

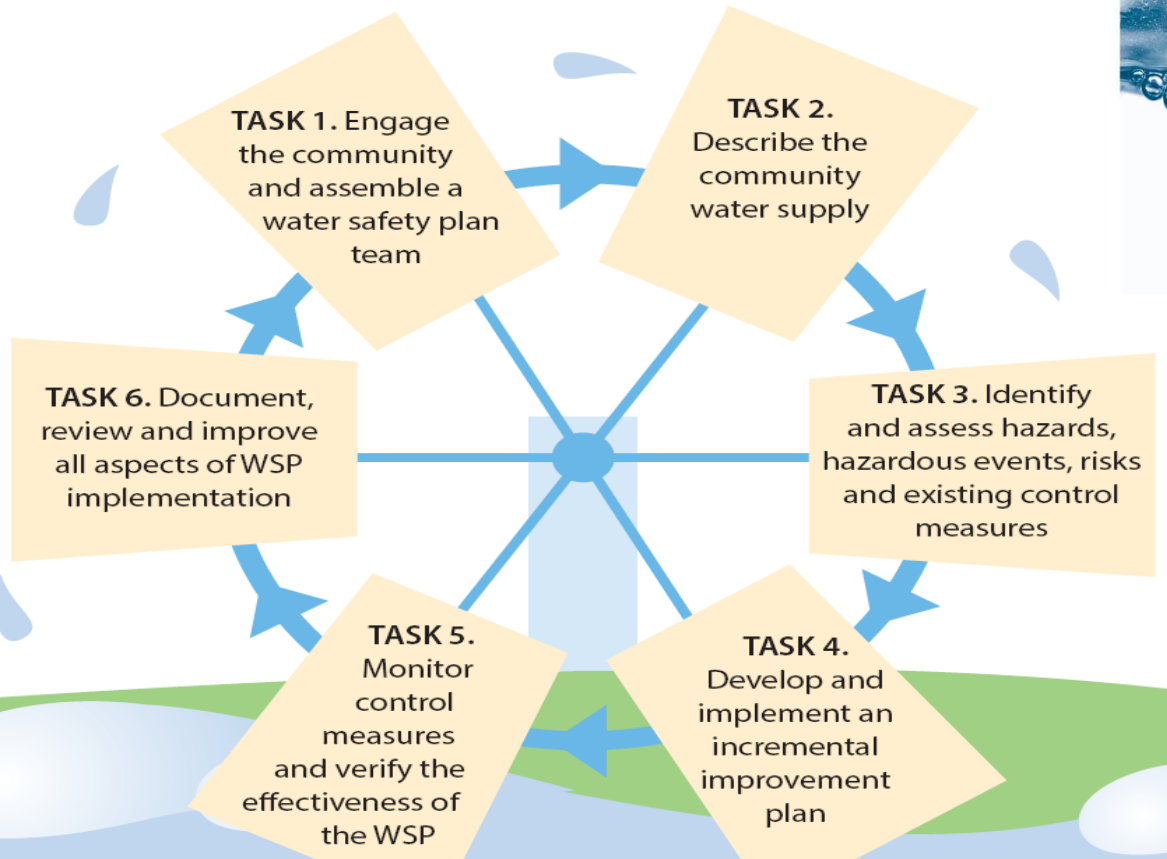
# Water safety plans and sanitation safety plans - complementary and mutually reinforcing

Dr Paul Byleveld



## The six tasks to develop and implement a WSP

Source: adapted from WHO (2012)





SSP: sanitation safety planning.

Source: Sanitation safety planning: manual for safe use and disposal of wastewater, greywater and excreta. Geneva: World Health Organization; 2016.<sup>22</sup>

# Similarities and differences

	<b>Sanitation Safety Planning</b>	<b>Water Safety Planning</b>
<b>Similarities</b>	Derived from WHO Guidelines for the Safe Use of Wastewater, Excreta and Greywater	Derived from the WHO Guidelines for Drinking-water Quality
	Uses risk management, HACCP, Stockholm Framework (see Note)	Uses risk management, HACCP, Stockholm Framework
	Core components: (1) system assessment; (2) monitoring; (3) management	Core components: (1) system assessment; (2) monitoring; (3) management
	Follows the sanitation chain	Follows the drinking-water supply chain
<b>Differences</b>	Considers multiple exposure groups for microbiological, physical and chemical hazards	Considers single exposure group (drinking-water consumer) for microbiological, physical, chemical and radiation hazards
	Expands from waste generation to its uses and discharges into the environment	Contracts from catchments and converges to the drinking-water delivery point
	Usually no clear regulatory framework – roles and responsibilities are shared over different sectors and levels	Usually operates in a clear regulatory framework
	Objectives – reduce negative health impacts of use of wastewater, excreta or greywater while maximizing the benefits of their use	Objectives – to consistently ensure the safety and acceptability of a drinking-water supply and to reduce the risk of drinking-water contamination
	Implementing agency – varies depending on objectives, skills and resources	Implementing agency – water utility or a community association for small supplies

# The Sydney Gazette; and NEW SOUTH WALES ADVERTISER:

Published by Authority.

VOLUME THE NINTH.

SATURDAY, APRIL 18, 1841.

[RECEIVED 260]

His Excellency the GOVERNOR and COMMANDER IN CHIEF has thought proper to direct, that all Public Communications which may appear in the Sydney Gazette and New South Wales Advertiser, signed with any Official Signature, are to be considered as Official Communications, made to those Persons to whom they may relate.

## GOVERNMENT AND GENERAL ORDERS.

By Command of His Excellency, JOHN TAYLOR, COMMANDER IN CHIEF, Secretary.

Whereas notwithstanding a Commission lately issued by His Excellency the GOVERNOR, for the Inspection and Adjustment of the various Tanks, or Streams supplying them, or

quited to confine them within the limits of their own Premises; and those who have Tugs are enjoined to yoke and ring them, so as to prevent their doing such Injury in future; Tugs which may be found in the Streets or about the Tanks, where they are used, are hereby ordered to be removed, and the Accommodation of the Inhabitants, will be better

or otherwise suppressed, under pain of the Officers or Constables being proceeded against and punished under the Nuisance Act.

That no Person shall presume to throw any Dirt, Rubbish, Ashes, or any other refuse of any kind into the Tanks, or Streams supplying them; or

IT having been represented to His Excellency the GOVERNOR, as a very serious grievance, that the Stream of Water which flows through the Town of Sydney, and the Tanks which have been constructed thereon (at considerable Expence) for the purpose of procuring an adequate Supply of pure and good Water for the necessary Accommodation and Benefit of the Inhabitants at large, are frequently polluted and rendered totally unfit for those valuable Purposes (which become the more important by the scarcity of wholesome Water with which the Town is supplied);— and it thence becoming an object of the first consideration to the Health and Comfort of all Persons residing within the Town of Sydney, that said Stream and Tanks should be strictly preserved and guarded against all Abuses whatever, His Excellency deems it necessary to issue the following Orders; and the Inhabitants at large, whose personal Accommodation and Comfort are so immediately concerned, are called upon in their every Assistance and Co-operation in their Power, to the carrying the same into the fullest Effect, by obtain-



A painting by J. Skinner Prout of the Tank Stream in the 1840s





THE TERRIBLE GUEST

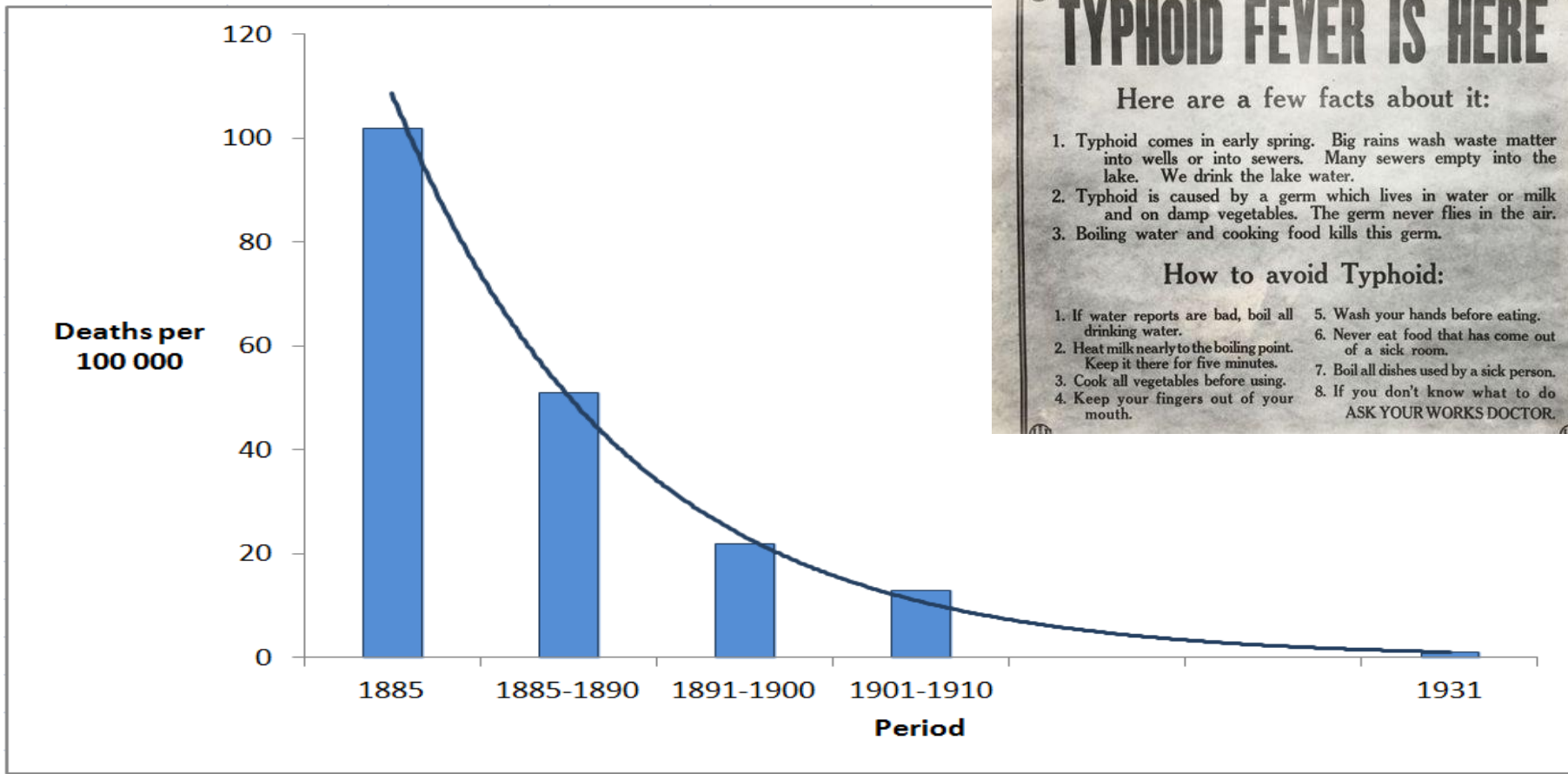
-By F. M. CUMBERWORTH



***Since the construction of these stormwater and foulwater sewers .....the mortality from diarrhoea has been reduced during the last eight years from 10.9 to 6.2 per 10,000 of the population.....***

***Dr Theo Kendall***

***Medical Advisor to the Sydney Board of Water Supply and Sewerage***

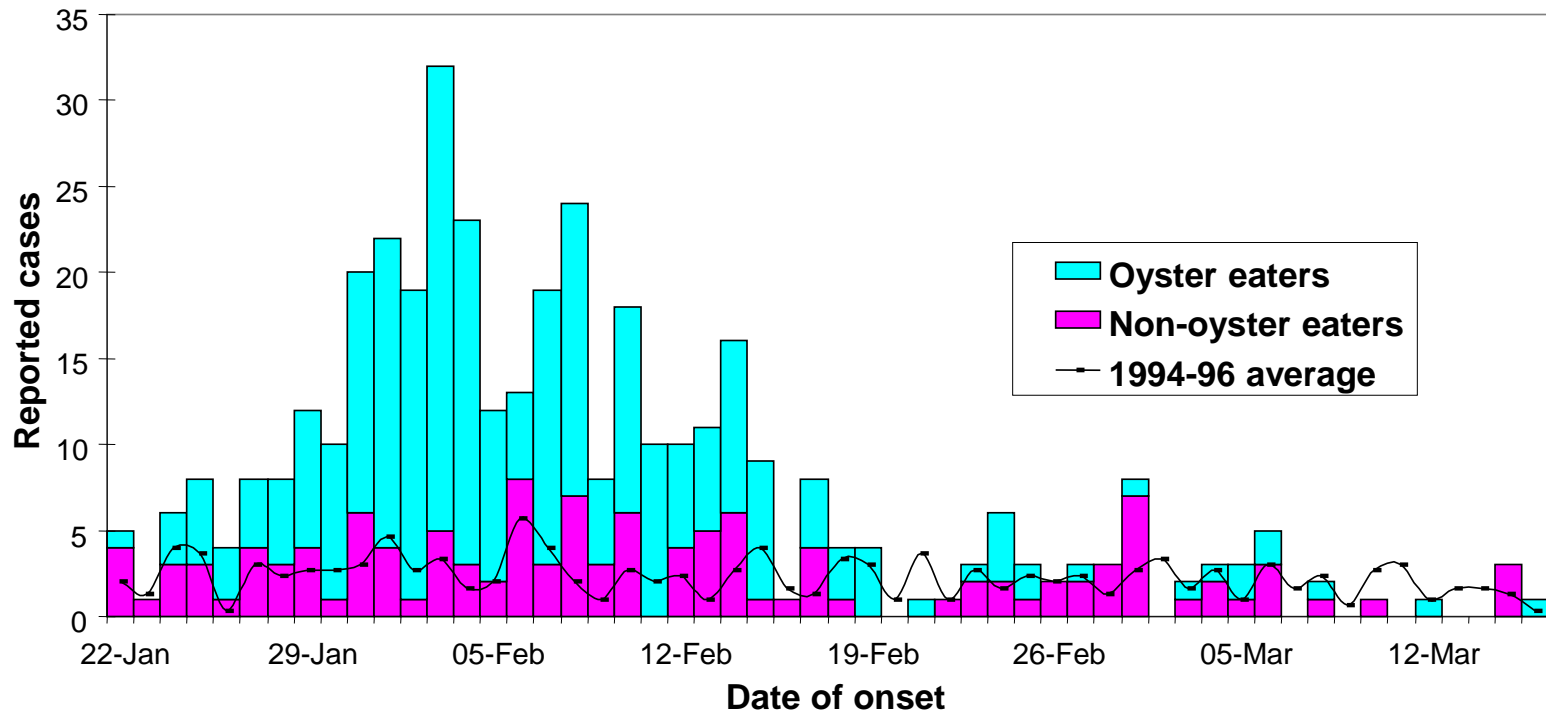


**Typhoid mortality in metropolitan New South Wales**





# Hepatitis A      January – April 1997





Environment & Health Protection Guidelines



**On-site  
Sewage  
Management  
for  
Single  
Households**

# *The easy septic ✓ guide*

If your home is *not* connected  
to the sewer, this booklet is for you.







Photos – SMH, ABC, Daily Telegraph

# East Sydney residents told they should boil their water

By GEESCHE JACOBSEN

People in the eastern CBD should boil water for at least a minute before drinking it, Sydney Water warned yesterday after finding potentially harmful organisms in the water supply.

The organisms, cryptosporidium and giardia, can cause fever, vomiting, diarrhoea, nausea and abdominal cramps.

The elderly and people with weakened immune systems are especially at risk, including those with AIDS or receiving chemotherapy.

The affected area is bordered by Elizabeth, Campbell and Crown streets and the Royal Botanic Gardens.

A Department of Health spokeswoman said last night that it had had no reports of illness as a result of possible exposure to these organisms. She said the warning was a precaution and there was no need to alarm people.

**“The warning was a precaution and there was no need to alarm people.”**

The managing director of Sydney Water, Mr Chris Pollitt, said it had notified the department of the problem on Friday when routine sampling found a low level of contamination with the naturally occurring micro-organisms.

Further sampling at the weekend had shown higher levels and Sydney Water had decided to clean and flush the water mains in the area as a precaution.

Tests in other areas had found no evidence of the organisms, he said.

The case comes just over a year after a reservoir supplying tapwater to the eastern half of Sydney was closed because of cryptosporidium, a parasite in the gut of most warm-blooded animals and easily spread between people.

In March, seven swimming pools in Sydney were closed after the organism was discovered.

Sydney Water advises customers in the affected area to boil their water because commercial water filters do not remove the organism. Mr Pollitt said further testing would be done to determine the cause of the outbreak.

Precautions should continue for about 48 hours, until later tests confirmed that the levels of the organisms had returned to safe limits, he said.

## SYDNEY'S WATER CRISIS

# 3 MILLION NOW HIT

## Entire city told to boil water

By BEN ENGLISH and KELVIN BISSETT

NEARLY every Sydney resident last night was warned not to drink tap water for the next two days as the city's contamination crisis deepened.

Discovery of potentially dangerous levels of the parasite giardia at Palm Beach forced the Government to take the action at 8pm.

"Having now found the source of contamination and received



### THE CULPRIT

The disease giardiasis is caused by the parasite giardia lamblia.

It is a single-celled animal which moves with five small tentacles.

INGESTION of just one of the parasites may cause the disease. Some bacteria require thousands to cause illness.

THE giardia favours cool, moist conditions. It is implicated in 25 per cent of all cases of

Water filters do not eliminate the parasite.

Detection of the bug in Sydney's north means virtually the whole city may have been contaminated with the giardia parasite, which can cause diarrhoea, vomiting and stomach cramps.

The announcement came after the Government launched a witchhunt to find those responsible for a debacle that has left more than three million Sydneysiders without safe water and in danger of contracting illnesses.

An angry Premier Bob Carr pledged those found responsible for the crisis would be sacked.



Sydney Water Inquiry

## Fifth Report

### Final Report Volume 2

December 1998

Peter McClellan QC

#### Cataloguing in publication data:

New South Wales. Premier's Department. Sydney Water Inquiry Secretariat. Sydney Water Inquiry. Final Report.

ISBN: 0 7313 3073 0 (set)  
0 7313 3079 X Vol 1  
0 7313 3085 4 Vol 2

1. Water quality - New South Wales - Sydney
  2. Water supply - Management - New South Wales - Sydney
- I. Title  
II. McClellan, Peter QC

628.1099441

Copyright 1998. NSW Premier's Department

For further information please telephone the Sydney Water Inquiry Secretariat

GPO Box 5341



New South Wales

### Sydney Water Catchment Management Act 1998 No 171

#### Status information

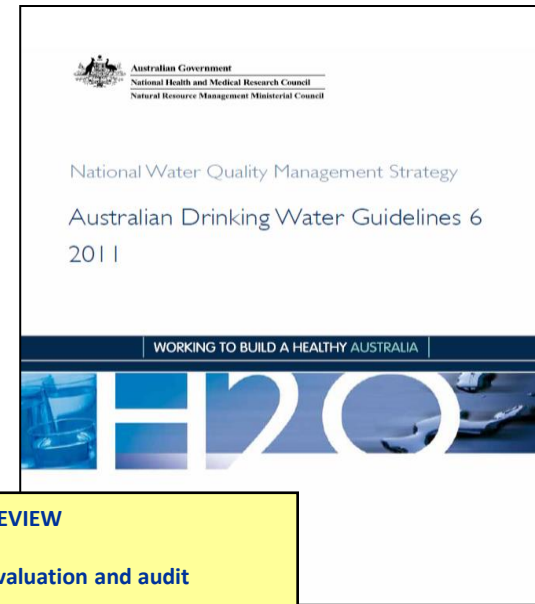
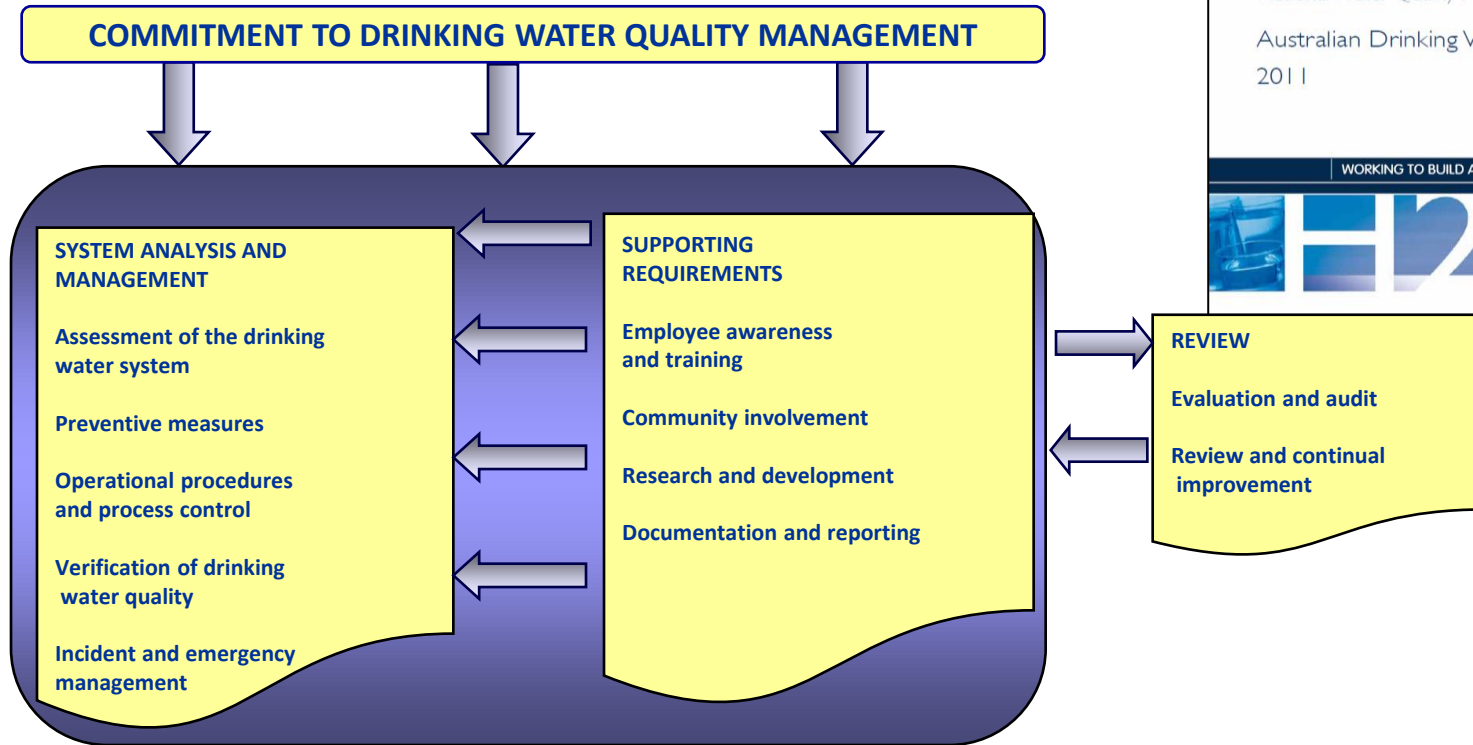
##### Currency of version

Historical version for 7 January 2011 to 17 May 2012 (generated 18 May 2012 at 11:27).  
Legislation on the NSW legislation website is usually updated within 3 working days.

##### Provisions in force



# Framework for Management of Drinking Water Quality





Source Water  
Quality  
Assessment and  
the Management  
of Pathogens  
in Surface  
Catchments  
and Aquifers

Research Report **29**

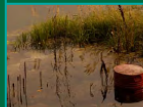


Research Report 29: Source Water Quality Assessment



Risk Assessment  
for Drinking  
Water Sources

Research Report **78**



Research Report 78



Photos – Sydney Catchment Authority







2013 No 755

## Port Stephens Local Environmental Plan 2013

under the

Environmental Planning and Assessment Act 1979

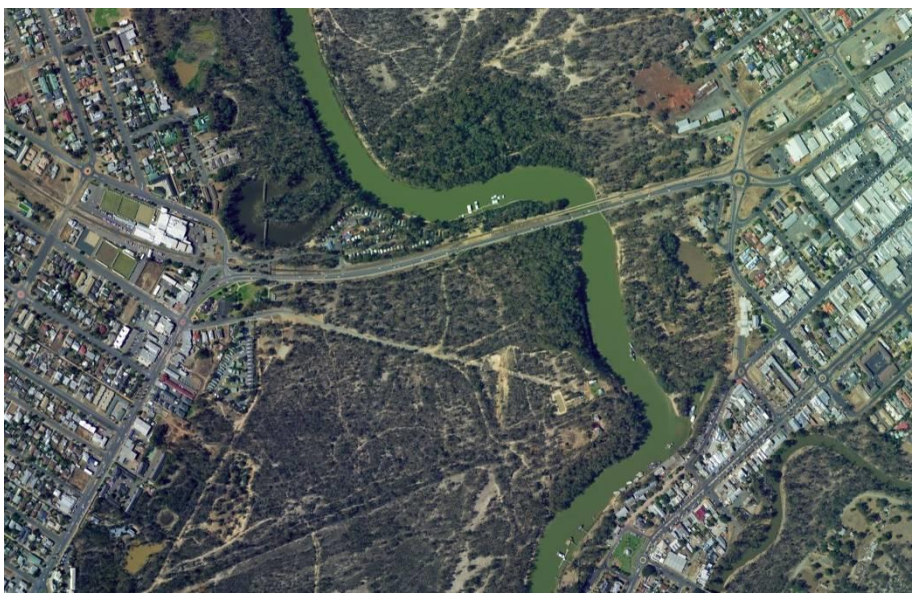
I, the Minister for Planning and Infrastructure, pursuant to section 33A of the *Environmental Planning and Assessment Act 1979*, adopt the mandatory provisions of the *Standard Instrument (Local Environmental Plans) Order 2006* and prescribe

### 7.8 Drinking water catchments

- (1) The objective of this clause is to protect drinking water catchments by minimising the adverse impacts of development on the quality and quantity of water entering drinking water storages.
- (2) This clause applies to land identified as "Drinking Water Catchment" on the Drinking Water Catchment Map.
- (3) Before determining a development application for development on land to which this clause applies, the consent authority must consider the following:
  - (a) whether or not the development is likely to have any adverse impact on the quality and quantity of water entering the drinking water storage, having regard to the following:
    - (i) the distance between the development and any waterway that feeds into the drinking water storage,
    - (ii) the on-site use, storage and disposal of any chemicals on the land,
    - (iii) the treatment, storage and disposal of waste water and solid waste generated or used by the development,
  - (b) any appropriate measures proposed to avoid, minimise or mitigate the impacts of the development.
- (4) Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that:
  - (a) the development is designed, sited and will be managed to avoid any significant adverse impact on water quality and flows, or
  - (b) if that impact cannot be reasonably avoided—the development is designed, sited and will be managed to minimise that impact, or
  - (c) if that impact cannot be minimised—the development will be managed to mitigate that impact.

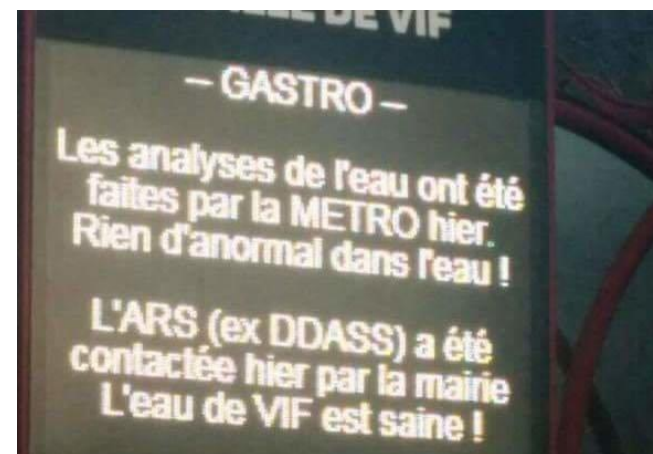
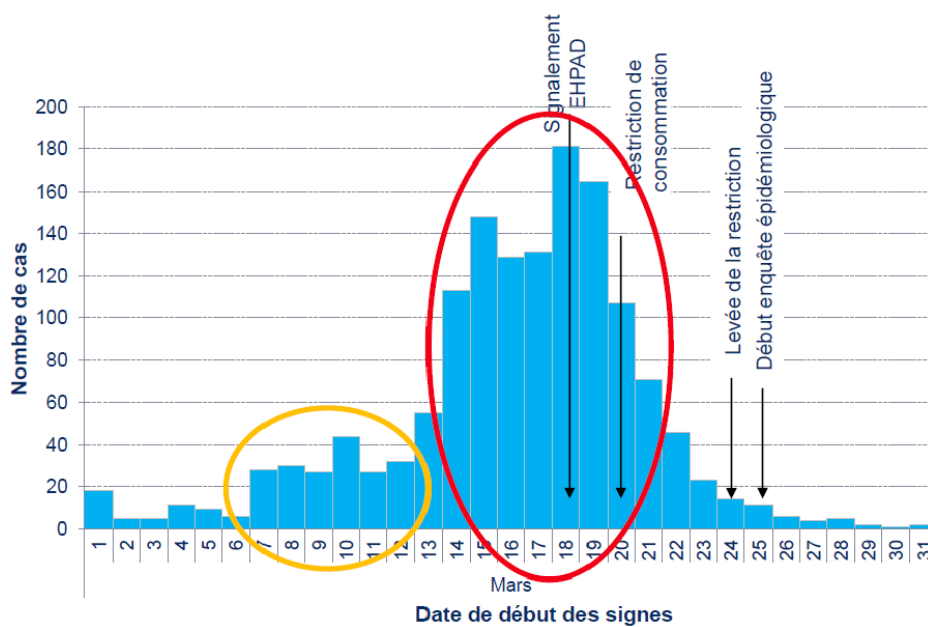












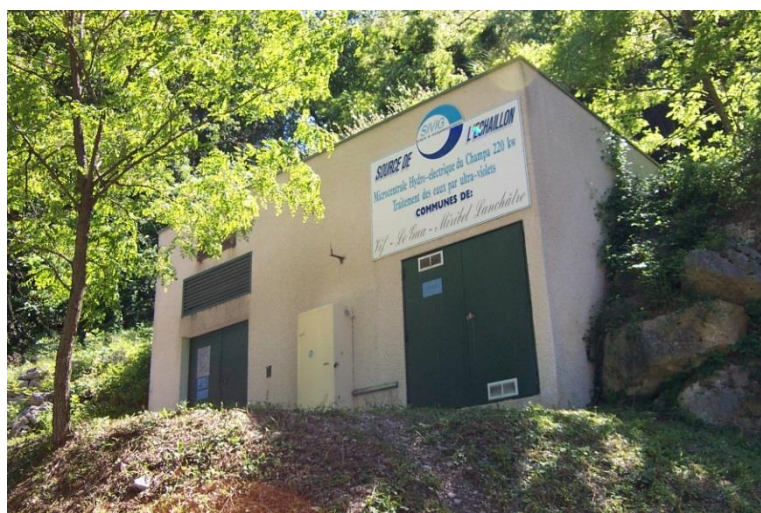
## COMMUNIQUE de PRESSE

Lyon, le mercredi 6 avril 2016

**Pollution du réseau d'eau potable de Vif et Le Gua**  
L'ARS Auvergne-Rhône-Alpes confirme que l'eau distribuée sur le réseau desservant Vif et Le Gua est conforme sur le plan sanitaire.

Suite à un signalement d'un nombre important de cas de gastro-entérites sur la commune de Vif (Isère), l'ARS a demandé à la régie de l'eau de la METRO de Grenoble de procéder à des autocontrôles de la qualité





## La STEP de Prelenfrey

Lieu de prélèvement	Germes témoins de contamination fécale		Recherche de matériel génétique de virus		
	E. Coli	Entérocoques	Rotavirus	Norovirus GI	Norovirus GII
ruisseau du Bruyant amont de STEP	78	6	0	0	0
ruisseau du Bruyant aval de STEP	2400	1200	260	900	4900

## Le ruisseau du Fiarey

Lieu de prélèvement	Germes témoins de contamination fécale		Recherche de matériel génétique de virus		
	E. Coli	Entérocoques	Rotavirus	Norovirus GI	Norovirus GII
ruisseau du Fiarey (confluence des ruisseaux de Prélenfrey et du Fiarey)	24 000	2100	990	0	0
Rejet tuyau petit diamètre dans ruisseau du Fiarey	56 000	7 200	0	0	0
Rejet tuyau gros diamètre dans ruisseau du Fiarey	42 000	9 200	1060	0	0



**Le ruisseau du Fiarey présente une forte contamination bactériologique d'origine fécale et contient uniquement le virus entérique « Rotavirus »**







Investigations microbiologiques par le Centre National de Référence (CNR) des virus américains

Présentations de Vincent Leloup, Directeur  
- Importance de l'hygiène et de la sécurité  
- Les laboratoires de référence  
- Les virus américains et les maladies d'origine animale  
- Les virus américains et les maladies d'origine humaine  
- Les virus américains et les maladies d'origine humaine  
- Les virus américains et les maladies d'origine humaine

Présentations par M. Buis  
- Les virus américains et les maladies d'origine humaine  
- Les virus américains et les maladies d'origine humaine

Présentations par M. Buis  
- Les virus américains et les maladies d'origine humaine  
- Les virus américains et les maladies d'origine humaine



## MESURES DE PREVENTION ET DE PROTECTION

### 1. PREAMBULE

Les mesures de prévention et de protection qui sont proposées ci-dessous visent à limiter le risque de dégradation de la qualité des eaux du captage de l'Echailion. Elles ont été établies au regard de l'inventaire des sources de pollution éventuelle réalisé sur le bassin d'alimentation du captage, ainsi que du panel des prescriptions dont disposent les hydrogéologues agréés pour la définition des périmètres de protection.

Ces mesures ne sont proposées qu'à titre indicatif. Elles constitueront une base de réflexion pour l'hydrogéologue agréé qui sera désigné lors de la procédure de révision de la DUP du captage de l'Echailion et définira de nouveaux périmètres de protection.

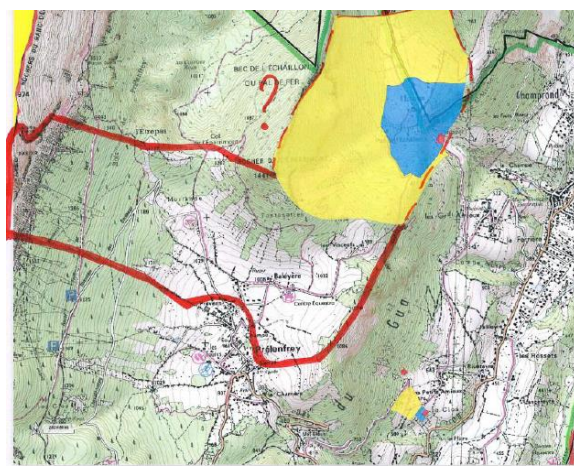
### 2. MESURES DE PREVENTION ET DE PROTECTION

Compte tenu de la forte vulnérabilité du captage sur une très grande partie de son bassin d'alimentation, les mesures proposées pourront s'appliquer sur l'ensemble du bassin. Elles correspondent sensiblement aux mesures qui peuvent être prescrites dans les périmètres de protection rapprochée. Des mesures plus restrictives, s'appliquant généralement dans les périmètres de protection immédiate, sont également proposées dans les secteurs identifiés comme particulièrement vulnérables (proximité immédiate du captage et zones de pertes des Vincents et du chemin de Chateauxvieux).

#### 2.1. Mesures de type « périmètre de protection rapprochée »

Sont réglementés :

- Le pacage du bétail, dont la charge ne devra pas dépasser :
  - o X UGB par hectare en moyenne annuelle
  - o X UGB par hectare en charge instantanée.



Légende :

- Périmètre de protection de la nappe
- Commune de la Métropole (64)
- Périmètre de protection de captage

Les mesures des périmètres de captage

■ BARRIÈRE 1

■ BARRIÈRE 2

■ BARRIÈRE 3

■ BARRIÈRE 4

■ BARRIÈRE 5

■ BARRIÈRE 6

■ BARRIÈRE 7

■ BARRIÈRE 8

■ BARRIÈRE 9

■ BARRIÈRE 10

■ BARRIÈRE 11

■ BARRIÈRE 12

■ BARRIÈRE 13

■ BARRIÈRE 14

■ BARRIÈRE 15

■ BARRIÈRE 16

■ BARRIÈRE 17

■ BARRIÈRE 18

■ BARRIÈRE 19

■ BARRIÈRE 20

■ BARRIÈRE 21

■ BARRIÈRE 22

■ BARRIÈRE 23

■ BARRIÈRE 24

■ BARRIÈRE 25

■ BARRIÈRE 26

■ BARRIÈRE 27

■ BARRIÈRE 28

■ BARRIÈRE 29

■ BARRIÈRE 30

■ BARRIÈRE 31

■ BARRIÈRE 32

■ BARRIÈRE 33

■ BARRIÈRE 34

■ BARRIÈRE 35

■ BARRIÈRE 36

■ BARRIÈRE 37

■ BARRIÈRE 38

■ BARRIÈRE 39

■ BARRIÈRE 40

■ BARRIÈRE 41

■ BARRIÈRE 42

■ BARRIÈRE 43

■ BARRIÈRE 44

■ BARRIÈRE 45

■ BARRIÈRE 46

■ BARRIÈRE 47

■ BARRIÈRE 48

■ BARRIÈRE 49

■ BARRIÈRE 50

*Périmètres de protection en vigueur (8/11/94)*  
*— limite possible de l'aire d'alimentation du captage (Etude SIVIS 2014)*



Communauté de Communes Alpes Vercors

1000000

01/2014

01/2014

01/2014

01/2014

01/2014

01/2014

01/2014

01/2014

01/2014

01/2014

01/2014

01/2014

01/2014

01/2014

01/2014

01/2014

01/2014

01/2014

01/2014

01/2014

01/2014

01/2014

01/2014

01/2014

01/2014

01/2014

01/2014

01/2014

01/2014

01/2014

01/2014

01/2014

01/2014

01/2014

01/2014

01/2014

01/2014

## GUA / PRELENFREY

### Description de la station

**Nom de la station :** GUA / PRELENFREY (Zoom sur la station)

**Code de la station :** 060938187001

**Nature de la station :** Urbain

**Réglementation :** Eau

**Région :** RHONE-ALPES

**Département :** 38

**Date de mise en service :** 01/06/1997

**Service instructeur :** DDT 38

**Maitre d'ouvrage :** Métro

**Exploitant :**

**Commune d'implantation :** GUA

**Capacité nominale :** 315 EH

**Débit de référence :** 70 m<sup>3</sup>/j

**Autosurveillance validée :** non validé

**Traitement requis par la DERU :**

- Traitement approprié

+ Filières de traitement :

### Milieu récepteur

**Bassin hydrographique :** RHONE-MEDITERRANEE-CORSE

**Type :** Sol

**Nom :**

**Nom du bassin versant :** Gresse

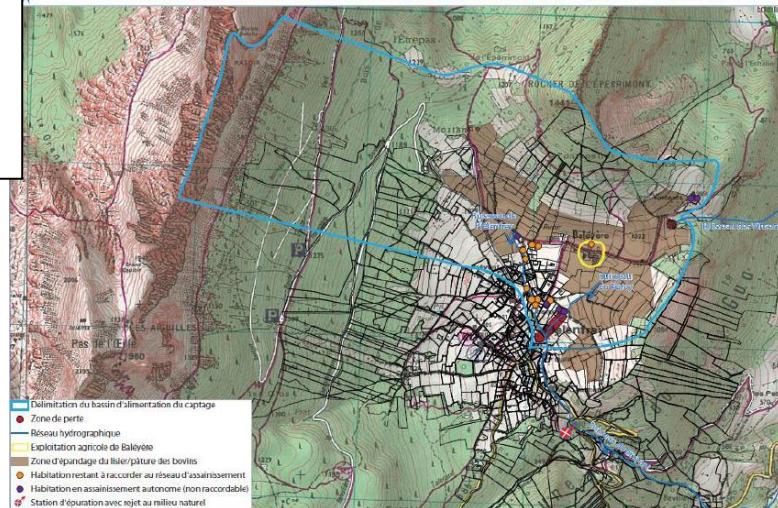
**Zone Sensible :** Hors Zone Sensible

**Sensibilité azote :** Non

**Sensibilité phosphore :** Non

**Consulter les zones sensibles**

## INVENTAIRE DES PRINCIPALES SOURCES DE POLLUTION POTENTIELLE



● Délimitation du bassin d'alimentation du captage

● Zone de perte

● Réseau hydrographique

● Exploitation agricole de Baloyère

● Zone d'épandage du résidu naturel des bovins

● Habitation restant à raccorder au réseau d'assainissement

● Habitation en assainissement autonome (non raccordable)

● Station d'épuration avec rejet au milieu naturel

Plan : Général de la carte N° 3326 DT

Année du cadastre de la commune de la GUA - commune GUA

