

# CENTRAL WAITEMATĀ HARBOUR REPORTING AREA

Includes Albert-Eden, Devonport-Takapuna, Henderson-Massey, Kaipātiki, Orākei, Upper Harbour, Waitematā and Whau local boards

## STATE OF AUCKLAND MARINE REPORT CARD

### WATER QUALITY

F	E	D	C	B	A
---	---	---	---	---	---

### CONTAMINANTS IN SEDIMENT

F	E	D	C	B	A
---	---	---	---	---	---

### ECOLOGY

F	E	D	C	B	A
---	---	---	---	---	---

These grades represent a summary of results from individual sites and are not designed to track trends. Each programme samples at a number of representative sites across Auckland and collects parameters specific to the programme which are amalgamated to provide the grade. More detailed analyses are presented in technical reports available on Knowledge Auckland. See the back page for monitoring results and interpretation. Note that the water quality scores have been assessed using an updated methodology which may result in a change to the grade unrelated to a change in quality.

2018



### QUICK FACTS

MORE THAN **66 NON-NATIVE MARINE SPECIES** HAVE BEEN RECORDED IN THE WAITEMATĀ HARBOUR

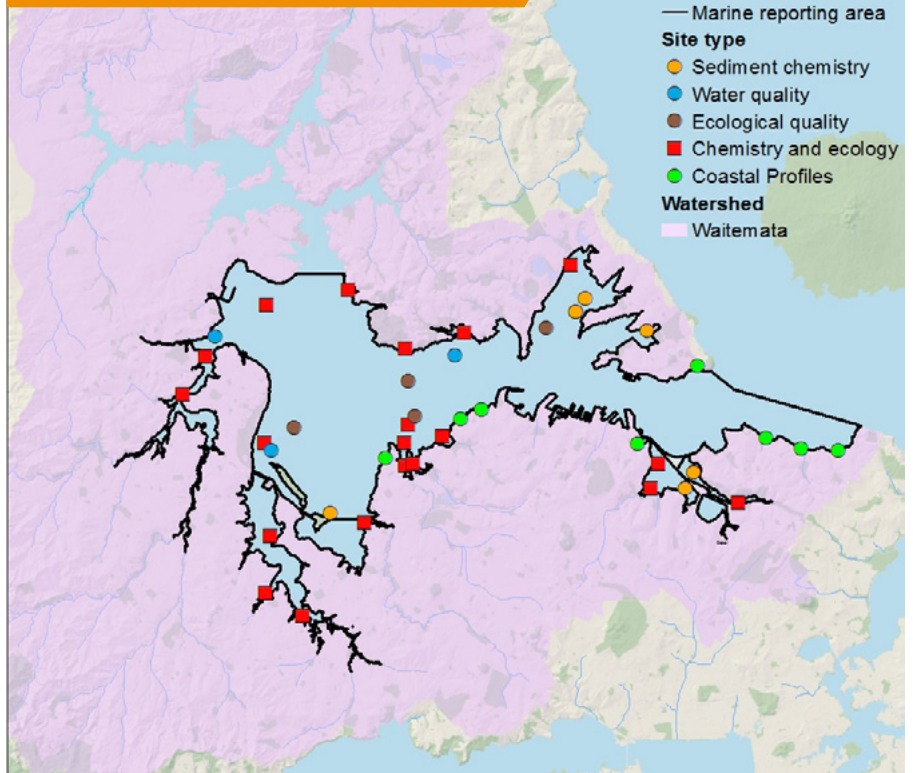
**MEOLA REEF WAS FORMED BY LAVA** FLOWING FROM THE THREE KINGS ERUPTION 20,000 YEARS AGO

**THE HARBOUR'S DEEP NAVIGABLE CHANNELS AND SHELTERED BAYS HELPED TO DETERMINE THE CHOICE OF A SITE FOR NEW ZEALAND'S CAPITAL IN 1840**

POLLEN ISLAND MARINE RESERVE IS LOCATED NEXT TO THE NORTH WESTERN MOTORWAY, AND PROVIDES **RICH FEEDING GROUNDS FOR MANY WADING SEABIRDS**

THE HARBOUR IS A **DROWNED VALLEY SYSTEM** EXTENDING 18 KM WEST FROM THE END OF THE RANGITOTO CHANNEL

### CENTRAL WAITEMATĀ HARBOUR MONITORING SITES



# MONITORING BACKGROUND AND INTERPRETATION

**Water quality:** To measure the health of our marine waters, a comprehensive range of parameters are measured, including nutrients, turbidity, salinity, and pH. Overall water quality is assessed using 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 calculated by comparing average values from the last three years to water quality objectives. The methods used to calculate the scores for 2018 have changed and sites have been split into open water and estuary sites to better reflect the differing water circulation conditions. This more conservative approach means some water quality grades are lower than in previous years due to the change in index rather than a change in water quality. See Technical Report 2018/027 on Knowledge Auckland for more information on the methodology change.

**Contaminants in sediment:** Auckland Council tests for zinc, copper and lead every two to five years. Environmental Response Criteria (ERC) are used: green indicates low levels of contaminants, amber indicates some elevation and red indicates relatively high levels. The most recent results can be found in technical report TR2016/020.

**Ecology:** At selected harbour and estuarine sites, species living in or on intertidal sand flats are counted. Results are classified according to a five-point health index (TR2012/012), which ranges from 'extremely good' to 'unhealthy with low resilience'. Ecology is also monitored more frequently at sentinel sites, every two to three months for soft sediment sites.

**Bathing beach water quality:** Check Safeswim ([safeswim.org.nz](http://safeswim.org.nz)) for live information on water quality and swimming conditions at your favourite swimming spots.

**Warning:** These State of the Environment indicators **do not** measure or indicate food quality or safety; refer to [foodsafety.govt.nz](http://foodsafety.govt.nz) for more information.

## MONITORING RESULTS



WATER  
QUALITY

Marine water quality is sampled at three sites and began in 1991. The water quality of the Central Waitematā Harbour has been ranked as poor. This change is due to a new approach in calculating the Water Quality Index which now separates Open Coast and Estuary sites and fixes the objectives they are compared to (see Technical Report 2018/027). Applying the new index to previous years, the water quality in the Waitematā has remained relatively stable.



CONTAMINANTS  
IN SEDIMENT

Sediment quality sampling began in 1998. The Central Waitematā Harbour is widely contaminated. The highest concentrations of metals are present at muddy estuarine sites along the southern shores of Central Waitematā Harbour which receive runoff from older urban and industrial catchments. Of the 21 sites regularly monitored for metals their ERC status is as follows:

- Copper: 62% of sites are green, 33% are amber and 5% are red (no change from 2016)
- Lead: 62% of sites are green, 24% are amber and 14% are red (no change from 2016)
- Zinc: 57% of sites are green, 14% are amber and 29% are red (no change from 2016)



ECOLOGICAL  
HEALTH

There was very little change in individual site scores from the 2016 report card. Ecological health varies greatly across the harbour with some sites ranked as 'good'. However, the majority of sites are 'moderate', 'poor' or 'unhealthy'. Ongoing, detailed monitoring of ecological communities has shown most sites exhibit moderate variability relating to natural cyclic patterns in abundance. Monitoring at Meola Reef shows there to be little difference in the number and abundance of species overall, however some slow changes are associated with noted increases in the kelp *Ecklonia radiata* cover. Other changes include the presence of invasive species including the algae *Undaria pinnatifida*, the sea squirt *Styella clava*, and the Mediterranean fanworm *Sabella spallanzanii*.

### FIND OUT MORE

This report card is part of a series prepared by Auckland Council's Research and Evaluation Unit, which undertakes monitoring and research to provide information and evidence to inform the council's activities and reporting. More report cards can be found at: [aucklandcouncil.govt.nz/environment](http://aucklandcouncil.govt.nz/environment). The report card series includes reporting on freshwater, terrestrial, marine, air, soil, capacity for growth, demographics and quality of life.

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

### GET INVOLVED

Auckland Council provides more than 20 environmental programmes across the region that you can get involved in. To find out more on how you can help visit: [aucklandcouncil.govt.nz](http://aucklandcouncil.govt.nz)