

Public Health Act 1997

RECREATIONAL  
WATER QUALITY  
GUIDELINES 2007

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## 1. DEFINITIONS

In these Guidelines:

"Act" means the Public Health Act 1997;

"Agency" means an Agency within the meaning of the Tasmanian State Service Act 2000;

"Authorised Officer" means -

- (a) the Director; or
- (b) a medical officer of health; or
- (c) an environmental health officer;

"controlling authority" means an Agency, public authority or person managing or in control of water;

"council" means a council within the meaning of the Local Government Act 1993;

"Director" means the Director of Public Health appointed under section 6 of the Act;

"environmental health officer" means a person appointed under section 10 or 11 of the Act;

"general manager" means a general manager as defined in the Local Government Act 1993;

"person" includes any body of persons, corporate or unincorporated;

"place of assembly licence" means a licence in force under Division 1 of Part 5 of the Act;

"public authority" means -

- (a) any council; or
- (b) any body corporate established under an enactment having jurisdiction limited to a district, locality or part of the State; or
- (c) any body corporate established under an enactment or in the exercise of prerogative rights of the Crown to administer or control any department, business, undertaking or public institution on behalf of the State;

"public spa pool" means a pool or other water-retaining structure for human use that incorporates, or is connected to equipment that is capable of heating any water contained in it and injecting air bubbles or water into it under pressure so as to cause general turbulence in the water, to which the general public has access (whether for payment of a fee or not), or which is for the general use of guests in tourist accommodation;

"public swimming pool" includes any swimming pool, waterslide, wave pool, hydrotherapy pool or other similar structure to which the general public has access (whether for payment of a fee or not), or which is for the general use of guests in tourist accommodation, other than:

- (a) a spa pool; or
- (b) a tidal pool or other similar structure where water flows in and out according to the operation of natural forces;

"recreational water" includes any coastal and estuarine water (including tidal washed pools and marine baths that interchange with seawater), natural fresh water environs such as rivers or streams, lakes, weirs and dams, and public pools and spas;

“sanitary inspection” – means an inspection carried out in accordance with section 5.4.1 of the National Health and Medical Research Council’s Guidelines for Managing Risks in Recreational Water;

"threat to public health" means any event or circumstance which is likely to -

- (a) damage, injure or compromise public health; or
- (b) prevent or restrict the improvement of public health.

The Act requires that any Agency, public authority or person must comply with these Guidelines. Requirements are highlighted in bold text. Failure to comply with the Guidelines may result in significant fines. The maximum fine that may be imposed for non-compliance is currently \$5000.

## 2. INTRODUCTION

The primary aim of these Guidelines is to protect human health and prevent the transfer of disease-causing organisms during contact with recreational waters.

Tasmanian Local Governments, the Department of Tourism, Arts and the Environment and the Department of Health and Human Services (DHHS) all have responsibilities for the management of recreational water and the protection of human health, where the public use such waters.

## 3. SCOPE

These Guidelines apply to a wide range of recreational water environments, including: coastal and estuarine waters; tidal washed pools and marine baths that interchange with seawater; natural freshwater environs such as rivers or streams, lakes, weirs and dams; and public pools and spas. The Guidelines are concerned with the public health and safety of recreational water from a health point of view and are intended to protect public health.

Under the Guidelines, controlling authorities are required to erect signs and conduct monitoring of popular recreational water areas where there are identified sources of pollution that may affect human health.

It is recognised that it is not practical for all possible recreational waters in a jurisdiction to be regularly monitored. Where a particular area however, such as a beach, lake or river, is used regularly by a relatively large number of people, it should be monitored in accordance with these Guidelines. If there is any doubt as to the need for monitoring, the advice of the Director should be sought.

#### 4. GUIDELINES FOR MANAGING RISKS IN RECREATIONAL WATER

The National Health and Medical Research Council (NHMRC) Guidelines for Managing Risks in Recreational Water (the NHMRC Guidelines) provide information to the public and government agencies on the suitability of waters for recreational use. The NHMRC Guidelines apply to all recreational water which is used by the public.

While the NHMRC Guidelines were not developed for regulatory use, they do provide a benchmark to ensure that the water quality of recreational waters is safe for human use.

The NHMRC Guidelines should therefore be consulted for information on recreational water issues and its advice followed, unless that advice is in conflict with these Guidelines.

The NHMRC Guidelines are available from [www.nhmrc.gov.au](http://www.nhmrc.gov.au) .

#### 5. RECREATIONAL WATER MONITORING REQUIREMENTS

Samples must be taken at the beginning of the swimming season, which includes the months of December, January, February and March, and thereafter must be taken weekly during the duration of the season from each site, unless other arrangements are approved by the Director.

Additional sanitary inspections and sampling of recreational waters is to be conducted by the controlling authority whenever a threat to public health is suspected.

#### 6. LABORATORIES

Laboratory tests and analyses for recreational water shall be performed by a laboratory accredited for such tests.

Laboratory accreditation must be by the National Association of Testing Authorities, Australia (NATA), or an equivalent certifying body detailed by the Director.

A testing laboratory must as soon as practicable advise the Director if any results obtained from recreational water testing indicate there is, or there is likely to be, a threat to public health.

## 7. PUBLIC HEALTH ADVICE

7.1 The controlling authority must advise the general public of the water quality at recreational water sites which are considered a threat to public health.

### 7.2 The Placement of Warning Signs

A public warning sign is required if the water body is deemed unsuitable for recreational water contact by an Authorised Officer.

Guidance on signage can be sought from the Director and Appendix B of these Guidelines.

A public warning sign can be removed only when an Authorised Officer, in consultation with the Director, deems that recreational water body suitable for its intended use.

## 8. MICROBIAL LEVELS FOR INVESTIGATION

8.1 Where enterococci counts in a single water sample are greater than 140 enterococci/100ml:

ACTION – re-sample within a 48 hours of becoming aware of the result and conduct an appropriate sanitary inspection.

8.2 Where two consecutive water sample results are greater than 280 enterococci/100ml:

ACTION – advise public of water quality (ie unsuitable for primary contact), re-sample immediately and within 48 hours of becoming aware of the result and conduct an appropriate sanitary inspection. The decision to remove an advisory notice shall be determined through a consultative process between the Director and the relevant Council's Authorised Officer.

## 9. PROCEDURE FOR NOTIFICATIONS

Once a controlling authority has received a report from an Authorised Officer that a recreational water body under its control is, or is likely to become a threat to public health, the controlling authority must take action as soon as is practicable to prevent or minimise the threat and notify the Director in accordance with the following procedures:

- a) Copy of the report must be sent by fax or email to the Director within one (1) working day; and

- b) The controlling authority is to seek advice from the Director on the contents of any public health announcement prior to the making of the announcement.

If urgent action is required and advice from the Director or State Manager of Environmental Health is not available, the controlling authority should not delay in advising the public. A list of DHHS contacts is attached to these Guidelines..

## 10. REQUIREMENTS FOR THE MONITORING OF RECREATIONAL WATER QUALITY

A Council is to monitor popular recreational water areas for microbial water quality on a weekly basis, unless it can be demonstrated to the Director that lower sampling frequencies do not pose a threat to public health.

For example, a controlling authority may request a reduction in sampling frequency at a particular recreational water site if it can be demonstrated that historical water data clearly indicates consistent compliance with primary contact guideline values. Alternatively, a controlling authority may seek a reduction in sampling frequency in those instances where it can be demonstrated, through sanitary survey analysis, that a recreational water site is not subject to any readily identifiable point or diffuse pollution sources.

## 11. ANNUAL RECREATIONAL WATER REPORTING REQUIREMENTS

At the end of each swimming season, the controlling authority shall prepare a report using the standard model in Appendix A of these Guidelines for presentation to the Director by 30 September each year.

## 12. CLASSIFICATION OF RECREATIONAL WATER ENVIRONMENTS

Classification of recreational water environments is achieved by combining the sanitary inspection category of the NHMRC Guidelines (Section 5.4.1) and the microbiological water quality assessment criteria (Section 5.4.2), using a matrix as shown in Table 5.13.

These Tasmanian Guidelines however, combine both Category A & B of Table 5.13 into a single Good Water Quality indicator, Category C into a Moderate Water Quality indicator and Category D into a Poor Water Quality indicator (see Appendix B of these Guidelines). This has been done to simplify recreational water quality advice to the general public by providing only three indicators of water quality.

## 13. MANAGEMENT OF PUBLIC SWIMMING POOLS AND PUBLIC SPA POOLS

### 13.1 Notices

A Public Spa Pool Bather Warning Notice in accordance with Appendix C must be displayed in a prominent position near public spa pools to advise the general public on health risks associated with heated spa use.

A Public Pool Bather Warning Notice in accordance with Appendix D must be displayed in a prominent position near public swimming pools to advise the general public of required safety public health and safety measures.

### 13.2 Water Quality

#### 13.2(a) Entrapment Hazards

There has been a number of incidents of hair entrapment, or body entanglement in pools, spas and hot tubs in recent years in Australia and overseas. Deaths have occurred after the hair, body, or a limb was held against the drain by the suction of the circulation pump. These incidents occurred in both residential and public settings.

Entrapment occurs because of the tangling of the hair and not necessarily because of strong suction forces. Typically these incidents involved females with long hair, who were underwater with their head near a suction outlet (drain). The water flow into the drain sweeps the hair into and around the drain cover.

It is therefore strongly recommend that spa pool users are advised not to place their heads underwater, or near suction points. It is also recommended that spa pool users who have long hair are advised to use bathing caps while using the spa pool. Clear signs indicating where pump switches are located for spa pools is also recommended, so suction entrapment events can be readily interrupted.

#### 13.2(b) Microbiological

The microbiological water quality of all public swimming pools and public spa pools must be maintained in accordance with the Microbiological Water Quality criteria set out in Appendix E.

A variety of infectious agents are associated with the recreational use of water and these can affect the skin, ears, eyes, gastrointestinal and respiratory tracts. Therefore spa pool users in particular are advised not to immerse their heads in the water.



## Cryptosporidium

Cryptosporidium is a protozoan parasite of about four to seven microns in diameter. It is very resistant to common disinfectants. Cryptosporidium may be excreted by infected persons through faecal accidents and may cause outbreaks of gastro intestinal illness.

It is most important to prevent the entry of such organisms (including Giardia) into swimming pools and spas.

It is therefore important that public swimming pool and public spa pool operators ensure that their patrons comply with the directions contained with the signage requirements specified in Appendix C and Appendix D.

### 13.2(c) Chemical Parameters

In order to minimise potential public health risks, swimming pools and public spa pools must operate within the chemical parameters set out in Appendix F.

The level of one chemical can adversely affect another (eg if the pH is too high or too low, the disinfectant properties of chlorine are decreased).

## 14. MONITORING

All public swimming pools and public spa pools must be tested for microbiological quality and chemical parameters on a monthly basis or, if directed in writing by an Authorised Officer, more frequently.

Public swimming pools and public spa pools that do not comply with the microbiological criteria set out in Appendix E must be re-sampled as soon as possible after notification from the laboratory.

Microbiological samples must be collected from pools prior to chemical parameter testing.

Microbiological samples from pools must be collected in sterile containers containing sodium thiosulphate.

The holder of the place of assembly licence where any public swimming pool or public spa pool is situated must maintain a logbook which records water quality information;

All microbiological samples from a public swimming pool or public spa pool are to be submitted to a NATA accredited laboratory or to a laboratory operating according to standards detailed by the Director for analysis. The records of analysis must be retained by the holder of the place of assembly licence where the pool is situated.

Microbiological water samples from a public swimming pool or public spa pool must be collected at a depth of 300 – 400 mm below the water surface level and at the point furthest from the water inlets.

In those instances when a pool sample analysis result does not meet with the specified microbiological water quality parameters, a re-sample must be taken as soon as possible, and within 48 hours of becoming aware of first failed sample result.

## 15 POOL CLOSURE

A public swimming pool or public spa pool must be closed immediately if:

- (a) two consecutive microbiological samples from the pool have failed to comply with the standards contained in Appendix E; or
- (b) the Director determines that there has been, or is likely to have been, an incident of infectious disease transfer amongst pool patrons.

## 16. POOL OPENING

A public swimming pool or public spa pool must not be reopened unless:

- (a) in respect to a closure under clause 15(a): two consecutive microbiological samples from the pool satisfy the standards contained in Appendix E when sampled within a 48-hour period; or
- (b) in respect to a closure under clause 15(b): the Director has approved the re-opening of the pool.

Any closed pool that is subsequently re-opened or permitted to re-open must be subject to bacteriological sampling and analysis on a weekly basis for a period of 2 weeks.

## APPENDIX A

### Model Recreational Water Quality Report

Water quality reports must be presented to the Director by 30 September each year in the standard format detailed below.

Reports must be submitted and signed by the chief executive officer, general manager or equivalent of the controlling authority.

#### Standard Format.

##### A. Natural Recreational Water Bodies

1. Name and location of water body
2. Recreational purpose for water body use.
3. Details describing date & type of sampling conducted.
4. Location of sampling sites marked on map of area.
5. Location of Beach Signs
6. Results of sampling
7. Interpretation of results with comment from Authorised Officer on health risks associated with the use of that water by the general public.

##### B. Pools and Spas

1. Name and Location of Public Pools and Spas
2. Details describing date and type of microbiological sampling conducted.
3. Details of any pool/spa closed and subsequent corrective actions.

## APPENDIX B

### Signs

The following grades can be used for signs to assist the public in determining where they should swim. For additional guidance on signage requirements, controlling authorities should refer to Part 3.3.3 of the NHMRC Guidelines and the Australian Standard AS 2416–2002 Design and application of water safety signs.

#### **Green** – Good Water Quality (Category A & B)

Conditions safe for swimming. The water may be subject to short-term advisories eg to avoid whole body contact for several days after heavy rainfall.

#### **Yellow** – Moderate Water Quality (Category C)

Conditions generally safe for swimming, however consistent intermittent failures are noted. Further follow up is required to investigate the causes of elevated bacterial levels. The water may be subject to short-term advisories eg to avoid whole body contact for several days after heavy rainfall.

#### **Red** – Poor Water Quality (Category D)

Possible risk of illness if you ingest the water. The water body is considered to be unsuitable for whole-body contact. Further follow-up is required to investigate causes to elevated bacterial levels.

## APPENDIX C

### Public Spa Pool Bather Warning Notice

- SHOWER BEFORE USING
- DO NOT use the spa while under the influence of drugs or alcohol
- DO NOT allow children to use the spa unsupervised
- DO NOT place your head underwater.
- DO NOT place your head or hair near suction inlets to avoid possible drowning. Long hair is to be kept up or covered by a bathing cap.
- DO NOT use the spa if you or your child has had diarrhoea in the last 7 days.
- DO NOT allow babies with soiled nappies to enter the spa.
- DO NOT change nappies near the spa.

## APPENDIX D

### Public Pool Bather Warning Notice

\*SHOWER BEFORE USING

\*DO NOT use the pool if you or your child has had diarrhoea in the last 7 days.

\*DO NOT allow babies with soiled nappies to enter the pool.

\*DO NOT change nappies near the pool.

## APPENDIX E

### Microbiological Verification Provisions for Public Swimming Pools and Public Spa Pools

Type of Organism	Maximum Count Allowable
Heterotrophic Plate Count	100 Colony Forming Units (CFU) per ml.
Thermotolerant coliforms/E.coli	< 1 per 100ml
<i>Pseudomonas aeruginosa</i>	<1 per 100ml

APPENDIX F

Chemical Parameters Table

	Indoor Pool	Heated Indoor Pool	Outdoor Pool	Heated Outdoor Pool	Spa
Free chlorine minimum (mg/l, ppm)	1.5	2	1.5	3	3
Free chlorine (mg/l, ppm) with cyanuric acid	N/A	N/A	3	4	N/A
Total chlorine maximum (mg/l, ppm)	10	10	10	10	10
Bromine (mg/l, ppm) minimum	3.0	4.0	3.0	4.0	4 – 6
pH	7.2 – 7.8	7.2 – 7.8	7.2 – 7.8	7.2 – 7.8	7.2 – 7.8
Total alkalinity mg/l, ppm	80 - 200	80 – 200	80 – 200	80 – 200	80 - 200