



## Nitrate–nitrogen trends, 1989–2013

### Metadata

#### File Identifier

0a3f0675-0cb2-20b9-4257-d8f0f028b4b5

#### Language

eng

#### Character Set

##### Character Set Code

utf8

#### Hierarchy Level

##### Scope Code

dataset

#### Hierarchy Level Name

dataset

### Contact

#### Responsible Party

##### Organisation Name

Environmental Reporting, Ministry for the Environment and Statistics New Zealand

##### Position Name

Analyst

#### Contact Info

##### Contact

##### Address

##### Address

##### Delivery Point

23 Kate Sheppard Place, PO Box 10362

##### City

Wellington 6143

##### Country

New Zealand

##### Electronic Mail Address

Environmental.Reporting@mfe.govt.nz

#### Role

Role Code  
distributor

Date Stamp

Date  
2016-02-19

Metadata Standard Name

ANZLIC Metadata Profile: An Australian/New Zealand Profile of AS/NZS ISO 19115:2005,  
Geographic information - Metadata

Metadata Standard Version

1.1

Reference System Info

Reference System  
Reference System Identifier  
Identifier  
Code  
2193

Identification Info

Data Identification

Citation  
Citation  
Title  
Nitrate–nitrogen trends, 1989–2013  
Date

Abstract

Small amounts of nitrogen are a natural component of healthy rivers. Nitrogen is transferred from land to water and is cycled through different forms, which can have different effects. Moderate concentrations of nitrate can cause weeds and algae to grow too fast. High concentrations of ammoniacal and nitrate nitrogen can be toxic to fish and other aquatic animals. This dataset relates to the "River water quality trends: nitrogen" measure on the Environmental Indicators, Te taiao Aotearoa website.

Status

Progress Code  
completed

Point Of Contact

Responsible Party  
Organisation Name  
Environmental Reporting, Ministry for the Environment and Statistics New Zealand  
Position Name  
Analyst

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distributor

## Resource Maintenance

### Maintenance Information

#### Maintenance And Update Frequency

##### Maintenance Frequency Code

irregular

## Resource Format

### Format

#### Name

\*.xml

#### Version

Unknown

## Descriptive Keywords

### Keywords

#### Keyword

New Zealand

#### Type

##### Keyword Type Code

theme

### Thesaurus Name

#### Citation

##### Title

ANZLIC Jurisdictions

##### Date

##### Edition

Version 2.1

**Edition Date**

Date

2008-10-29

**Identifier**

Identifier

Code

<http://asdd.ga.gov.au/asdd/profileinfo/anzlic-jurisdic.xml#anzlic-jurisdic>

**Cited Responsible Party**

Responsible Party

Organisation Name

ANZLIC the Spatial Information Council

Role

Role Code

custodian

**Descriptive Keywords**

Keywords

Keyword

WATER

Keyword

WATER-Quality

Type

Keyword Type Code

theme

**Thesaurus Name**

Citation

Title

ANZLIC Search Words

Date

Edition

Version 2.1

Edition Date

Date

2008-05-16

Identifier

Identifier

Code

<http://asdd.ga.gov.au/asdd/profileinfo/anzlic-theme.xml#anzlic->

theme

Cited Responsible Party

Responsible Party

Organisation Name

ANZLIC the Spatial Information Council

Role

Role Code

custodian

Resource Constraints

Legal Constraints

Use Limitation

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Access Constraints

Restriction Code

license

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Restriction Code

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Restriction Code

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Language

eng

Character Set

Character Set Code

utf8

Topic Category Code

environment

Extent

EX\_ Extent

Geographic Element

EX \_ Geographic Description

Identifier

Authority

Citation

Title

ANZMet Lite Country codelist

Date

Edition

Version 1.0

Edition Date

Date

2009-03-31

Identifier

Identifier

Code

<http://asdd.ga.gov.au/asdd/profileinfo/anzlic-country.xml#Country>

Cited Responsible Party

Responsible Party

Organisation Name

ANZLIC the Spatial Information Council

Role

Role Code

custodian

Code

nzl

Extent

EX \_ Extent

Geographic Element

EX \_ Geographic Bounding Box

167.534694771177.881584208-46.3894482934-35.2744930255

Distribution Info

Distribution

Transfer Options

Digital Transfer Options

On Line

Online Resource

Linkage

URL

<https://data.mfe.govt.nz/layer/53319-nitratenitrogen-trends-19892013/>

## Data Quality Info

### DQ \_ Data Quality

#### Scope

##### DQ \_ Scope

###### Level

###### Scope Code

dataset

###### Level Description

###### Scope Description

###### Other

dataset

## Lineage

### LI \_ Lineage

#### Statement

Source: National Institute of Water and Atmospheric Research; regional councils Method: Nitrogen is measured in laboratories. Samples are collected from the river at fixed locations once a month, and sent to a laboratory for chemical analysis. NIWA have measured monthly nitrogen consistently at 77 sites along 35 major rivers between 1989 and 2013 enabling changes over time to be calculated. These 35 rivers drain about 50 percent of New Zealand's land area. Trends over shorter time periods can be assessed using regional council data. However, these monitored sites are not representative of the national river network because they tend to be located in more problematic areas. Nitrogen occurs as several forms in the environment. The following forms are reported: – Total Nitrogen (TN) is the sum of all nitrogen found in a river water sample, including organic nitrogen from plant tissue. – Nitrate is highly soluble (dissolves in water) and so can readily be used by plants and algae to help them grow. Because of this solubility it can also leach through soils very easily, particularly where soils are sandy or after heavy rainfall (McDowell et al 2008). Sources include excessive application of inorganic fertilizer, stock urine, septic tanks and leaking sewage systems. It is measured and reported as the elemental nitrogen equivalent, described as nitrate–nitrogen (NO<sub>3</sub>–N). – Ammoniacal nitrogen can be toxic at moderate to high concentrations. Elevated quantities in waterways are primarily from direct pollutant discharges such as untreated effluent. We are unable to reliably estimate trends in ammonia concentration prior to 1995 due to a subsequent change in laboratory procedures. Ammoniacal nitrogen includes readily available forms of ammonia and ammonium. These are collectively reported as the elemental nitrogen equivalent; ammoniacal nitrogen (NH<sub>4</sub>–N). The data was flow–adjusted before trend analysis, to remove the influence of variation in stream flow. Flow adjustment means the reported trends better reflect for the effects of controlling factors other than flow. The accuracy of the data source is of high quality. Reference: McDowell, RW, Houlbrooke, DJ, Muirhead, RW, Müller, K, Shepherd, M, & Cuttle, SP (2008). Grazed pastures and surface water quality. New York: Nova Science Publishers.

## Metadata Constraints

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