

Draft Te Waikoropupū Springs and the Arthur Marble Aquifer Water Conservation Order

April 2017

1. **Title**

This order is the Water Conservation (Te Waikoropupū and the Arthur Marble Aquifer) Order 2015.

2. **Commencement**

This order comes into force on the 28th day after the date of its notification in the New Zealand Gazette.

3. **Interpretation**

In this order, unless the context otherwise requires:

Act means the Resource Management Act 1991.

Waters means the aquifers, springs, rivers and tributaries identified in Schedules 1, 2 and 3 and any hydraulically connected groundwaters and wetlands.

Arthur Marble Aquifer means the aquifer identified in Schedule 1 underlying the Takaka Valley, South Island, New Zealand.

Te Waikoropupū Springs means the Main Spring, Dancing Sands Spring and Fish Creek Springs identified in Schedule 2.

Takaka River and its Tributaries means the Takaka River and all its tributaries within the catchment identified in Schedule 3.

4. **Outstanding characteristics, features and values**

The waters identified in Schedules 1, 2 or 3 include or contribute to, to the extent specified in Schedules 1, 2 or 3, the following outstanding characteristics and features:

- a. significance in accordance with tikanga Māori in respect of Ngati Tama ki Te Tau Ihu history, kaitiakitanga, mahinga kai, wahi tapu, wahi whakahirahira and customary protection of flora and fauna
- b. cultural and spiritual purposes
- c. visual clarity values
- d. scientific and ecological values
- e. Biodiversity values
- f. habitat for indigenous stygofauna
- g. habitat for indigenous fauna
- h. habitat for indigenous flora
- i. recreational values
- j. wild, scenic and natural characteristics

5. **Waters to be preserved in natural state**

Because of the outstanding characteristics, features and values identified in Schedule 1 and the contribution made to waters supporting outstanding characteristics, features and values, to the waters identified in Schedule 2, the waters specified in Schedule 1 are to be retained as far as possible in their natural state, including but not limited to the clarity and quality of the waters,

6. **Waters to be protected for their outstanding characteristics, features and values**

Because of the outstanding characteristics, features and values identified in Schedule 2, the waters identified in Schedule 2 are to be protected so far as is possible in their natural state and in accordance with the relevant conditions in clauses 8 and 9, subject to clauses 10 and 11.

7. **Waters to be protected for contribution to outstanding characteristics**

Because of their contribution to outstanding characteristics, features and values identified in Schedules 1 and 2, the waters specified in Schedule 3 are to be

protected in accordance with the relevant conditions in clauses 8 and 9 subject to clauses 10 and 11.

8. Restrictions on alterations of aquifer depth and form

No resource consent may be granted or rule included in a regional plan that –

- a. Will result in reduction of the width of the active floodplain of the Arthur Marble Aquifer or any other hydraulically connected aquifer.
- b. Will authorise any additional abstraction of water from any part of the Arthur Marble Aquifer as specified in Schedule 1 not already authorised by a resource consent at the time this Order comes into force.
- c. Will authorise any additional abstraction of water from any part of the Te Waikoropupū Springs as specified in Schedule 2 not already authorised by a resource consent at the time this Order comes into force.
- d. Will authorise any additional abstraction of water from any part of the Takaka River and its tributaries as specified in Schedule 3 not already authorised by a resource consent at the time this Order comes into force.

9. Requirement to protect water quality

No resource consent may be granted or rule included in a regional plan relating to the discharge of contaminants onto land in instances where it may enter waters specified in Schedules 1, 2, and 3, that will cause, either by itself or in combination with any existing consents, activities or rules, the limits specified in Schedule 4 after reasonable mixing or the triggers specified in Schedule 5 to be exceeded.

10. Scope of order

- a. This order does not limit sections 14(3)(b) and (e) of the Act relating to the use of water for an individual's reasonable domestic needs, or for the reasonable needs of an individual's animals for drinking water, or taken or used for fire-fighting purposes.

- b. Subject to sub-clause (10)(c), this Order does not restrict or prevent the grant of resource consents or inclusion of a rule in a regional plan for the purpose of:
 - i. research into, and protection or restoration, rehabilitation or enhancement of, water quality, cultural, spiritual and tikanga Māori values, wildlife and wildlife habitats; or
 - ii. the removal, maintenance or protection of any road, ford or bridge, the maintenance or protection of any network utility operation (as defined in section 166 of the Act); or
 - iii. the protection of human or animal health.
- c. No resource consent may be granted or rule included in a regional plan that would allow activities specified in sub-clause (10)(b) if exercise of any such resource consent or rule would compromise the protection of the outstanding characteristics and features identified for the waters specified in the Schedules.

11. Exemptions

Nothing in this Order prevents the grant of a resource consent that would otherwise contravene conditions set out in this Order if:

- a. a consent authority is satisfied that:
 - i. there are exceptional circumstances justifying the grant of a permit; or
 - ii. the consent is for an activity that is associated with necessary maintenance works for works and structures not otherwise prohibited by this Order; or
 - iii. the consent is for discharge of herbicides for control of pest plants; and
- b. the exercise of any such consent would not compromise the protection of the natural state, outstanding characteristics and features identified for the waters specified in the Schedules.

12. **Existing consents**

Nothing in this Order shall affect or restrict any resource consent granted prior to this Order coming into force in respect of the protected waters.

Schedule 1

Waters to be retained in Natural State

Waters	Outstanding Characteristics or Features and contribution to outstanding characteristics and features	Conditions to apply
<p>Confined and Unconfined Arthur Marble Aquifer, refer to map below</p>	<p>Intrinsic values afforded by natural state</p> <p>Significance in accordance with tikanga Māori</p> <p>Cultural and spiritual purposes</p> <p>Biodiversity</p> <p>Habitat for stygofauna</p> <p>Habitat for indigenous wildlife</p> <p>Ecosystem services</p> <p>Wild characteristics</p> <p>Natural characteristics – water quality and clarity</p> <p>Scientific and ecological values – water quality and clarity</p>	<p>Natural state</p> <p>No abstraction with the exception of cl12 (existing consents)</p> <p>Water quality (cl 10)</p>

Schedule 2

Protected waters

Waters	Outstanding Characteristics or Features	Conditions to Apply
<p>Te Waikoropupū Springs, refer map below</p>	<p>Significance in accordance with tikanga Māori</p> <p>Cultural and spiritual purposes</p> <p>Amenity and intrinsic values</p> <p>Biodiversity</p> <p>Habitat for indigenous wildlife</p> <p>Recreation</p> <p>Scenic characteristics</p> <p>Scientific and ecological values – water quality</p>	<p>abstraction (cl 8)</p> <p>Maintain spring form (cl 8)</p> <p>Water quality (cl 9)</p>

Schedule 3

Waters to be protected for their contribution to outstanding characteristics

Waters	Contribution to Outstanding Characteristics or Features	Conditions to Apply
<p>Takaka River to its headwaters; and its tributaries, including the Waingaro, Anatoki, Waikoropupū Rivers, refer map below</p>	<p>Contribution to: significance in accordance with tikanga Māori cultural and spiritual purposes habitat for wildlife recreation scientific and ecological values – water quality, and clarity</p>	<p>Abstraction (cl 8) Flood plain form (cl 8) Water quality (cl 9)</p>
<p>Hydraulically connected groundwater to the waters specified in Schedule 2 not identified in Schedule 1 including the Takaka Limestone Aquifer and Takaka Unconfined Gravel Aquifer refer map below</p>	<p>Contribution to: significance in accordance with tikanga Māori cultural and spiritual purposes habitat for wildlife recreation scientific and ecological values – water quality, and clarity</p>	<p>abstraction (cl 8) Water quality (cl 9)</p>

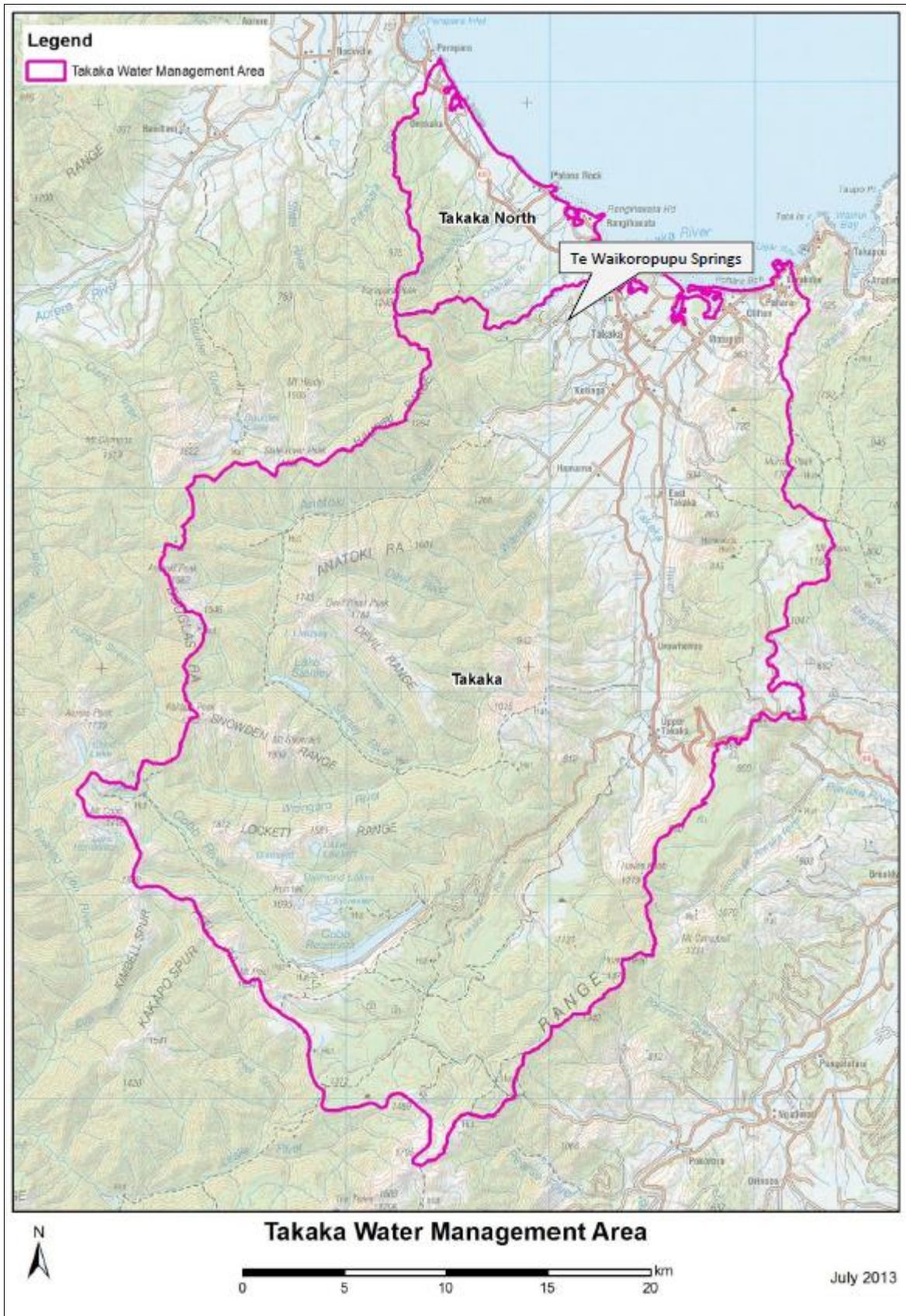


Figure 1

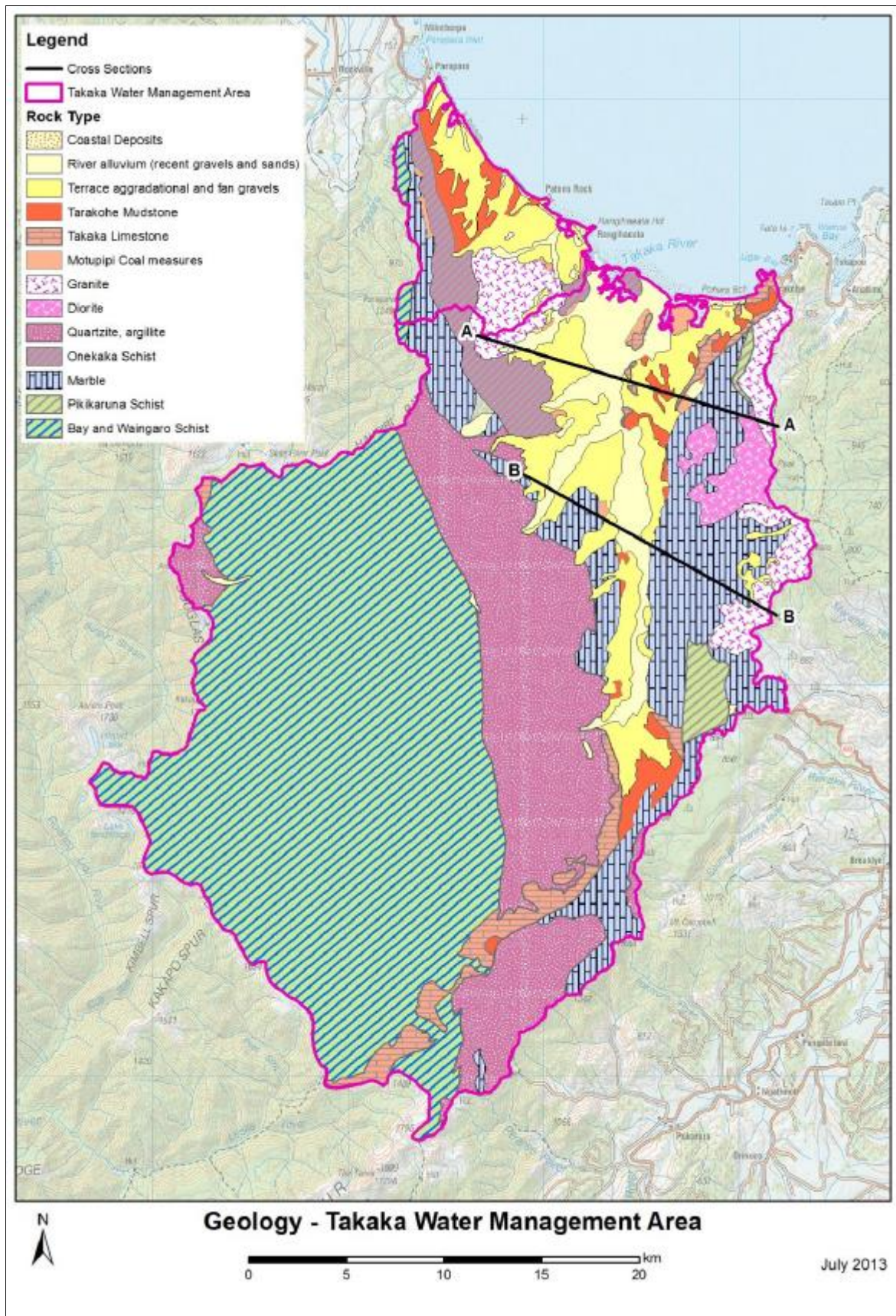


Figure 2

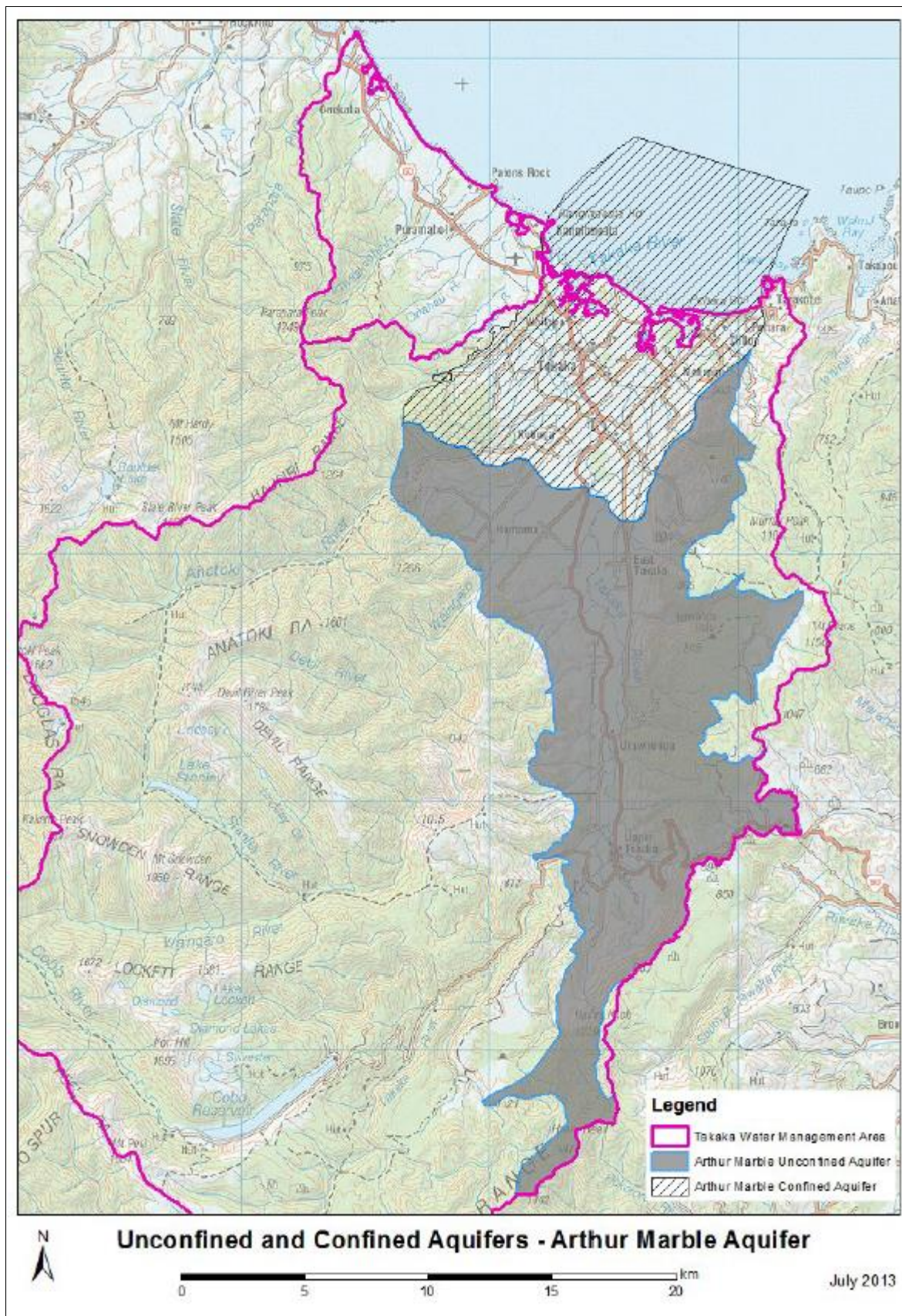


Figure 3

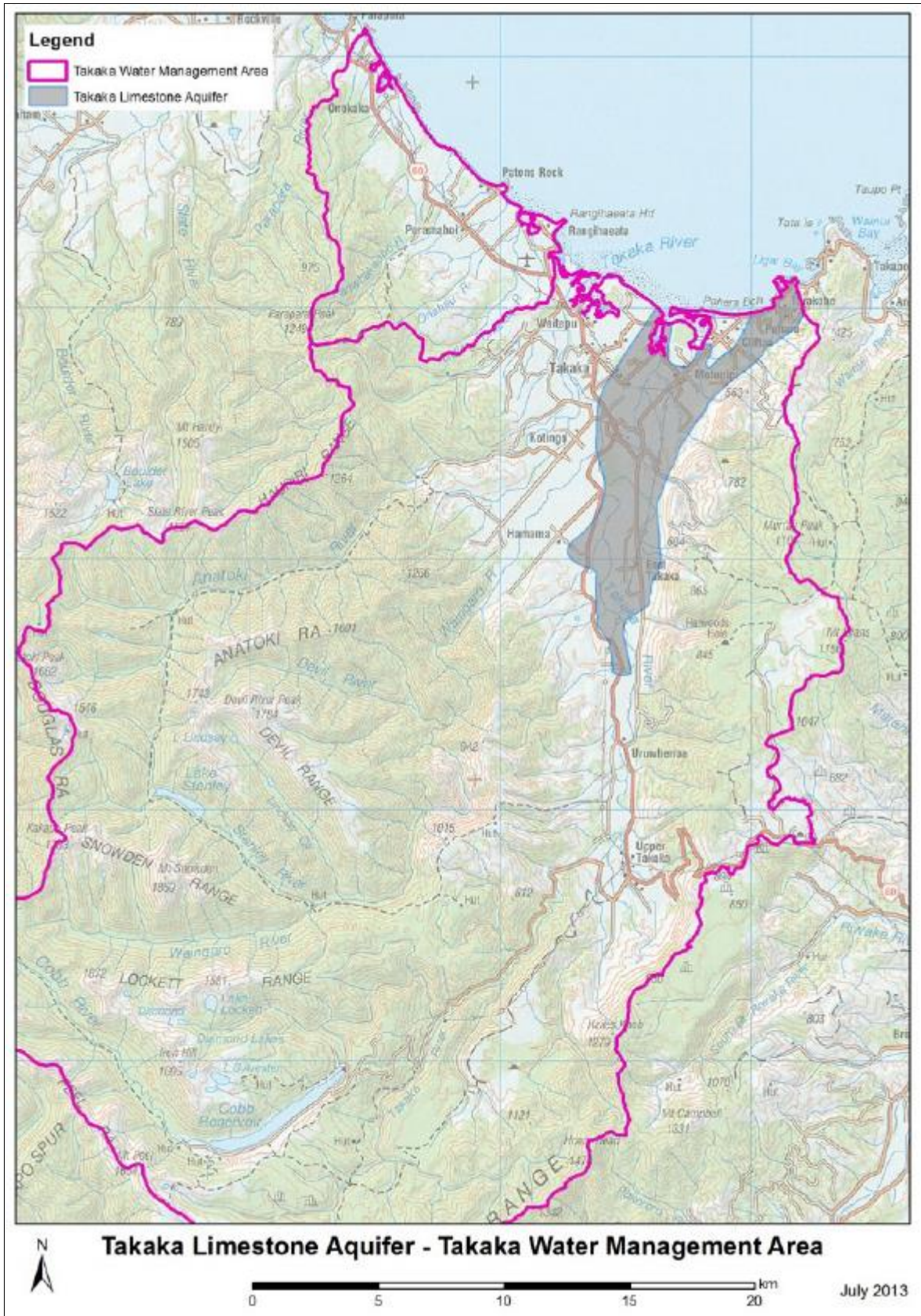


Figure 4

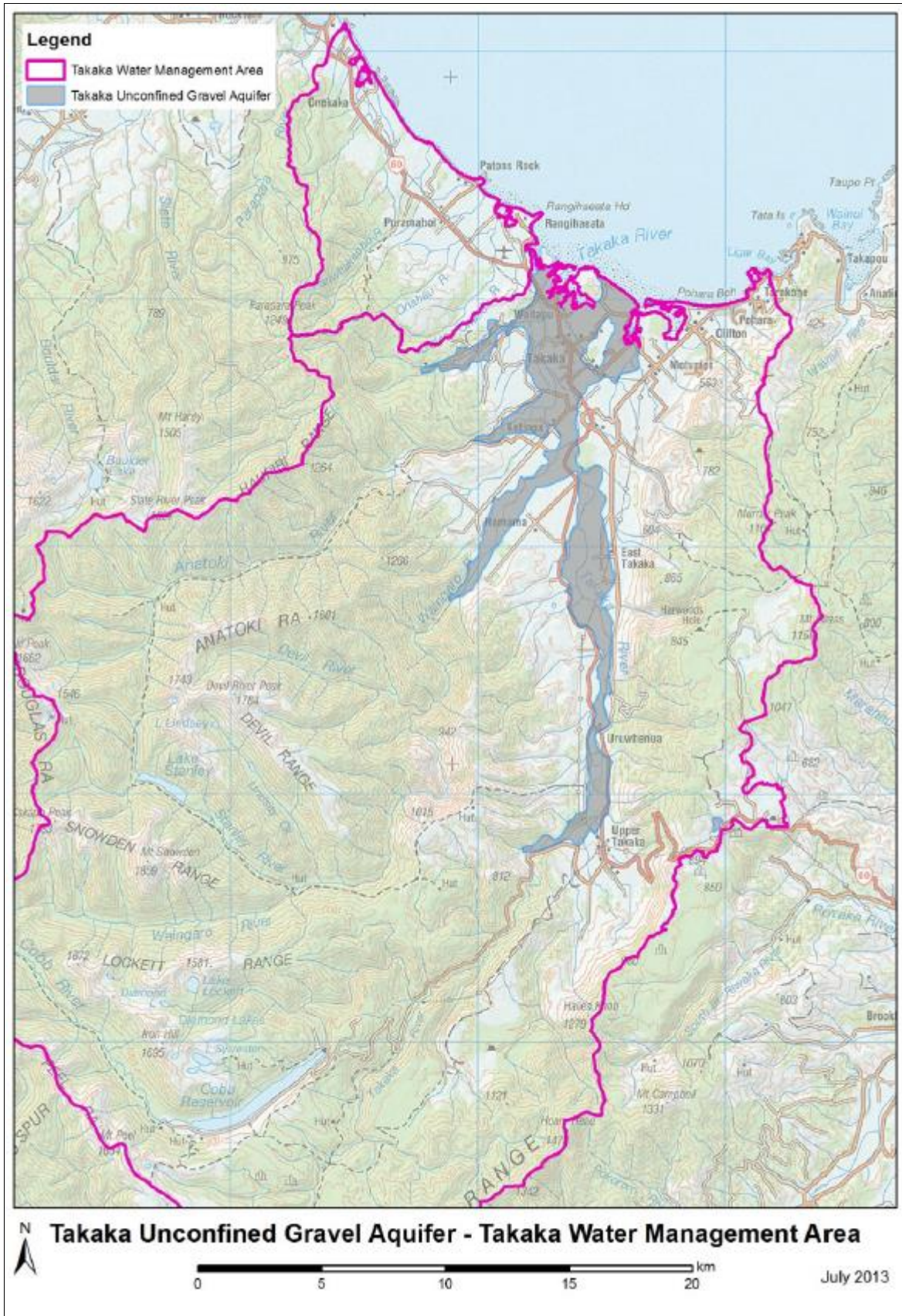


Figure 5

Schedule 4

Water Quality Limits

Indicator	Limits
	Takaka River and its tributaries
Soluble inorganic nitrogen (SIN) (nitrate + nitrite + ammoniacal N)	NO ₃ -N concentrations do not exceed 0.4 mg NO ₃ -N/L
Ammoniacal nitrogen	Shall not exceed 0.05 mg/L
Dissolved reactive phosphorus (DRP)	Concentration to not increase above status quo
<i>Escherichia coli</i> (<i>E. coli</i>) - year round limits	concentration to not increase above status quo
Dissolved oxygen concentration	Water discharging from the springs contains at least 6.0 mg/L of dissolved oxygen.
Clarity (horizontal visibility of a black disc)	Clarity to not decrease from status quo

Unless otherwise stated, compliance with the limit should be assessed from monthly data collected under all flow conditions.

Schedule 5

**Trigger Values for Toxicants from the National Water Quality Management Strategy
(Paper No. 4 Australian and New Zealand Guidelines for Fresh and Marine Water
Quality, Volume 1, The Guidelines (Chapters 1-7) October 2000, Australian and New
Zealand Environment and Conservation Council, Agriculture and Resource
Management Council of Australia and New Zealand)**

Chemical	Trigger values for Freshwater (μgL^{-1})
	Level of Protection (% species)
	99%
METAL & METALLOIDS	
Aluminium pH > 6.5	27
Aluminium pH < 6.5	ID
Antimony	ID
Arsenic (AsIII)	1
Arsenic (AsV)	0.8
Beryllium	ID
Bismouth	ID
Boron	90
Cadmium H	0.06
Chromium (CrIII) H	ID
Chromium (CrVI)	0.01
Cobalt	ID
Copper H	1.0
Gallium	ID
Iron	ID
Lanthanum	ID
Lead H	1.0
Manganese	1200
Mercury (inorganic) B	0.06
Mercury (Methyl)	ID
Molybdenum	ID
Nickel H	8
Selenium (Total) B	5
Selenium (SeIV) B	ID

Silver	0.02
Thallium	ID
Tin (Inorganic, SnIV)	ID
Tributyltin (as µg/L Sn)	ID
Uranium	ID
Vanadium	ID
Zinc H	2.4
NON-METALLIC INORGANICS	
Ammonia D	320
Chlorine E	0.4
Cyanide F	4
Nitrate J	17
Hydrogen sulphide G	0.5
ORGANIC ALCOHOLS	
Ethanol	400
Ethylene glycol	ID
Isopropyl alcohol	ID
CHLORINATED ALKANES	
Chloromethanes	
Dichloromethane	ID
Chloroform	ID
Carbon tetrachloride	ID
Chloroethanes	
1,2-dichloroethane	ID
1,1,1-trichloroethane	ID
1,1,2-trichloroethane	5400
1,1,2,2-tetrachloroethane	ID
Pentachloroethane	ID
Hexachloroethane B	290
Chloropropanes	
1,1-dichloroethylene	ID
1,2-dichloroethylene	ID
1,3-dichloroethylene	ID
CHLORINATED ALKENES	
1,1,2-trichloroethylene	ID

1,1,2,2-tetrachloroethylene	ID
3-chloropropene	ID
1,3-dichloropropene	ID
ANILINES	
Aniline	8
2,4-dichloroaniline	0.6
2,5-dichloroaniline	ID
3,4- dichloroaniline	1.3
3,5- dichloroaniline	ID
Benzidine	ID
Dichlorobenzidine	ID
AROMATIC HYDROCARBONS	
Benzene	600
Toluene	ID
Ethylbenzene	ID
<i>o</i> -xylene	200
<i>m</i> -xylene	ID
<i>p</i> -xylene	140
<i>m+p</i> -xylene	ID
Cumene	ID
Polycyclic Aromatic Hydrocarbons	
Naphthalene	2.5
Anthracene B	ID
Phenanthrene B	ID
Fluoranthene B	ID
Benzo(a)pyrene B	ID
Nitrobenzenes	
Nitrobenzene	230
1,2-dinitrobenzene	ID
1,3- dinitrobenzene	ID
1,4- dinitrobenzene	ID
1,3,5- trinitrobenzene	ID
1-methoxy-2- nitrobenzene	ID
1-methoxy-4- nitrobenzene	ID
1-chloro-2-nitrobenzene	ID

1-chloro-3-nitrobenzene	ID
1-chloro-4-nitrobenzene	ID
1-chloro-2,4-dinitrobenzene	ID
1,2-dichloro-3-nitrobenzene	ID
1,3-dichloro-5-nitrobenzene	ID
1,4-dichloro-2-nitrobenzene	ID
2,4-dichloro-2-nitrobenzene	ID
1,2,4,5-tetrachloro-3-nitrobenzene	ID
1,5-dichloro-2,4-dinitrobenzene	ID
1,3,5-trichloro-2,4-dinitrobenzene	ID
1-fluoro-4-nitrobenzene	ID
Nitrotoluenes	
2-nitrotoluenes	ID
3-nitrotoluene	ID
4-nitrotoluene	ID
2,3-dinitrotoluene	ID
2,4-dinitrotoluene	16
2,4,6-dinitrotoluene	100
1,2-dimethyl-3-nitrobenzene	ID
1,2-dimethyl-4-nitrobenzene	ID
4-chloro-3-nitrotoluene	ID
Chlorobenzenes and Chloronaphthalenes	
Monochlorobenzene	ID
1,2-dichlorobenzene	120
1,3-dichlorobenzene	160
1,4-dichlorobenzene	40
1,2,3-trichlorobenzene B	3
1,2,4-trichlorobenzene B	85
1,3,5-trichlorobenzene B	ID
1,2,3,4-tetrachlorobenzene B	ID
1,2,3,5-tetrachlorobenzene B	ID
1,2,4,5-tetrachlorobenzene B	ID
Pentachlorobenzene B	ID
Hexachlorobenzene B	ID
1-chloronaphthalene	ID

Polychlorinated Biphenyls (PCBs) & Dioxins	
Capacitor 21 B	ID
Aroclor 1061 B	ID
Aroclor 1221 B	ID
Aroclor 1232 B	ID
Aroclor 1242 B	0.3
Aroclor 1248 B	ID
Aroclor 1254 B	0.01
Aroclor 1260 B	ID
Aroclor 1262 B	ID
Aroclor 1268 B	ID
2,3,4'-trichlorobiphenyl B	ID
4,4"-dichlorobipenyl B	ID
2,2',4,5,5'-pentachloro-1,1'-bipenyl B	ID
2,4,6,2',4',6'-hexachlorobiphenyl B	ID
Total PCBs B	ID
2,3,7,8-TCDD B	ID
PHENOLS XYLENOLS	
Phenol	85
2,4-dimethylphenol	ID
Nonylphenol	ID
2-chlorophenol T	340 ^C
3-chlorophenol T	ID
4-chlorophenol T	160
2,3-dichlorophenol T	ID
2,4-dichlorophenol T	120
2,5-dichlorophenol T	ID
2,6-dichlorophenol T	ID
3,4-dichlorophenol T	ID
3,5-dichlorophenol T	ID
2,3,4-trichlorophenol T	ID
2,3,5-trichlorophenol T	ID
2,3,6-trichlorophenol T	ID
2,4,5-trichlorophenol T,B	ID
2,4,6-trichlorophenol T,B	3

2,3,4,5-tetrachlorophenol T,B	ID
2,3,4,6-tetrachlorophenol T,B	10
2,3,5,6-tetrachlorophenol T,B	ID
Pentachlorophenol T,B	3.6
Nitrophenols	
2-nitrophenol	ID
3-nitrophenol	ID
4-nitrophenol	ID
2,4-dinitrophenol	13
2,4,6-trinitrophenol	ID
ORGANIC SULFUR COMPOUNDS	
Carbon disulphide	ID
Isopropyl disulphide	ID
n-propyl sulphide	ID
Propyl disulphide	ID
Tert-butyl sulphide	ID
Phenyl disulphide	ID
Bis(dimethylthiocarbamyl)sulphide	ID
Bis(diethylthiocarbamyl)disulphide	ID
2-methoxy-4H-1,3,2-benzodioxaphosphorium-2-sulfide	ID
Xanthates	
Potassium amyl xanthate	ID
Potassium ethyl xanthate	ID
Potassium hexyl xanthate	ID
Sodium ethyl xanthate	ID
Sodium isobutyl xanthate	ID
Sodium isopropyl xanthate	ID
Sodium sec-butyl xanthate	ID
PHTHALATES	
Dimethylphthalate	3000
Diethylphthalate	900
Dibutylphthalate B	9.9
Di(2-ethylhexyl)phthalate B	ID
MISCELLANEOUS INDUSTRIAL CHEMICALS	
Acetonitrile	ID

Acrylonitrile	ID
Poly(acrylonitrile-co-butadiene-co-styrene)	200
Dimethylformamide	ID
1,2-diphenylhydrazine	ID
Diphenylnitrosamine	ID
Hexachlorobutadiene	ID
Hexachlorocyclopentadiene	ID
Idophorone	ID
ORGANICHLORINE PESTICIDES	
Aldrin B	ID
Chlordane B	0.03
DDE B	ID
DDT B	0.006
Dicofol B	ID
Dieldrin B	ID
Endosulfan B	0.03
Endosulfan alpha B	ID
Endosulfan beta B	ID
Endrin B	0.01
Heptachlor B	0.01
Lindane	0.07
Methoxychlor B	ID
Mirex B	ID
Toxaphene B	0.1
ORGANOPHOSPHORUS PESTICIDES	
Azinphos methyl	0.01
Chlorpyrifos B	0.00004
Demeton	ID
Demeton-S-methyl	ID
Diazinon	0.00003
Dimethoate	0.1
Fenitrothion	0.1
Malathion	0.002
Parathion	0.0007
Profenofos B	ID

Temphos B	ID
CARBAMATE & OTHER PESTICIDES	
Carbofuran	0.06
Methomyl	0.5
S-methoprene	ID
PYRETHROIDS	
Deltamethrin	ID
Esfenvalerate	ID
HERBICIDES & FUNGICIDES	
Bypyridilium herbicides	
Diquat	0.01
Paraquat	ID
Phenoxyacetic acid herbicides	
MCPA	ID
2,4-D	140
2,4,5-T	3
Sulfonylurea herbicides	
Bensulfuron	ID
Metsulfuron	ID
Thiocarbamate herbicides	
Molinate	0.1
Thiobencarb	1
Thiram	0.01
Triazine herbicides	
Amitrole	ID
Atrazine	0.7
Hexazinone	ID
Simazine	0.2
Urea herbicides	
Diuron	ID
Tebuthiuron	0.02
Miscellaneous herbicides	
Acrolein	ID
Bromacil	ID
Glyphosate	370

Imazethapyr	ID
loxynil	ID
Metolachlor	ID
Sethoxydim	ID
Trifluralin B	2.6
GENERIC GROUPS OF CHEMICALS	
Surfactants	
Linear alkylbenzene sulfonates (LAS)	65
Alcohol ethoxylated sulfate (AES)	340
Alcohol ethoxylated surfactants (AE)	50
Oils & Petroleum Hydrocarbons	
Oil Spill Dispersants	
BP 1100X	ID
Corexit 7664	ID
Corexit 8667	
Corexit 9527	ID
Corexit 9550	ID

Notes: Where the final water quality guideline to be applied to a site is below current analytical practical quantitation limits, see section 3.4.3.3 for guidance.

* = High reliability figure for esfenvalerate derived from mesocosm NOEC data (no alternative protection levels available).

A = Figure may not protect key test species from acute toxicity (and chronic) — check Section 8.3.7 for spread of data and its significance. 'A' indicates that trigger value > acute toxicity figure; note that trigger value should be <1/3 of acute figure (Section 8.3.4.4).

B = Chemicals for which possible bioaccumulation and secondary poisoning effects should be considered (see Sections 8.3.3.4 and 8.3.5.7).

C = Figure may not protect key test species from chronic toxicity (this refers to experimental chronic figures or geometric mean for species) — check Section 8.3.7 for spread of data and its significance. Where grey shading and 'C' coincide, refer to text in Section 8.3.7.

D = Ammonia as TOTAL ammonia as [NH₃-N] at pH 8. For changes in trigger value with pH refer to Section 8.3.7.2.

E = Chlorine as total chlorine, as [Cl]; see Section 8.3.7.2.

F = Cyanide as un-ionised HCN, measured as [CN]; see Section 8.3.7.2.

G = Sulfide as un-ionised H₂S, measured as [S]; see Section 8.3.7.2.

H = Chemicals for which algorithms have been provided in table 3.4.3 to account for the effects of hardness. The values have been calculated using a hardness of 30 mg/L CaCO₃. These should be adjusted to the site-specific hardness (see Section 3.4.3).

J = Figures protect against toxicity and do not relate to eutrophication issues. Refer to Section 3.3 if eutrophication is the issue of concern.

ID = Insufficient data to derive a reliable trigger value. Users advised to check if a low reliability value or an ECL is given in Section 8.3.7.

T = Tainting or flavour impairment of fish flesh may possibly occur at concentrations below the trigger value. See Sections 4.4.5.3/3 and 8.3.7.