

# TAMAKI ESTUARY REPORTING AREA

Includes Howick, Mangere-Otahuhu, Maungakiekie-Tamaki, Orakei, and Otara-Papatoetoe local boards

## STATE OF AUCKLAND MARINE REPORT CARD

JULY 2012

GRADE

D

### QUICK FACTS

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

**THE TAMAKI ESTUARY HAS FOUR MAIN ARMS: OTAHUHU, MIDDLEMORE, OTARA, AND PAKURANGA CREEK**

**390 SPECIES** HAVE BEEN RECORDED AT INTERTIDAL AREAS OF THE TAMAKI ESTUARY

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

ALL WATER QUALITY TESTS CARRIED OUT AT TAMAKI ESTUARY DURING SUMMER 2011/12 **PASSED RECREATIONAL BACTERIA GUIDELINES**

### WHAT MAKES UP THIS GRADE?

#### OVERALL GRADE



#### WATER QUALITY



#### CONTAMINANTS IN SEDIMENT



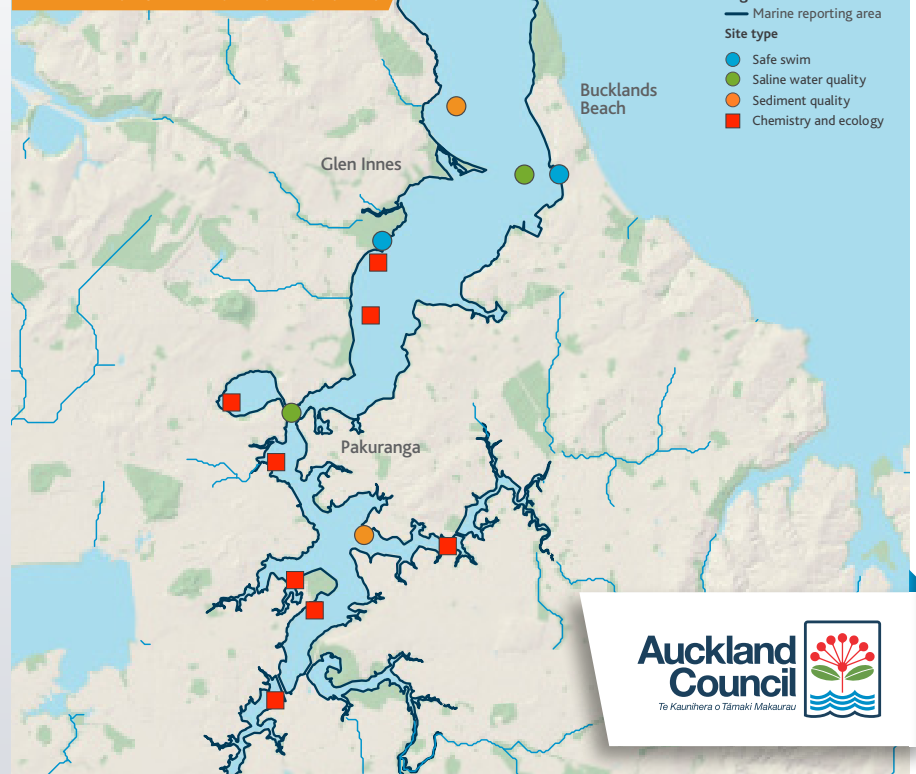
#### ECOLOGY



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.

### TAMAKI ESTUARY MONITORING SITES



## MONITORING BACKGROUND & 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 2-5 years. Other contaminants such as PAHs (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 ARC TP 168 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 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 Tamaki Estuary has been ranked as 'poor'. Two sites are monitored and both had 'poor' water quality. The water in this area consistently has moderate concentrations of suspended sediments and elevated nutrient concentrations.



CONTAMINANTS  
IN SEDIMENT

Sediment quality sampling began in 1998. The Tamaki Estuary has high levels of contaminants (particularly zinc) in its older, densely urbanised and industrialised headwater zones (e.g. Middlemore, Pakuranga, Otahuhu and Panmure). Contaminants lessen with distance 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: 50% of sites are green, 50% are amber and none are red
- » Zinc: 30% are green, none 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. 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](http://www.aucklandcouncil.govt.nz/stateofauckland). The report card series includes reporting on freshwater, terrestrial, air, demographics and quality of life. For more information, e-mail [monitoring@aucklandcouncil.govt.nz](mailto:monitoring@aucklandcouncil.govt.nz) or call us on 09 301 0101.

### 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:** on how to get involved, go to [www.aucklandcouncil.govt.nz/stateofauckland](http://www.aucklandcouncil.govt.nz/stateofauckland)

