

# FLOOD HAZARDS

## PROTECTING YOUR HEALTH AND SAFETY

When returning to your home after a flood, take precautions to reduce the possibility of illness, disease or injury.

Before going onto your property consider:

- Damaged gas or electricity supplies - These hazards need to be declared safe by a qualified electrician or plumber.
- The structural integrity of your home and structures may be affected – this needs to be declared safe by a qualified building surveyor.
- Cuts from broken glass and debris are a problem - Wear sturdy waterproof boots and rubber or leather gloves.
- Food may be contaminated by the floodwater, or spoiled due to power failure.
- Drinking water may be contaminated – Do not drink any water unless you know it is safe (bottled, boiled or disinfected).
- Flood water may contain sewage. Contaminated areas must be cleaned and disinfected. Keep children and pets away until clean up is completed.
- Wading or playing in floodwater is hazardous due to the risk of drowning and potential skin infection through open wounds coming into contact with the floodwater. It may also contain sewage.
- If power is off and you have gas appliances, use torches or other battery operated lights instead of candles. Do not smoke or use matches, lighters or other open flames in case gas has collected inside.
- Flooding can cause excessive mould growth, which should be cleaned up before moving back to your home.
- Buildings with considerable flood damage may have damaged material containing asbestos. Where necessary take precautions for handling asbestos containing debris.

### **Personal hygiene is essential**

A number of infectious diseases, including gastrointestinal infections and hepatitis A, can spread through contact with contaminated surfaces. The likelihood of illness increases when floodwater contains faecal material (poo) from overflowing sewage systems, agricultural or industrial wastes.

Never use contaminated water to wash dishes, brush your teeth, wash your hands, wash and prepare food, make ice or make baby formula.

Always wash your hands with soap and safe water (that has been boiled or disinfected):

- Before preparing or eating food
- After toilet use
- After participating in flood cleanup activities, and
- After handling articles contaminated with floodwater or sewage.

If boiled or disinfected water is not available, you can use alcohol-based products to disinfect your hands.

If you have any open cut or sore that has been exposed to floodwater:

- Keep it as clean as possible by washing with soap and covering with a plaster.
- If necessary contact a doctor for further treatment advice (such as a tetanus shot).
- If redness, swelling or discharge occurs seek immediate medical attention.

Parents need to help their children avoid waterborne illness:

- Do not allow children to play in floodwater areas.
- Wash children's hands frequently (always before meals).
- Do not allow children to play with toys contaminated with floodwater until they have been disinfected.

### **Preventing illness from water**

Council will tell you if the tap water is safe or unsafe to drink, use for cooking, cleaning or bathing. If the water is not safe, use bottled, boiled or disinfected water.

An above ground rainwater tank that has not been inundated with floodwaters or damaged should be safe for continued use. Other sources such as bores and wells that have been submerged may be contaminated.

Correctly boil water by:

- Keeping it at a rolling boil for 1 minute to make sure bacteria are killed.
- If you suspect the water is contaminated with chemicals boiling will not make it safe to drink – only use bottled water.

Correctly disinfect water for drinking by:

- Adding 3/4 of a teaspoon (4 mL) of non-scented chlorine bleach into a clean household bucket of water (ie. 10 Litres).
- Stir the water well, and let it stand for 30 minutes before using it.

For infants:

- Use only pre-prepared canned baby food.
- Make up powdered formulas with clean bottled water.

Clean children's toys that have come into contact with floodwater:

- In a solution of 1.5 cups of household bleach in 10 Litres of cold water (a household bucket) for 2 minutes. Rinse in clean water.
- Let toys air dry after cleaning.

Children and elderly people are particularly at risk from dehydration. Ensure they drink plenty of safe (i.e. bottled) water until the drinking water supply is declared safe.

## **Preventing illness from food**

Floodwaters can affect food via direct contact, or indirectly during interrupted power supply. Throw away:

- Food that has come into direct contact with floodwater.
- Any food that has an unusual odour, colour or texture.
- Perishable foods (including meat, poultry, fish, eggs or leftovers) that have been left above 4 degrees Celsius for more than 4 hours.
- Canned food if the can is open, bulging or damaged.
- Food containers with screw-caps, snap-lids, crimped caps (soft drink bottles), twist caps, flip top lids and home canned foods as these are also likely to be contaminated.

For cleaning cans that are sealed, not bulging and intact but have come into contact with floodwater:

- Remove the labels
- Wash the cans
- Dip them in a solution of 1.5 cups of household chlorine bleach in 10 Litres of cold water (a household bucket) for 2 minutes.
- Re-label the cans with a waterproof marker pen.

If the power is on - refreeze or cook:

- Thawed food that contains ice crystals and is below 4 degrees Celsius but only if it has not come into direct contact with floodwater.

If the power is off – store food safely by:

- Keeping the refrigerator and freezer doors closed as much as possible.
- Adding block or dry ice to your refrigerator if the power is likely to be off for longer than 4 hours. Wear gloves when handling ice.

## **Be careful when cleaning up**

When cleaning up, wear protective clothing, such as sturdy footwear, loose long-sleeved shirts and trousers and heavy duty work gloves.

Sheds and garages may contain asbestos. Only handle wet asbestos cement debris. Asbestos debris should be separated from general flood damaged debris.

Where there is extensive demolition, repair and renovation work involving asbestos-containing material, licensed asbestos contractors should be employed to undertake the work.

## **Managing floodwater, sewage and silt overflow inside your house**

All floodwater and silt should be assumed to contain sewage. Sewage contains harmful bacteria and viruses and needs to be cleaned up as soon as possible. Keep children and pets away from the area until this is done. Appropriate clean up procedures include:

- Use rubber gloves and boots, and eye protection.
- Remove and discard contaminated household materials that cannot be cleaned or disinfected, such as mattresses, carpet and children's soft toys.

- Clean and disinfect all contaminated areas with hot water and detergent, then disinfect with a solution of 1.5 cups of household chlorine bleach in 10 Litres of cold water (a household bucket).
- Dry out as quickly as possible to avoid mould growth.
- To disinfect hard surfaces, use the same bleach solution and leave wet for 10 minutes. Rinse off with clean water.
- Pay special attention to cooking utensils, work surfaces and other surfaces in kitchens such as floors and walls.
- For utensils, dip them in a solution of 1.5 cups of household chlorine bleach in 10 Litres of cold water (a household bucket) for 2 minutes. Rinse in clean water. Or put them through a hot wash in a dishwasher.
- Disinfect cleaning mops, brooms and brushes with the bleach solution.
- Clean and dry dirty footwear, and wash your clothes separately after clean up.
- Wash your hands and any affected parts of your body with soap and water.
- Contact your local authority or local council Environmental Health Officer for further advice.

### **Managing sewage overflow on your section**

- Use rubber gloves and boots, and eye protection.
- Do NOT dig out the bottom of a slip as the rest of the slip may become unstable. If in doubt keep away and await instructions from Civil Defence staff.
- First priority should be to clear an accessway to your dwelling so you can access the house without bringing contamination in on your footwear.
- Use a spade or shovel to remove all gross contamination from the surface of your section. Place it at the edge of your section or other accessible area where it can easily be removed later, but ensure it does not block drainage channels.
- Avoid contact with contaminated soil and do not eat raw vegetables or salads from soil that has been submerged in flood water.
- Leave garden surfaces exposed to the air and sunshine to dry out naturally. Make drainage holes with a fork to aerate.
- Sprinkle hydrated lime on ground that has been contaminated
- Hard surfaces such as yards can be cleaned and disinfected with bleach solution of 1.5 cups of household chlorine bleach in 10 Litres of cold water (a household bucket).
- Wash your hands and any wet parts of your body with soap and water afterwards.

### **For further information**

- If you or anyone in your family feels unwell, seek medical advice from your local doctor.
- For further advice contact Tasman District Environmental Health on 03 543 8400 or Nelson City Environmental Health on 03 546 0200