

TĀMAKI ESTUARY REPORTING AREA

Includes Howick, Māngere-Ōtāhuhu, Maungakiekie-Tāmaki, Orākei, and Ōtara-Papatoetoe local boards

STATE OF AUCKLAND MARINE REPORT CARD

JULY 2013

AREA GRADE

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QUICK FACTS

WHAT MAKES UP THIS GRADE?

OVERALL GRADE



WATER QUALITY



CONTAMINANTS IN SEDIMENT



ECOLOGY



The overall environmental health grade from A to F is based on the average of the scores for water quality, contaminants in sediment and ecology.

These grades represent an average of the results from the individual sites. Individual site results will vary.



TĀMAKI ESTUARY IS ABOUT 17KM LONG AND COVERS AN AREA OF AROUND 1600HA

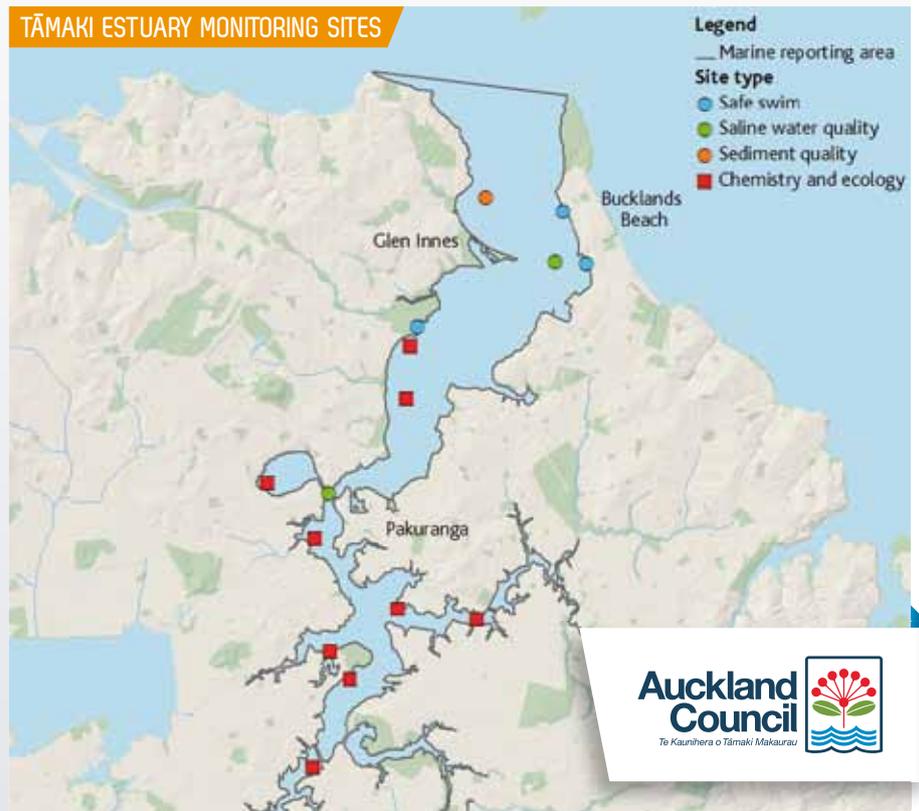
THE TĀMAKI ESTUARY HAS FOUR MAIN ARMS: ŌTĀHUHU, MIDDLEMORE, ŌTARA, AND PAKURANGA CREEK

390 SPECIES HAVE BEEN RECORDED AT INTERTIDAL AREAS OF THE TĀMAKI ESTUARY

THERE ARE A NUMBER OF LOCALISED AREAS OF HIGH CONTAMINATION AND SEDIMENTATION DUE TO THE INDUSTRIAL HISTORY OF THE AREA

OF THE TWO BATHING BEACHES TESTED DURING 2012/13 98% PASSED RECREATIONAL BACTERIA GUIDELINES

TĀMAKI ESTUARY MONITORING SITES



MONITORING BACKGROUND AND INTERPRETATION

Water quality: Results are classified according to the Water Quality Index, which was developed by the Canadian Council of Ministers of the Environment in 2001 and adapted by Auckland Council. Scores are based on the average of the last three years' results.

Contaminants in sediment: Auckland Council tests for zinc, copper and lead every two to five years. Other contaminants such as PAHs (polycyclic aromatic hydrocarbons, by-products of burning fuels) and arsenic are also monitored. Environmental Response Criteria (ERC) are used: green indicates low levels of contaminants, amber indicates some elevation and red indicates relatively high levels (as outlined in *Blueprint for monitoring urban receiving environment*, ARC TP 168, 2004 and ANZECC guidelines)

Ecology: At harbour and estuarine sites, seabed-dwelling (benthic) species are counted and contaminants in sediments and sediment grain size are measured every two to five years, with the most contaminated sites sampled most frequently.

Results are classified according to a five-point health index outlined in *Health of estuarine soft-sediment habitats: continued testing and refinement of state of the environment indicators*, Auckland Council technical report, TR2012/012, which ranges from extremely good to unhealthy with low resilience.

Ecology is also monitored more frequently at selected sites, every two to three months for soft sediment sites and annually for subtidal rocky reefs. There is currently no reporting indicator for reef ecology.

Bathing beach water quality: Tests for microbiological (enterococci) contamination are carried out in summer in line with Ministry for the Environment guidelines. 'Bathing beach water quality' has not been included in the overall score as it relates to human health and is based on a different method of assessment (number of alerts). Individual results for monitored beaches are provided on the Safeswim section of the Auckland Council website.

MONITORING RESULTS



WATER
QUALITY

Marine water quality monitoring began in 1992. The water quality of the Tāmaki Estuary has been ranked as 'poor'. Two sites are monitored, one site was ranked as 'poor' while the second had 'fair' water quality. This water quality grade has decreased from last year due to elevated levels of turbidity (resulting in low water clarity) and bacteria concentrations.



CONTAMINANTS
IN
SEDIMENT

Sediment quality sampling began in 1998. The Tāmaki Estuary has high levels of contaminants (particularly zinc) in its older, densely urbanised and industrialised headwater zones (e.g. Middlemore, Pakuranga, Ōtāhuhu and Panmure). Contaminants lessen with distance from the headwaters and consequently the estuary mouth has lower levels of contaminants.

All four sites sampled for PAHs fell in the green ERC category. Of the 10 sites regularly monitored for metals their ERC status is as follows:

- » Copper: 30% of sites are green, 70% are amber and none are red
- » Lead: 60% of sites are green, 40% are amber and none are red
- » Zinc: 20% are green, 10% are amber and 70% are red.



ECOLOGICAL
HEALTH

Monitoring is largely in the upper parts of the estuary where ecological health is mainly ranked as 'poor' or 'unhealthy'. A number of sites previously ranked as 'poor' are now ranked as 'unhealthy', leading to a lower overall score this year. These sites were previously close to the borders between these two rankings. Sites nearer the mouth of the estuary are not monitored but are likely to have better ecological health.

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 www.aucklandcouncil.govt.nz/stateofauckland. The report card series includes reporting on freshwater, terrestrial, air, marine, soil, demographics and quality of life. For more information, e-mail monitoring@aucklandcouncil.govt.nz or call us on 09 301 0101.

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► **For more information:** on how to get involved, visit www.aucklandcouncil.govt.nz/stateofauckland