

# UPPER HARBOUR REPORTING AREA

Upper Harbour Local Board

# STATE OF AUCKLAND FRESHWATER REPORT CARD

JULY 2014

AREA GRADE

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## QUICK FACTS

THE REPORTING AREA COVERS

**70KM<sup>2</sup>**

REPRESENTING 1.4% OF THE REGION

THE LAND COVER IS A MIX OF URBAN

**(37%)**

PASTORAL VEGETATION AND NATIVE VEGETATION

THE EXTENT OF IMPERVIOUS SURFACE (HARD SURFACES) IS HIGH

**(24%)**

WHEN COMPARED WITH THE REGIONAL AVERAGE OF 9%

## WHAT MAKES UP THIS GRADE?

OVERALL GRADE



WATER QUALITY



FLOW PATTERNS



NUTRIENT CYCLING



HABITAT QUALITY



BIODIVERSITY



The overall grade is made up of five indicators:

**Water quality:** Water samples are tested for temperature, oxygen concentration, turbidity and the levels of pH, ammonia and nutrients (nitrogen and phosphorus). The results of this testing are compared against guidelines for Auckland to produce a water quality index.

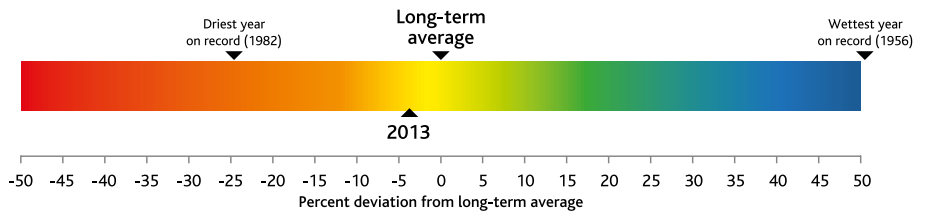
**Flow patterns:** This involves monitoring the hydrologic connectivity of the river to upstream and downstream reaches and the floodplain using the Stream Ecological Valuation (SEV), which is a method of assessing the ecological health of our rivers.

**Nutrient cycling:** This involves monitoring the inputs and processing of minerals, particulates and contaminants using the SEV biogeochemical functions.

**Habitat quality:** This involves monitoring the diversity and quality of habitats using the SEV habitat provision functions.

**Biodiversity:** Field assessments and samples are collected to assess the type and amount of native plants and animals using the SEV biodiversity functions.

Annual Rainfall 2013



Total rainfall in 2013 (1195 mm) was 4.5% less than the long term average (1251 mm). There are 67.7 years of rainfall record from the Whenuapai airbase rain gauge.

## UPPER HARBOUR MONITORING SITES



## MONITORING BACKGROUND AND INTERPRETATION

Auckland Council's State of the Environment (SoE) monitoring programme has been building a record of Auckland's environment for more than 25 years. This information is critical to the effective management of Auckland's natural environment, after all, you can't manage what you don't monitor.

The monitoring programme shows there is a strong relationship between the health of rivers and the type of land cover in the surrounding catchment. Rivers that drain through forested catchments (particularly native forests) typically have excellent

water quality and ecology, while rivers that drain from urban catchments typically have poor water quality and ecology.

The health of Upper Harbour's rivers is considered to be impaired. Urban development has led to a high level of impervious surface in the area, which prevents rainfall from soaking into the ground. This has follow-on effects for rivers in the area leading to high water temperatures, changes to the natural flow patterns and increased pollution from contaminated stormwater.

### WAI CARE UPPER HARBOUR

Wai Care is a water quality education, monitoring and action programme managed by Auckland Council, for schools and community groups in the Auckland region.

The programme aims to educate people about freshwater issues and encourage and facilitate action in the local community, from water quality monitoring to streamside planting and litter clean-ups.

The following table shows achievements of the Wai Care Programme in Upper Harbour during the 2013/2014 financial year.

Achievement	Total Upper Harbour 2013/2014	Total Auckland 2013/2014
Active groups	1	138
Sites monitored	1	142
Monitoring sessions	1	246
Education sessions	2	198
Students involved in education	44	7704
Action events	0	82
People involved in action	0	2274
Native trees planted	0	16,140



Photo: Damselfly larvae

For more information on Wai Care, or to view site data for your area, go to [www.waicare.org.nz](http://www.waicare.org.nz) or call 09 3010101 and ask for Wai Care.

### FIND OUT MORE

This report card is part of a series prepared by the Auckland Council's Research, Investigations and Monitoring Unit, which undertakes monitoring and research to provide information and evidence to inform the council's activities and reporting. Auckland's environment must be healthy and resilient in order

to support life and lifestyle. More report cards can be found at: [aucklandcouncil.govt.nz/stateofauckland](http://aucklandcouncil.govt.nz/stateofauckland). The report card series includes reporting on freshwater, terrestrial, marine, air, soil, capacity for growth, demographics and quality of life.

### GET INVOLVED

Auckland Council provides more than 20 environmental programmes across the region for you to get involved with and improve your local environment.

► For more information: e-mail [monitoring@aucklandcouncil.govt.nz](mailto:monitoring@aucklandcouncil.govt.nz) or call us on 09 301 0101.