaged it should be thrown away. **If in doubt, throw it out.**

If power is cut for more than 4 hours, foods in fridges will spoil. Freezers will generally not defrost and spoil for at least 24 hours if the door has been kept shut.

Consuming unsafe food may cause serious illness. Throw away any perishable foods such as dairy products, meat, poultry and prepared food that has been unrefrigerated for more than 4 hours.

NEVER refreeze frozen foods that have thawed. It should be consumed within 24 hours or disposed of. **If in doubt, throw it out.**

Dishes, pots and pans that have come into contact with floodwater should be carefully inspected, washed and sanitised before they are used again. Dishes with deep cracks should be thrown away, as they cannot be adequately sanitised.

Discard any items made of porous material, such as wood, plastic or rubber.

Wash any remaining items in hot soapy water, using a brush if necessary to remove dirt. Equipment that can be taken apart should be cleaned in pieces and then rinsed in clean hot water.

Sanitising

After washing and rinsing, sanitise items as follows:

- Immerse glass, porcelain, china, and enamelware for 10 minutes in a disinfecting solution of 1 tablespoon of chlorine bleach per 2 litres of hot water. Air-dry dishes. Do not use a towel.
- Disinfect silverware, metal utensils, and pots and pans by boiling in water for 10 minutes. Chlorine bleach should not be used in this case because it reacts with many metals and causes them to darken.
- Domestic dishwashers are capable of sanitising all eating and cooking utensils as part of the normal cycle.

Dishwashers

Do not use a dishwasher that has been exposed to flood water.

Cupboards and counters need to be cleaned with hot soapy water and rinsed with a chlorine bleach solution before storing dishes.

If you have any refrigerated medications especially insulin products, contact your pharmacist before use.

Household Clean Up

Wear suitable protective clothing, including boots and gloves while cleaning up.

Wash mud, dirt and debris from your house with a hose, starting at the highest point and working down to ground level.

Where possible, remove all wet items such as floor coverings, rugs, mats, furniture, bedding, linen and clothing. If floor coverings are removed, thoroughly clean and dry the floor underneath before new material is laid.

Be alert to snakes, spiders and rats that may have taken refuge in your home.

Begin drying out the house as soon as floodwaters recede.

- Open doors and windows during dry days.
- Fans may also help.

- Attempt to drain water away from under the house to increase airflow.
- Check for trapped water and mud in wall or floor cavities.

Each area affected by flood water within the house needs to be cleaned, including empty refrigerators and cupboards.

Hard surfaced floors, walls, benches and sinks, should be thoroughly cleaned with hot soapy water and disinfected by wiping or spraying surfaces with a chlorine bleach solution (see below) or a product labeled as a disinfectant. Once disinfected allow to dry.

To make up a 10 litre bucket (standard size) of disinfectant, put gloves on and add water to one of the following:

- 25 - 50ml (1/4 cup) of household bleach OR
- 8 - 16ml (dessert spoon) of liquid pool chlorine OR
- 1.5 - 3g (teaspoon) of granular pool chlorine.

Always wear gloves and protective clothing and do not touch face and eyes while using disinfectants.

Mould or mildew may develop if items are not completely dried. Mould or mildew may be removed with household bleach, however the strength of the product may ruin some household items. Wear a mask when working with heavy mould.

Linen, blankets and clothing should be washed in hot water (if instructions allow) or dry-cleaned.

Flood affected mattresses are difficult to treat and may need to be discarded.

Foam rubber mattresses may be thoroughly washed with a garden hose. A detergent solution should then be squeezed through the mattress before allowing it to dry. Other types of mattresses or furniture, such as lounge chairs, may be air dried in the sun then sprayed thoroughly with a disinfectant solution. Consult a local furniture renovating company if you are unsure about their condition.

Yards

Yards should be raked to remove debris. If necessary hose down the yard, apply builder's lime using caution and wet down lime.

To avoid mosquitoes breeding in your yard, remove rubbish that is water logged, empty out pot plant bases, and try to encourage drainage from your yard.

Bore Water

If you use a water bore or well for domestic purposes and that bore has been inundated with floodwaters, you should purge the bore for 3 times the volume of the bore before using the water. If you have continued concerns about the quality of your bore water, please contact your local Council.

Septic Tanks

Septic systems often do not function properly during flooding, or when soil is very wet. Flooding of a septic system may lead to a back-up of sewage in the home and lack of sanitation until the system is fixed. Septic tanks may need to be pumped out and the soil and surrounding areas need time to dry out.

If you suspect your septic tank is damaged have it professionally inspected and/or serviced.

Infectious Diseases

Floodwaters contaminated with sewage may carry a range of viruses and parasites. However, the experience from past floods is that the greatest risk of infection is bacterial infection of cuts and abrasions.

The most effective way of preventing infection is:

- thorough hand washing after contact with flood contaminated materials
- wearing gloves
- avoiding contact between cuts or abrasions flood water or contaminated materials

No antibiotics or vaccinations are recommended for prevention of specific flood related viral, bacterial or parasitic diseases.

People should contact their GP if they are concerned about their health.

Personal Hygiene

Treat all floodwater as potentially contaminated with sewage

Keep children away from flood affected areas and avoid all unnecessary contact with mud and floodwaters. Ensure feet are covered if they likely to come into contact with mud and always wear gloves when handling flood affected items or mud.

Always wash your hands thoroughly with soap and clean water, or with an alcohol gel:

- after handling flood-affected items;
- when participating in flood clean up activities;
- immediately after going to the toilet; and
- always before handling or eating food.

Only use clean eating utensils, toothbrushes, towels or handkerchiefs.

All cuts and abrasions should be cleaned, treated with antiseptic and covered immediately. Seek immediate medical attention if you have deep or puncture wounds, or if any wounds develop redness or swelling. Also check your Tetanus status.

To avoid being bitten by mosquitoes, use an insect repellent on exposed skin areas and reapply every two hours. Cover up as much as possible with loose fitting clothing.

Seek medical assistance if you, or any of your family, have severe diarrhoea or vomiting. If you have these symptoms you will require extra fluids containing a mixture of electrolytes and sugars; such as Gastrolyte, which can be purchased from local pharmacies.

Recreational Fishing and Food Safety

People who catch fish during flood periods are advised to rinse caught fish prior to scaling and filleting. Fish should be cooked thoroughly, and people should avoid cross contamination between raw and cooked fish.

'Ready to eat' seafood, including oysters, must not be harvested from flood affected areas, as these products are not cooked prior to consumption. Recreational harvesters are advised to contact the NSW Food Authority to determine whether the estuary is open for commercial harvest.

Sporting activities

People who participate in contact sports (where minor abrasions can occur) are advised not to use sports fields that have been inundated with storm water, until the surface water is completely evaporated for a 24 hour period. Please contact your local council for the re-opening dates of sports fields.

Swimming and water sports

Do not swim or participate in any activities where you can fall into flood waters (ie. jet skiing, water skiing). The water should be considered contaminated. It is also very dangerous to swim in flood water that often has a swift current and where debris may be floating in the water.

If recreational lakes, ponds, rivers and swimming pools have been affected by flood waters, they should not be used until these sites can be tested.

If you come in contact with water during recreational water activities, ensure that all cuts and abrasions are cleaned, treated with antiseptic and covered immediately. Seek immediate medical attention if you have deep or puncture wounds, or if any wounds develop redness or swelling. Always wash your hands thoroughly with soap and clean water, or with an alcohol gel.

Rainwater tanks

Cleaning of rainwater tanks presents a number of occupational health and safety risks, such as working in confined spaces and it is only recommended that a tank be emptied if it has been inundated by flood water. When cleaning a rainwater tank the following recommendations should be considered:

Types of Tanks

Cone scour base - are easy to clean by simply opening the cleaning outlet to allow the water to gush out with the sludge then rinse with a hose.

Small, flat-bottomed - can be drained, rinsed with a hose and tilted to drain.

Big, flat-bottomed -

- Can be cleaned by getting inside the tank with a bucket, shovel and broom and digging out the sludge.
- A second person should be always be present to ensure the safety of the person inside the tank.
- Clean the tank early in the morning or when the area is shaded to avoid heat exhaustion.
- For light inside the tank, use a battery lantern not a flame or electric extension.
- If chemicals are being used for repairs inside, a respirator may be necessary.
- Professional tank cleaners are available in some areas.

Concrete tanks - could crack if it dries out. Check with the tank supplier to find out if the type you have can safely remain empty for a few weeks. It might be necessary to put water in the tank to stop it from cracking.

Plastic tanks - will need some water or should be tied down to stop them from blowing over in strong winds when they are emptied.

Disinfection (if you suspect water in the tank has been contaminated)

Chlorinate by adding powdered swimming pool chlorine (calcium hypochlorite, 65% available chlorine) or liquid chlorine (sodium hypochlorite, 12.5% available chlorine).

You should not use stabilised chlorine (chlorine cyanurates).

Approximately, 5 milligrams of chlorine per litre, is needed to disinfect your tank. (This is equivalent to 7 grams of calcium hypochlorite or 40 millilitres of sodium hypochlorite per 1000 litres of water).

A level dessert spoon may be used as an approximate measure for 7 grams of powdered calcium hypochlorite.

A lot of the chlorine may be used up during disinfection. There should be at least 0.5 milligrams per litre free chlorine, 30 minutes after the chlorine is added.

Note: you can use a pool chlorine test kit to measure how much chlorine is in the water. Note that milligrams per litre is the same as parts per million. For further information contact your local council, public health unit.

Swimming Pools

When a swimming pool has been inundated with floodwater there are many issues that need to be considered. It is not essential that a swimming pool be restored to use immediately and it is essential to assess the condition of the swimming pool and make it safe before starting any work. An unused swimming pool is not likely to transmit, or become a source of, diseases in the short term unless sewage has contaminated the pool.

Initial Assessment

Once the floodwaters have receded the swimming pool needs to be assessed to determine that the fencing is intact to prevent children from accidental drowning. Check any pump house and other structures to ensure that snakes, spiders or other pests are not a threat. Apparently dead reptiles and insects may still be alive. Secure or restrict access to the area if possible, particularly if fences have been damaged or debris has made the area dangerous. The local council should be able to advise of swimming pool fencing requirements.

Electrical safety

If the swimming pool and the pump, timer and any electrical equipment have been fully inundated ensure that once the floodwater has receded that a licensed electrician checks the circuits and each electrical fitting to ensure its electrical integrity. This may need to be done in consultation with the local pool shop in case electrical components need to be replaced.

Construction Integrity

Severe damage may mean that the pool area should be secured, made safe and/or abandoned until a consultant (or insurance assessor) is able to give professional advice. Do not pump out a swimming pool immediately as this may cause more structural damage than leaving the pool full. An empty pool, particularly a fibreglass pool, may pop out of the ground. Check the pool surrounds for wash outs, missing paving materials or deposited debris. Eventually the pool may need to be pumped/cleaned out to allow a full assessment of the damage.

Nuisance Conditions

While the pool is full but not able to be restored it may provide harbourage to mosquito breeding and it should be checked daily. If mosquito breeding is detected then 1 cup of household kerosene should be added to the pool water weekly. If the pool starts to turn green then an algal bloom is developing. A local swimming pool shop should be consulted to determine the best practice to minimise the algal bloom.

Water Quality - Soil, silt or debris present

The contents of the pool need to be assessed. If the pool has received silt or other soil material during the flood it may need to be pumped or bucketed out. There may be unusual material washed into the pool that could be hazardous as well as affecting the pool water quality. The local council needs to be consulted as to where the pool contents may be discharged. It is not appropriate to pump out the pool to the sewer.

Water Quality - No soil or large debris present

The water is likely to be very dirty and any attempt to filter the water will rapidly clog the filter. Consult a swimming pool shop on how to "flocculate" the pool water to precipitate and remove the suspended colloidal soil material. The flocculated material should be vacuumed to waste and not filtered. Once the pool has been flocculated the pool filter can be turned back on to circulate and filter the water. Sufficient (check the label) liquid chlorine (sodium hypochlorite) should be gradually added to the pool to raise the free chlorine concentration to 5 mg/L and the pH to 7.2 at least overnight with the filter running. Once this has been achieved normal pool operation can be re-instated. If salt-water chlorination is used then the salt concentration should be then adjusted.

For further information contact your pool shop, local council or public health unit of the Area Health Service.

Vegetable Gardens

Flood water may have contaminated your vegetable or herb garden. Some garden produce may be salvaged and sanitizing, peeling and cooking is recommended to prevent food borne illness.

Your garden will take about a month to become clean after floodwater inundation. Don't eat or preserve food during this time.

Discard leafy greens such as lettuce, spinach cabbage and broccoli, as well as soft berries and herbs. These are highly susceptible to bacterial contamination which is difficult to remove from them.

Wash beans, peas, tomatoes, capsicums, zucchinis in water. Then soak in a weak chlorine solution of 2 tablespoons chlorine bleach to 4 litres of water. Peel and cook them thoroughly before eating.

For underground vegetables such as carrots and potatoes, wash in water and sanitize as above. Peel and cook thoroughly before eating.

Produce with a protected fruit or impervious outer skin, such as peas, melons, corn or oranges, should be washed and disinfected before the outer shell, skin or husk is removed. Then shell, peel or husk the produce and cook if possible.

For further information contact your local council, public health unit or the NSW Food Authority.