

Bathing Suitability Report 2006/2007



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*Working with our communities for a better environment
E mahi ngatahi e pai ake ai te taiao*



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Executive Summary

Environment Bay of Plenty annually undertakes a water quality survey of popular recreational waters over the warmer months. The survey serves to monitor and identify the risk to public health from faecal contamination within waterways popular for recreational activities. Monitoring information can then be used by public health services, territorial authorities and the public to assess the risk of using these waters, as well as providing information on the potential or existing risk.

Agencies involved in the monitoring and reporting on recreational waters are the regional council, territorial authorities and District Health Boards and Medical Officer of Health. The survey monitors aspects of the water quality of water bodies in line with the Regional Policy Strategy, the Regional Coastal Plan, Regional Water and Land Plan, and Ten Year Plan. It also provides a basis to assess the effects of discrete discharges and diffuse run-off from various land-uses.

The main objective of this report is to examine and report on the suitability of the 27 freshwater, 30 lake and 46 marine sites in the Bay of Plenty region for contact recreation.

A three tiered management framework has been adopted to help signal when recreational waters are potentially at risk to users. The system uses the colours green (safe mode), orange (cautionary mode) and red (unsafe mode) to denote the risk to users. Two indicator bacteria are used in this capacity in recreational waters, these are:

- Freshwaters – *Escherichia coli* (E.coli).
- Marine waters – Enterococci.

The 2006/2007 bathing surveillance programme has shown that generally the recreational water quality around the popular sites of Bay of Plenty is good.

Open marine sites displayed very good water quality, with only 4 samples above the orange alert mode out of the 245 open marine samples taken over the 2006/2007 season. Estuarine sites showed a similar level of water quality to open marine sites.

Of the 28 river sites monitored 4 have median levels above the MfE/MoH Microbiological Water Quality Guideline orange alert mode and 2 sites have median levels above the red action mode. Only 5 of the 22 lakes sites monitored over 2006/2007 have samples in either orange or red alert mode.

Shellfish monitoring results over the past few years is also reported.

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Chapter 1: Introduction

Environment Bay of Plenty annually undertakes a water quality survey of popular recreational waters over the warmer months. The survey serves to monitor and identify the risk to public health from faecal contamination within waterways popular for recreational activities. Monitoring information can then be used by public health services, territorial authorities and the public to assess the risk to the public of bathing in these waters..

The Ten Year Plan 2006-2016 has a performance target of 100% of Bay of Plenty harbours, estuaries and beaches meeting the contact recreation and shellfish gathering standards and that all the regions streams and drains are suitable for bathing. There are a number of key Plans that have objectives based on a contact recreation standard, these are:

- The Operative On-site Effluent Treatment Regional Plan.
- The Proposed Regional Water and Land Plan.
- The Coastal Environmental Plan.
- Regional Policy Statement.

An assessment of risk to recreational water users has been presented in previous Bathing Grading Reports. This report summarises the annual bathing survey monitoring results for the 2006/2007 season and also presents recent shellfish results.

1.1 Legislative Framework and Responsibilities

Agencies involved in the monitoring and reporting on recreational waters are the regional council, territorial authorities and District Health Boards and Medical Officer of Health. There is no legislation dictating which agency is responsible for recreational bathing monitoring, but under the Health Act (1956) and the Resource Management Act (1991) local agencies and the health authority have defined responsibilities. Based on these responsibilities, the Microbiological Water Quality Guidelines for Marine and Freshwater Recreational Areas (2003) provide a recommended framework for roles and responsibilities of the agencies involved in recreational water quality monitoring. Based on this framework a protocol for monitoring and reporting has been developed and is for the most part being implemented (see Appendix I).

1.2 Recreational Water Quality Objectives

The objectives of the Bay of Plenty Regional Council's recreational water quality monitoring programme are to:

- Assess the suitability of the 27 freshwater, 30 lake and 46 marine sites in the Bay of Plenty region for contact recreation.
- Assist in safeguarding the life-supporting capacity of the water, including public health.
- Provide a mechanism to determine the effectiveness of regional plans.
- Provide information for State of the Environment monitoring requirements.
- To assist in monitoring areas of poor water quality to help identify causes so remedial action can be initiated.
- Monitor the suitability of shellfish for human consumption.

Site locations are displayed on the five maps below.



Map 1 Bathing surveillance sites, Eastern Bay of Plenty.



Map 2 Bathing surveillance sites, South-eastern Bay of Plenty.

Chapter 2: Microbiological Water Quality Indicators and Guidelines

If human or animal excreta finds its way into recreational waters there is a risk that recreational water users will be exposed to a diverse range of pathogenic (disease causing) micro-organisms. A variety of organisms are present in excreta such as viruses, bacteria, protozoa (single cell organisms), and helminths (nematodes). These can reach recreational waters via a variety of pathways and in variable concentrations.

Impacts of pathogenic micro-organisms on human health are most commonly manifest as gastro-enteritis, but other common illnesses include respiratory symptoms and skin rashes. Serious illness can also be attributed to infection from pathogens contained in waters, for example, Hepatitis A, Giardiasis, Cryptosporidiosis, Campylobacteriosis, and Salmonellosis (MfE/MoH, 2003).

As it is difficult and impractical to measure all potential pathogenic micro-organisms that may be contained in recreational waters indicator micro-organisms are instead measured. Indicator micro-organisms give an indirect measure of pathogen levels. The bacteriological indicators chosen are associated with the gut of warm blooded animals and are common in excreta. While these indicator bacteria are not generally harmful themselves, they do indicate the presence of harmful pathogens. Two indicator bacteria are used in this capacity in recreational waters, these are:

- Freshwaters – Escherichia coli (E.coli).
- Marine waters – Enterococci.

The use of these two indicators is stipulated in the Microbiological Water Quality Guidelines for Marine and Freshwater Recreational Areas, 2003 (The Guidelines) written by the Ministry for the Environment and The Ministry for Health (MfE/MoH). Studies relating illness to indicator bacterial levels have been used to develop guideline levels for which a tolerable risk to healthy people is established. The Guidelines provide trigger levels which can be used by water managers and the public to assess the potential risk of using recreational waters. Single sample results can be compared to guideline values to help determine if a health alert or other action should be implemented.

Comparison of survey results with the guidelines over the bathing season provides water managers with a tool for water quality assessment to be used in conjunction with beach grades. Beach grading provides an analysis of the suitability of recreation over time using combined information on microbiological bathing survey results and catchment characteristics.

A three tiered management framework has been adopted to help signal when recreational waters are potentially at risk to users. The system uses the colours green (safe mode), orange (cautionary mode) and red (unsafe mode) to denote the risk to users. The indicator bacteria levels and management responses to these different modes are listed in Table 1.

Table 1 Surveillance, Alert and Action levels for fresh and marine waters, (MfE/MoH, 2003).

Mode	Guideline - Freshwaters (<i>E.coli</i> count in colony forming units per 100mL)	Recommended Management Response
Green/Surveillance	Single sample ≤ 260	Routine monitoring
Orange/Alert	Single sample > 260 & ≤ 550	Increased monitoring, identify possible sources
Red/Action	Single sample > 550	Public warnings, increased monitoring, source investigation

Mode	Guideline - Marine (Enterococci count in colony forming units per 100mL)	Recommended Management Response
Green/Surveillance	Single sample ≤ 140	Routine monitoring
Orange/Alert	Single sample > 140 & ≤ 280	Increased monitoring, identify possible sources
Red/Action	Two consecutive single samples > 280	Public warnings, increased monitoring, source investigation

Surveillance mode indicates there is an acceptable risk to recreational water users. Should waters be found to be in alert mode then there is an increased risk of illness if contact is made with recreational waters. Action mode indicates waters are of an unacceptable health risk to recreational water users. In such a case the public health authority will make a decision on warning the public of the risk and in conjunction with local authorities issue health warnings.

Use of the Guidelines and issuing of health warnings will be dependant on the circumstances surrounding any contamination event.

Chapter 3: 2006/2007 Bathing Season

3.1 Surveillance monitoring

Before the start of the bathing monitoring season, a plan of sampling sites was formulated based on high use bathing locations, bathing locations at risk from potential contaminations and available resources for monitoring. Plans were circulated to Toi Te Ora Public Health and territorial authorities for comment and finalised based on feedback received.

Monitoring of the 2006/2007 bathing season started on 9 October 2006 and ran until 16 March 2007. Approximately 80 sites around the region were monitored with sites sampled weekly or once every two weeks.

Sampling occurred between 8am and 6pm and samples were collected in sterilised polypropylene containers at a depth of greater than 15 centimetres below the surface in waters approximately 0.5 metres deep. Samples are stored in a refrigerated container and returned to laboratory for same day analysis for indicator bacteria.

After a 24 hour analysis period results for monitoring are received and are updated on the Environment Bay of Plenty website:

<http://w3.ebop.int:8008/Water/BathingStatus/Swimming-water-quality-.asp>

Regular media releases also help keep the public informed of the situation with regards to bathing water quality. Examples of these can be found in Appendix II and are regularly done in conjunction with Toi Te Ora Public Health.

If orange or red mode (see Chapter 2) are flagged by results these results are directly communicated to Toi Te Ora Public Health and the relevant territorial authority. Follow-up sampling then occurs within a 24 hour period. Should a water quality problem be found to be recurring Toi Te Ora Public Health have the responsibility to decide if a public warning needs to be issued. If a warning is required Toi Te Ora Public Health will initiate media releases and inform the respective territorial authority that warning signs need posting and further monitoring required. Environment Bay of Plenty assists in these tasks if possible.

3.2 Results

3.2.1 Freshwater sites

Of the 28 freshwater sites monitored 20 were monitored weekly and the others every 2 weeks. Figure 1 displays the range of *E.coli* monitored at each site, median *E.coli* levels, the interquartile range, and outliers/extremes.

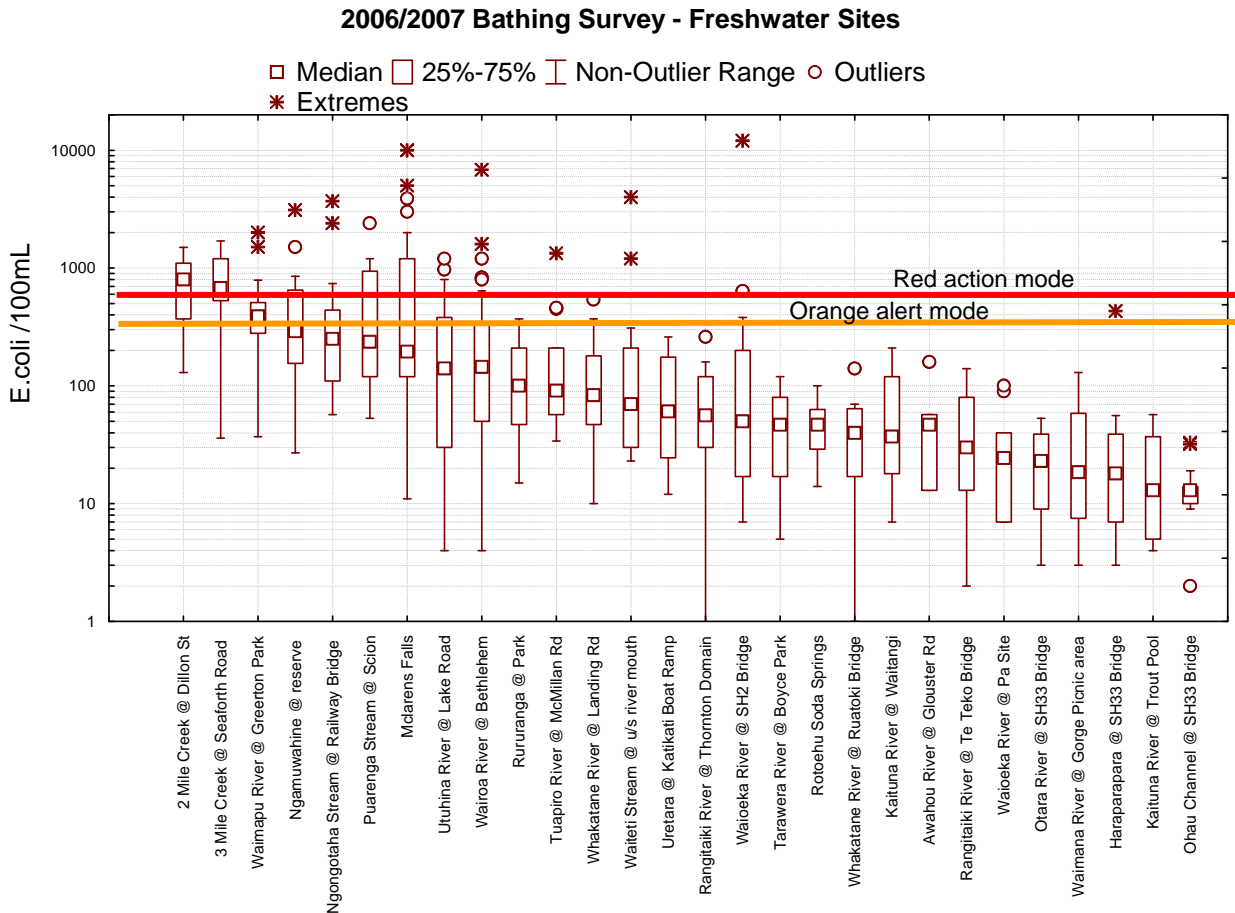


Figure 1 Box-whisker plots of *E.coli* data from the 2006/2007 bathing season, River sites.

Of the 28 river sites monitored 4 have median levels above the MfE/MoH Guideline orange alert mode and 2 sites have median levels above the red action mode. 15 sites were in orange alert mode at some time over the 2006/2007 bathing surveillance season, although 18 sites had 75% of samples under the orange alert mode.

3.2.2 Lake Sites

Of the 22 lakes sites monitored over the 2006/2007 only 5 sites has samples in either orange or red alert mode (Figure 2). All sites had a median *E.coli* concentration below 50 colony forming units (cfu)/100mL, with sites on lakes Okareka, Rotorua, and Rotoiti generally having the highest concentrations.

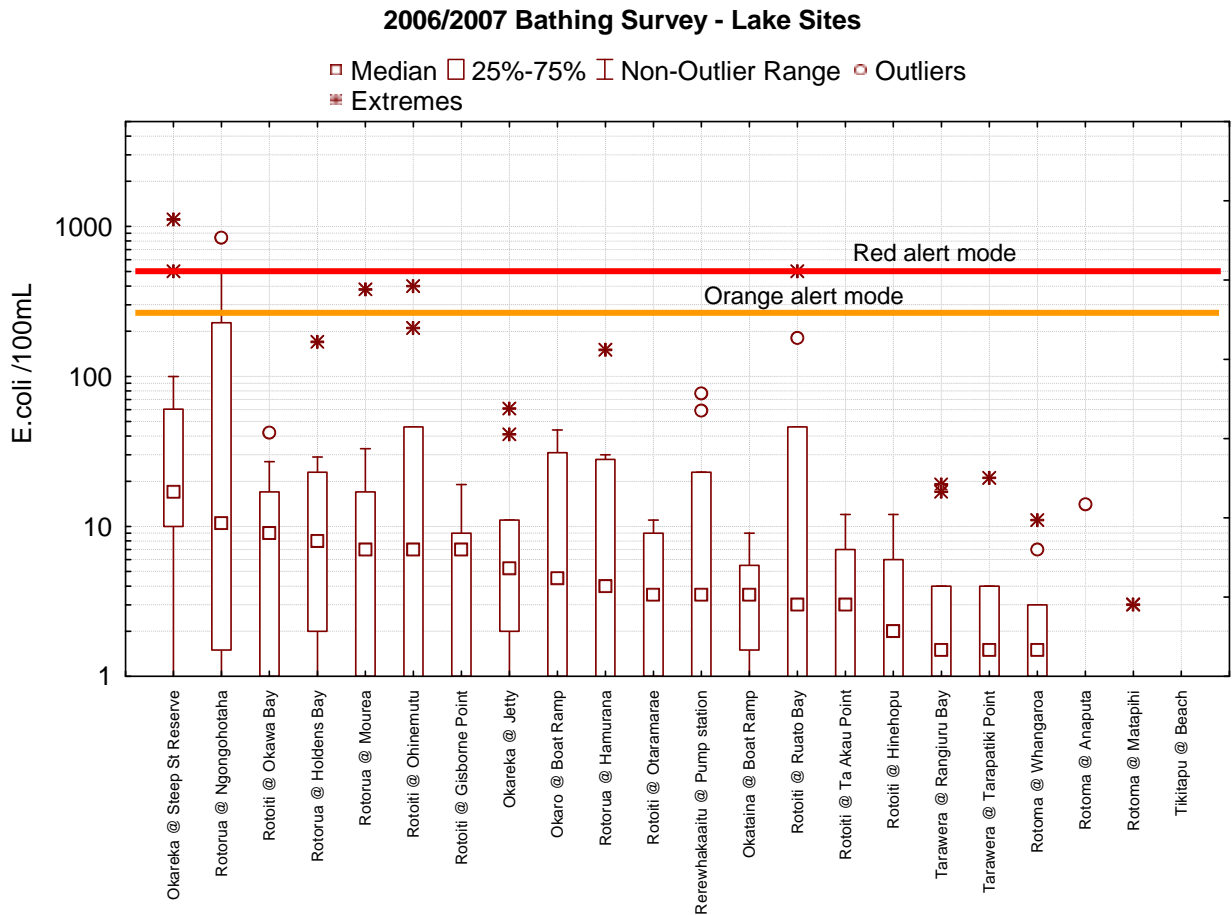


Figure 2 Box-whisker plots of E.coli data from the 2006/2007 bathing season, Lake Sites.

3.2.3 Marine Sites

Over the 2006/2007 bathing season 4 orange alert mode samples were registered over the 19 open marine sites monitored (Figure 3). No red alert modes were triggered over the season, although single samples at Ohope beach surf club and Otawairere were above the trigger level for red alert mode.

Figure 4 displays the enterococci data range for the 17 estuary sites monitored over 2006/2007. 9 of the 17 sites reached orange alert mode over the 2006/2007 bathing season. One red alert mode event occurred at Pilot Bay, Tauranga Harbour and this lasted several days. These results are displayed as extreme outliers in the box-whisker plot (Figure 4).

Median enterococci concentrations for both marine and estuarine sites are below 50 cfu/100mL and for all sites the 75 percentile figures are below the orange alert mode.

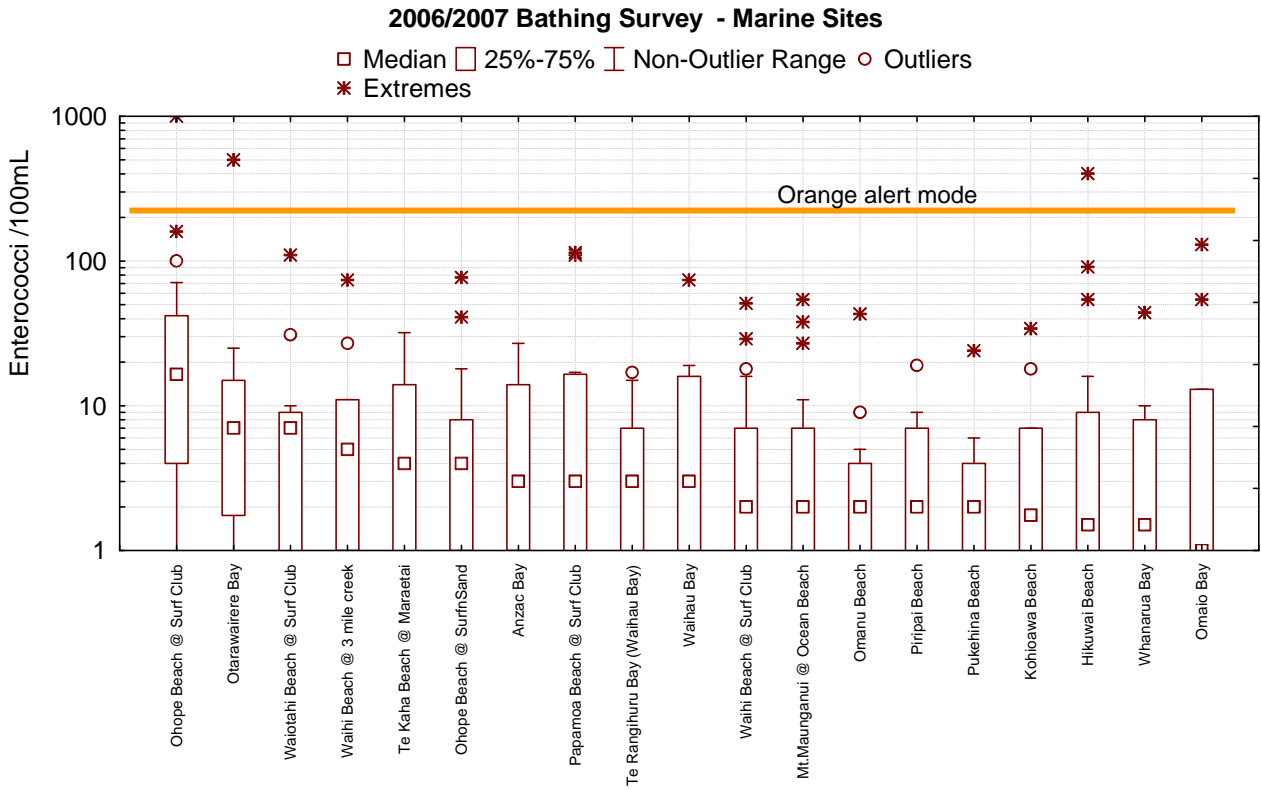


Figure 3 Box-whisker plots of Enterococci data from the 2006/2007 bathing season, marine sites.

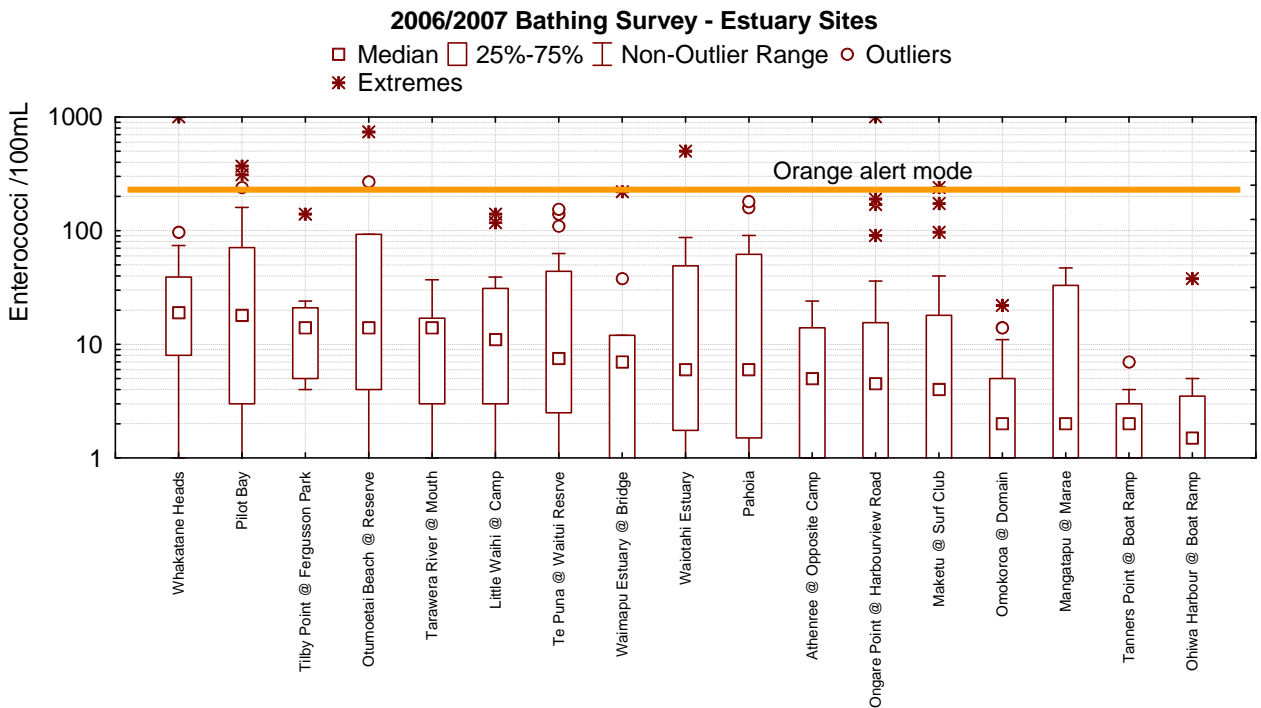


Figure 4 Box-whisker plots of Enterococci data from the 2006/2007 bathing season, estuarine sites.

3.2.4 Shellfish

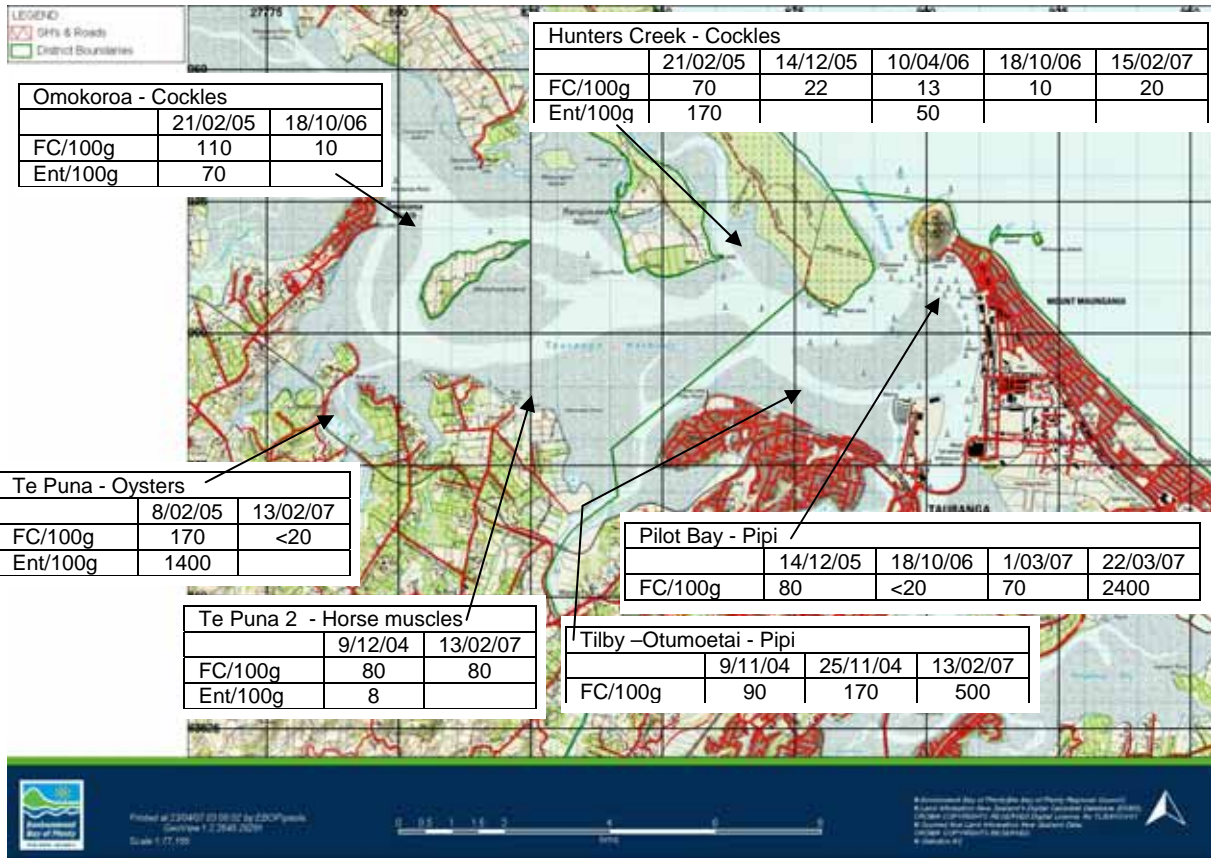
Shellfish samples taken from Bay of Plenty estuaries have been analysed for bacterial indicators. Results from 2003 to 2007 are presented in tables attached to location of sampling in the following maps. Samples are analysed for faecal coliforms per 100g of flesh and in some cases enterococci analyses is also undertaken as enterococci is the indicator organism used for marine bathing surveys.



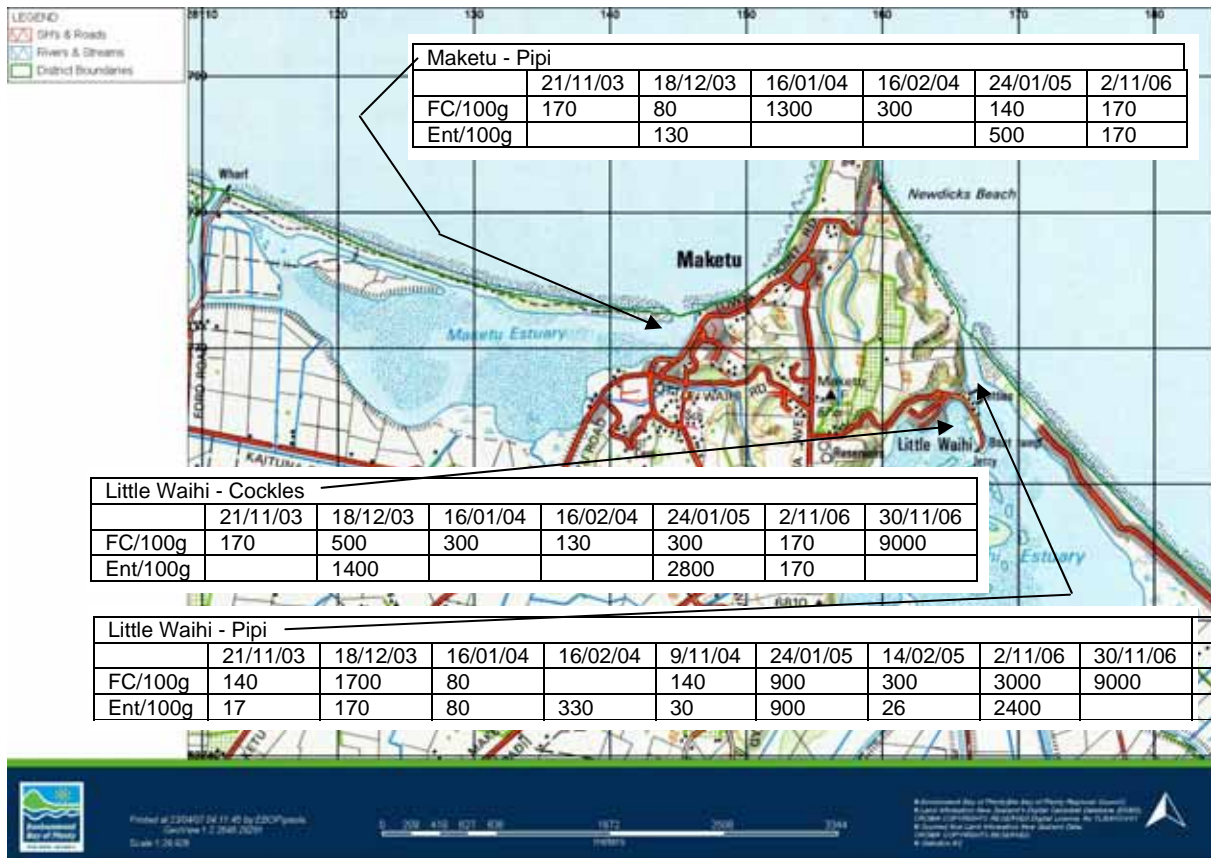
Map 5 Shellfish monitoring results, North Tauranga Harbour.

The standard used for shellfish quality for consumption is based on the Ministry of Health’s Microbiological Reference Criteria for Food (1995). This standard is listed in the thirteenth schedule of the Regional Coastal Environment Plan. To comply with the standard faecal coliform levels in the flesh sample should be less than 330MPN/100g (MPN=mean probable number), and levels from 230 to 330MPN/100g are marginally acceptable.

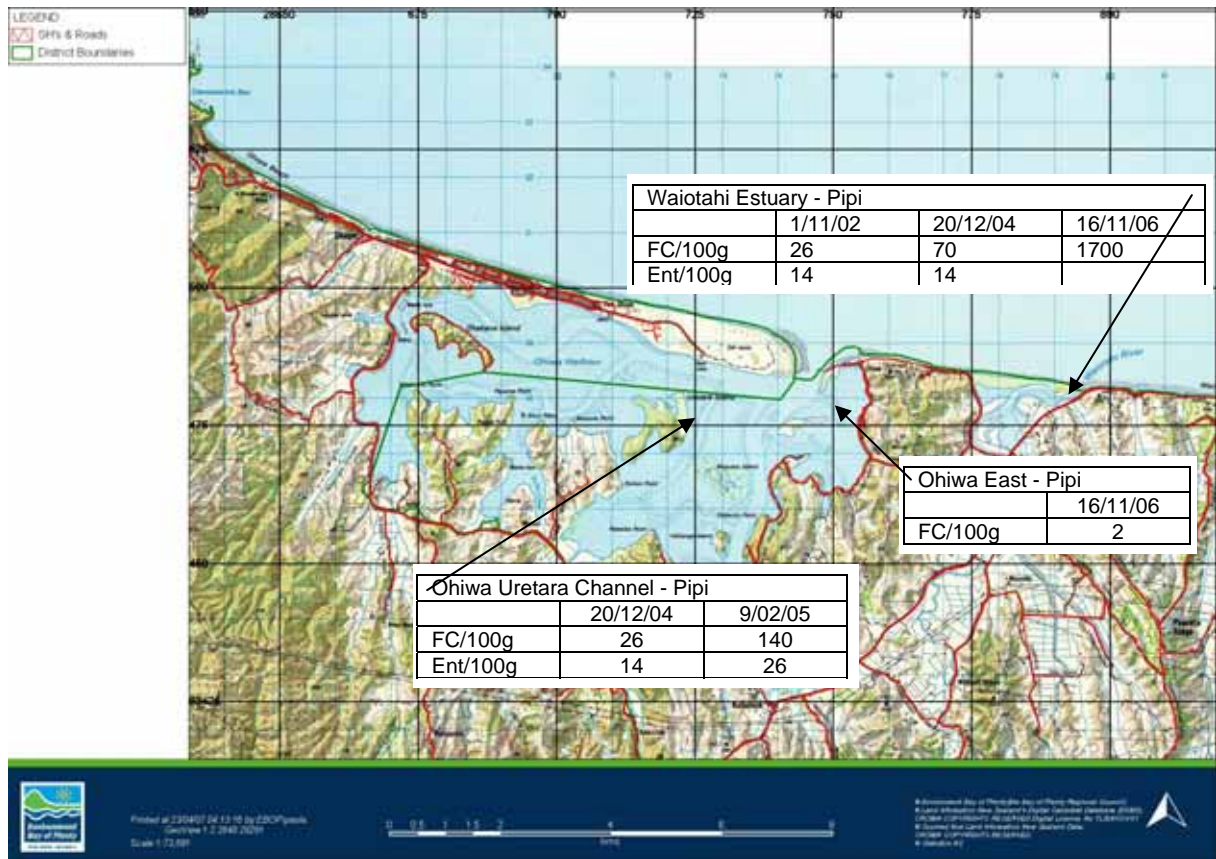
Faecal coliform levels exceeding this standard have occurred on several occasions in different locations over the past 4 monitoring seasons. Waihi Beach tuatua had elevated faecal coliforms in the summer of 2004/2004 from a sample taken adjacent to 3 Mile Creek (Map 5). Pipi sampled opposite Pilot Bay and in between Otumoetai and Tilby Point have simultaneously experienced elevated levels in March 2007. There was a sewage spill to the Waikareao Estuary a week before sampling, however the spill was minor and is unlikely to have had effects in the harbour.



Map 6 Shellfish monitoring results, South Tauranga Harbour.



Map 7 Shellfish monitoring results, Maketu and Little Waihi Estuaries.



Map 8 Shellfish monitoring results, Ohiwa Harbour and Waiotahi Estuary.

Little Waihi and Maketu both have experienced elevated levels over the past few years and this can often be attributed to rainfall events concentrating bacterial loads within the estuaries.

Waiotahi estuary has shown a similar response of elevated faecal coliforms in shellfish flesh samples after a rainfall event. Ohiwa Harbour has displayed good shellfish quality although relatively few samples have been taken.

Chapter 4: Discussion

4.1 Bathing water quality

The 2006/2007 bathing surveillance programme has shown that generally the recreational water quality around the popular sites of Bay of Plenty is good.

Open marine sites displayed very good water quality, with only 4 samples above the orange alert mode out of the 245 taken over the 2006/2007 season. Ohope beach near the surf club and Otarawairere had the highest median enterococci concentrations. Previous investigations at these two sites have found sources of enterococci difficult to isolate. The Whakatane River is likely to contribute some enterococci. Large numbers of seagulls that congregate at Ohope Beach may also contribute to occasional high levels.

Estuarine sites showed a similar level of water quality to open marine sites. Whakatane Heads river estuary had only one result above the recommended guidelines for contact recreation. No rainfall event occurred around the time of this exceedance. It remains unknown if the sample was a result of a discharge or other phenomenon, and it is interesting to note that Ohope Beach experienced a similar result that day.

Pilot Bay was the only harbour site to reach the marine red alert level (2 consecutive samples over 280 enterococci/100mL) over the 2006/2007 season. A pollution event occurred in this location in late January of 2007 (see section 4.1.1 for more details).

Recreational water quality was good for most lake sites. Sites at Lake Okareka and Lake Rotorua displayed the worst bathing water quality over the 2006/2007 season. The site at Steep Street Reserve in the Okareka township had two consecutive samples above the red alert level. Causes of this contamination have not been linked to rainfall. Potential sources are water fowl and septic tank effluent.

Almost 25 percent of samples taken at Ngongotaha have been in the orange alert mode. Figure 4.1 shows that elevated results are experienced after rainfall events which increase the flow in the Ngongotaha streams and leads to rises in lake bacterial concentrations. In mid March 2007, sampling found elevated *E.coli* concentrations in Lake Rotorua at Ngongotaha just before peak flow levels had occurred, with *E.coli* in the stream being elevated above the norm. This may indicate that concentrations elevate at the start of a rainfall event, increasing ahead of river level rise.

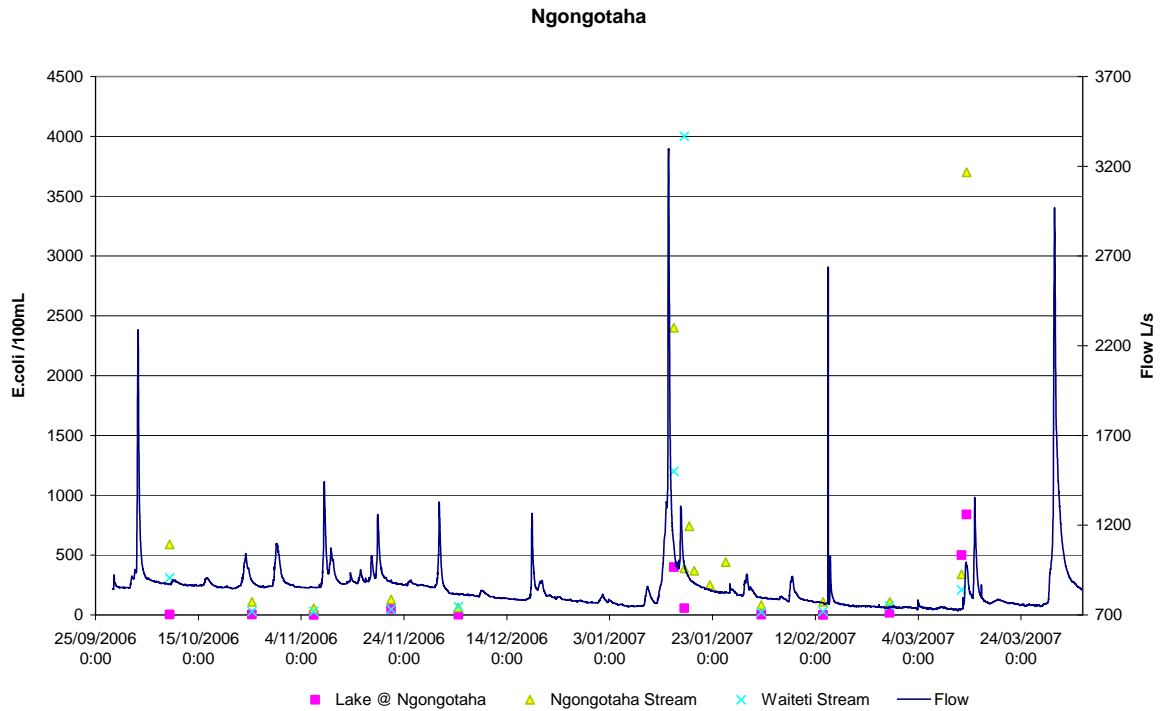


Figure 4.1 *E.coli* results from Ngongotaha stream and lake sites and flow in the Ngongotaha Stream.

The pattern of faecal loading is likely to be similar for many of the rivers and streams in the Bay of Plenty, and indeed New Zealand. Sampling shows that the recommendation to not swim in rivers 48 hours after a rainfall event is well founded. This message, as well as being placed on the Environment Bay of Plenty website, is regularly placed in Bay of Plenty media (see Appendix II).

Other rivers monitored over the 2006/2007 season also experienced elevated *E.coli* concentrations as a result of rainfall. However, streams such as 3 Mile Creek that have a very low flow and a flat gradient, build up a reservoir of bacteria in muddy sediments and can be consistently above the recommended guidelines for recreational water quality.

One river site, that although having a median *E.coli* concentration below the orange alert mode, still had many samples taken above the red alert mode. McLaren Falls is fed by tributaries of the Wairoa River, and has a history of elevated bacterial levels after rainfall events. Rainfall will often occur over 4 or 5 days, sometimes longer. Figure 4.2 shows that elevated *E.coli* levels generally occur after larger or sustained events, with the exception of elevated *E.coli* toward the end of October 2006. This is complicated by spilling from McLaren Lake which has the potential to add a large volume of water to the Wairoa River at intermittent periods not necessarily coinciding with rainfall events.

An event analysis has been undertaken using the Waipapa rainfall data and is displayed in Figure 4.3. The analysis is based on 15 events that occurred over the period November 2003 to beginning of 2007. It shows that *E.coli* levels on average do not fall below the recommended contact recreation guideline for 6 or more days from the start of the event. However, as mentioned above, many of these events persist for several days and may not reach peak rainfall till 2 or 3 days into the rainfall period. As such, the recommendation not to swim 48 hours after rainfall should be adhered to as a minimum for this site.

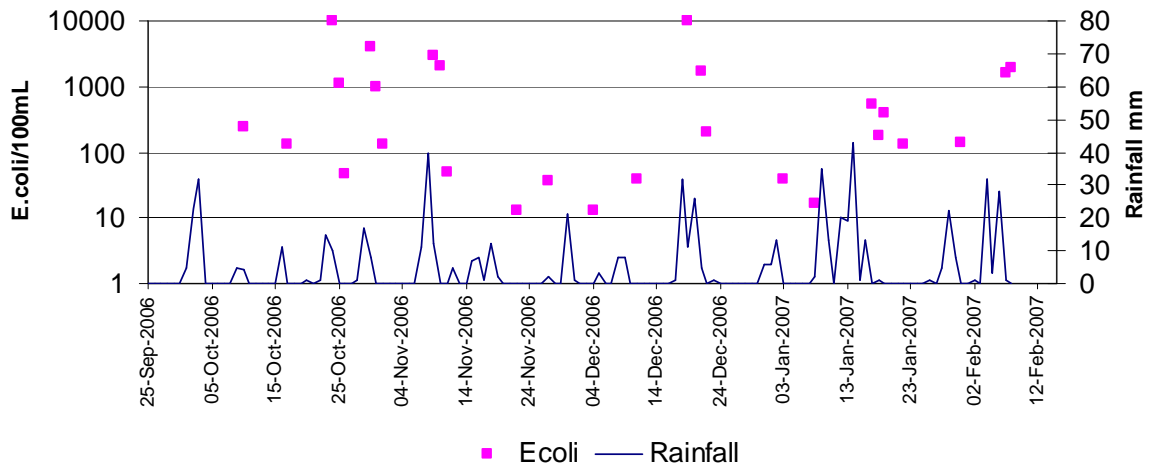


Figure 4.2 E.coli results from Mclarens Falls and Rainfall measured at Waipapa.

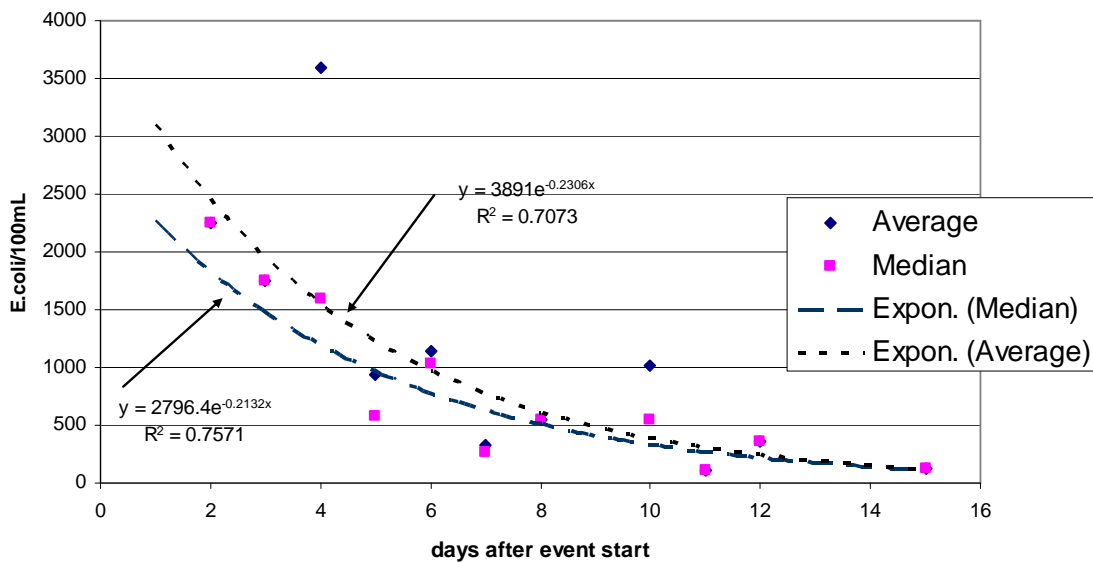


Figure 4.3 Rainfall event analysis of E.coli concentrations at Mclarens Falls, 2003 to 2007.

No direct source of indicator bacteria has been identified and it is likely that there are multiple faecal contaminant sources within the catchment. Monitoring above Mclarens Falls on the Mangakarengorengo and Ngamuwahine tributaries show good correlations of E.coli data with Mclarens Falls data (Figure 4.4). The stronger correlation is with the Mangakarengorengo and this may be because of the greater flow in this tributary. The correlations suggest that both sub-catchments contribute strongly to the E.coli concentrations found at Mclarens Falls.

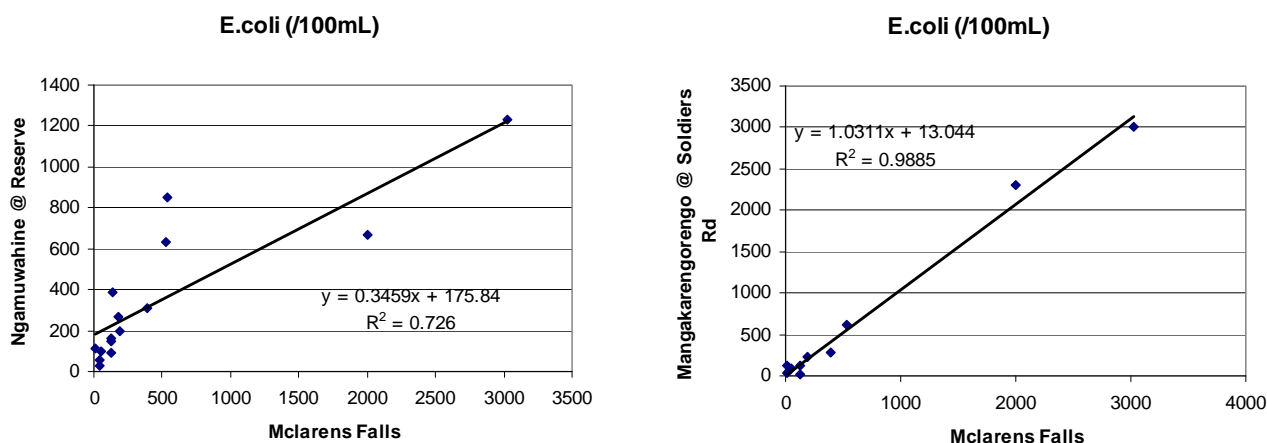


Figure 4.4 Correlation of *E.coli* concentrations measured at Mclaren Falls and upstream sites, 2006/2007 season.

4.1.1 Pilot Bay Contamination Event

Towards the end of January 2007 routine monitoring picked up an enterococci concentration of 310 enterococci/100mL at Pilot Bay. Monitoring the next day found a similar concentration, elevating the alert mode to red and prompting Toi Te Ora Public Health to look at alerting the public to contamination in Pilot Bay. A source investigation was started by Tauranga City Council and Environment Bay of Plenty.

No land based contamination sources were discovered, however there was a public perception that the contamination was coming from a stormwater pipe that was discharging into Pilot Bay. The water was predominantly from dewatering of construction sites in Mount Maunganui and was being discharged to stormwater after retention in settling chambers. The water tested from the sites and the stormwater discharge showed little bacterial content, but it did at times have a sulphurous odour. This was due to being pumped from the anaerobic zone in the ground.

Indicator bacteria levels returned to levels considered safe for contact recreation within five days of the first sample being taken. No source was discovered. There were a number of large vessels which entered the port at the time including a large passenger vessel. Large vessels generally have disinfection systems and are meant to only release effluent at sea. It seems unlikely that contamination came from a land based source although it can not be ruled out, more likely is that contamination was derived from a vessel in the harbour.

4.2 Conclusion

The 2006/2007 bathing season showed open marine, estuarine and lake sites to be suitable for contact recreational pursuits. Most river sites monitored are also suitable for contact recreational pursuits, but several sites have been shown to exceed the recommended microbiological water quality guidelines.

Exceedances generally occur after rainfall events and analyses of such events indicate that contact recreational users should stay out of the water for a minimum of 48 hours. One contamination event not generated by a rainfall event occurred at Pilot Bay, Mount Maunganui. This event highlighted that the monitoring programme is working well to detect such an event at a high user beach and that the mechanisms in place to alert public health and territorial authorities function well.

Source identification of faecal contamination in some catchments has shown that contamination is multi-sourced. Consistent localised or point contributions are seldom identified. This indicates that contamination is predominantly non-point source and further definition of contributions may be required to target areas where non-point source contamination may be minimised.

Chapter 5: Recommendations

The current recreational waters surveillance programme is working well in providing the community and public agencies with information to help protect public health. The programme does not meet the recommended MfE/MoH sampling frequency for all sites (20 per season, 100 over five years). However, the current monitoring programme is prioritising high risk sites to achieve the minimum recommended sampling frequency, after which time other sites can be then be targeted for greater sampling frequencies. Therefore the next years programme repeats the 2006/2007 programme.

Once the 2007/2008 season is complete there should be five years of data to fulfil grading requirements on many key sites. The focus can then move to other sites to collect the requisite data requirements.

The surveillance programme has identified several sites that experience faecal contamination above recommended water quality guideline concentrations on a regular basis. While some effort to identify contaminant sources has been undertaken at specific sites, other sites require further catchment surveys to further identify potential contamination sources. These sites are riverine sites: 2 Mile and 3 Mile Creeks (Waihi Beach); Upper Wairoa catchment; lower Wairoa catchment; Ngongotaha Stream; Puarenga Stream; Utuhina River; and Steep Street Reserve, Lake Okareka (Lake Rotorua catchment).

Further investigation, into contaminant sources in these catchments will be conducted, and the information generated will be used to help target contaminant reduction in the respective catchments.

Chapter 6: References

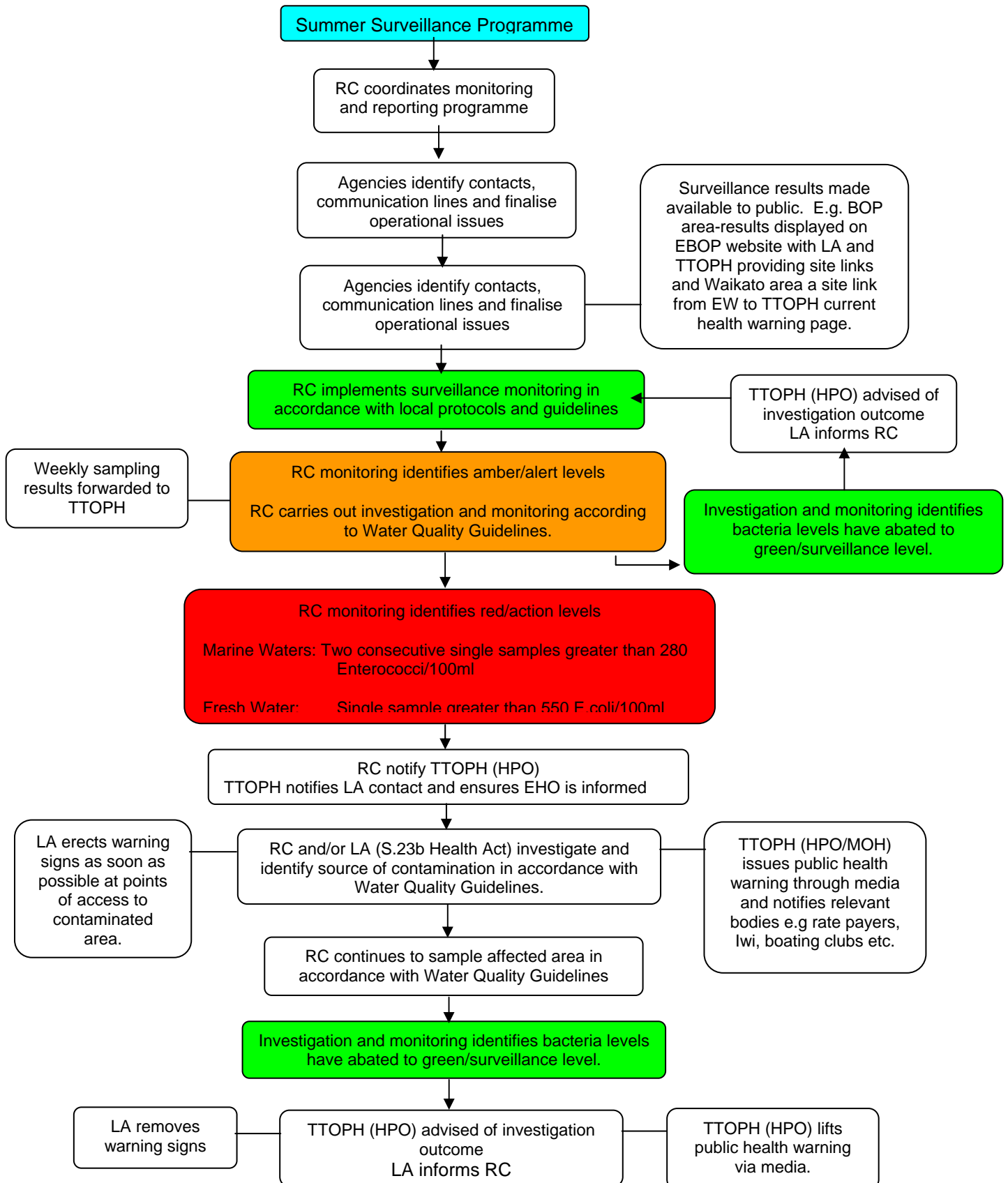
Scholes, Paul (2006): Bathing Grading Report. Environment Bay of Plenty, Environmental Publication 2006/07.

Appendices

- Appendix 1 Microbiological Recreational and Shellfish Gathering Water Quality Protocol¹
- Appendix 2 Media Releases on Health Warnings

¹ Flow diagram from Toi Te Ora Public Health

Appendix 1 – Microbiological Recreational and Shellfish Gathering Water Quality Protocol



Appendix 2 – Media Releases on Health Warnings

Health warnings – what you need to know

Summer water sampling has prompted a reminder to Bay residents to keep an eye on where they're taking the plunge. Over the last four years the Wairoa River has had medium to high levels of contamination more than 25 percent of the time. Living in an area which is a mixed urban and agricultural/horticultural environment means water quality is more likely to be an issue in our beaches, lakes, rivers and waterways. Here are the facts to help keep you safe.

What's a public health warning?

A public health warning is issued to advise the public that a recreational area is contaminated and is therefore more likely to cause illness. It is not a ban; a warning is made so people can make their own decisions. Health warnings are issued by the Medical Officer of Health employed by Toi Te Ora – Public Health.

Why is a public health warning issued?

Disease-causing bugs (called pathogens) can survive for hours and sometimes days in our marine or freshwater environment. Every time we come into contact with waters contaminated with human and animal faeces, we're exposed to these bugs and risk getting sick.

Will I get sick if I come into contact with contaminated recreational water?

You may suffer 'tummy bug' symptoms (diarrhoea and sometimes vomiting) from bugs such as Salmonella, Campylobacter, Cryptosporidium, Giardia and possibly viruses. Respiratory illnesses, such as those that cause cold and influenza-like symptoms, can also be caught through contact with water contaminated with faecal matter, and also milder illnesses such as skin, eye and ear infections.

How does recreational water get polluted/contaminated?

Faecal contamination can enter our waterways through storm water and rural runoff, leaky sewer pipes, septic tanks and inadequately treated sewage discharges.

During or shortly after rainfall human and animal faecal bacteria, and other bugs, can enter our waterways through urban and rural stormwater runoff. There is also an increased risk of faecal contamination where there are stock crossings or free access by stock to a waterway.

Why is it best to avoid contact with recreational water after heavy rainfall?

Rainfall can cause water quality to deteriorate due to faecal matter entering our waterways through urban and rural run-off. Consequently it's best to avoid contact recreation in any discoloured water and for 2-3 days once rain has stopped. Always assume waterways are likely to contain faecal material for at least 48 hours after heavy rainfall

Who tests the water?

Over the warmer months, Environment Bay of Plenty checks popular bathing spots, from Waihi Beach to Waihau Bay and around the Rotorua lakes. Staff take samples from nearly 80 beach, river and lake sites either weekly or fortnightly to test for E.coli and Enterococci, which indicate faecal contamination from warm blooded animals.

What happens when routine sampling finds high levels of faecal matter in the water?

When monitoring results exceed national guidelines, Environment Bay of Plenty contacts the local district or city council and the Medical Officer of Health. In conjunction with the local and regional councils the Medical Officer of Health assesses the risk to public health and determines the appropriate public health response.

Monitoring is continued on a daily basis either by the local authority or regional council until the water in question returns to acceptable bathing levels.

Who investigates the source of the contamination during a public health warning?

Once a faecal contamination issue has been identified through routine monitoring by Environment Bay of Plenty, local councils Tauranga City or Western Bay of Plenty are responsible for investigating the source of the faecal contamination.

What do Council's do as part of their response to faecal contamination events?

In response to a contamination event Councils carry out a sanitary survey of the catchment adjacent to the contaminated water body. A sanitary survey aims to identify the sources of faecal contamination so further action can be taken to prevent future contamination. This may include checking for cross connections between Council reticulated sewer and stormwater pipes for example.

Many catchments have multiple faecal sources so isolating a source responsible for a contamination event can be difficult. Especially as once the contamination event has occurred it may not be possible to isolate the cause(s).

Council's also carry out additional water sampling to the routine monitoring carried out by Environment Bay of Plenty and report back to the Medical Officer of Health.

How do I find out if there is a public health warning in place?

Once a public health warning has been issued, a media release is sent out (Toi Te Ora – Public Health), signs are erected (local city and district councils) and local users, such as sporting or community groups are made aware.

Go to www.envbop.govt.nz for water monitoring results or for information about the response investigation contact Tauranga City Council 07 5777000



26 January 2007

Health Warning Issued for Pilot Bay, Mount Maunganui

The results of routine water monitoring carried out this week by Environment Bay of Plenty confirm high levels of bacterial contamination in Pilot Bay. The Medical Officer of Health, Dr Phil Shoemack, has therefore issued a Health Warning advising against any recreational use of Pilot Bay which might involve significant contact with, or swallowing of, the water. Swimming, in particular, could result in infection such as gastro-enteritis.

This faecal contamination could arise from human and animal presence in the catchment of local rivers and around the shores of Tauranga Harbour, particularly after heavy rainfall. However, only Pilot Bay samples have shown high levels of contamination this week and it is therefore likely that there is a very localised source of the problem somewhere near Pilot Bay itself. Such contamination of recreational water can cause a number of infections such as gastro-enteritis caused by E coli, Campylobacter, Salmonella, Giardia and Cryptosporidium. There is also the risk of getting an ear infection, respiratory illness and skin infections.

Tauranga City Council has put up temporary warning signs, and will increase water monitoring as well as carry out an investigation to establish the source of the contamination.

All of Tauranga other popular swimming spots have acceptable monitoring results and the public can use these without any concern.

Contact Details

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Medical Officer of Health
Toi Te Ora – Public Health

Phone: 577 3770 or 021 228 5534

Toi Te Ora Public Health provides health protection and promotion programmes aimed at supporting groups and communities to improve and sustain health. We serve the greater Bay of Plenty and Lakes Districts.

Going swimming? Check the water quality at
www.envbop.govt.nz

Remember:

- ▶ Don't swim for 48 hours after moderate/heavy rain
- ▶ If you see a warning sign, don't swim or collect shellfish
- ▶ Water quality can change quickly, if unsure - stay out
- ▶ Don't play or swim in storm water drains