



Recreational water monitoring season – supporting information

The following supporting information applies to the collection of recreational environmental water samples as part of the annual microbiological water quality monitoring program, which is administered by the Department of Health (WA Health) and undertaken primarily by local government authority (LGA) environmental health services throughout Western Australia.

Annual Site Status Overview document

Each year WA Health produces a **Site Status Overview** document for recreational environmental water sites within each relevant LGA in Western Australia, which is published on the WA Health corporate website: [Beach grades for Western Australia \(health.wa.gov.au\)](http://health.wa.gov.au) under relevant location/water body categories.

The Site Status Overview document indicates the status of each environmental/recreational sampling site, and its classification combining both sampling results and a sanitary inspection. It also highlights required LGA/ Water Body Manager (WBM) actions and recommends a minimum number of seasonal samples.

Minimum no. of water samples required

Unless otherwise indicated or left blank within the Site Status Overview, a minimum of thirteen (13) microbiological water samples should be collected per sampling season by the LGA/WBM.

Note: *It is important that at least 65 samples over 5 consecutive years (13 samples per year) are collected from each recreational sample site. This will ensure requisite statistical confidence in the microbial assessment category and enable a final classification (in time) to be assigned.*

Program sample sites

Program sites have been identified as the most important sites to monitor, through site assessment, as the most popular, or of significant interest from a recreational water perspective. The last column of the Site Status Overview document indicates that a minimum of thirteen (13) samples per season (~ once/fortnight) is required for most 'program' sample sites.

Active (non-core) sample sites

A minimum of zero (0) samples is indicated for Active (Non-core) sites within the last column of the Site Status Overview document. A minimum of zero (0) samples does not automatically mean that no samples should be collected, but that LGA's/WBM's should risk assess the sampling site and determine the need for and a suitable number of samples to be collected each season.

Generally, for active (non-core) sites, it is not necessary to sample as frequently as program sites, but it may still be appropriate to undertake at least 5-6 samples per season (~ once/month). If any of

these monitoring sites appear more significant or important, please advise WA Health to confirm an increase number of samples (i.e. 13 samples per season) and a possible change in site status.

Preparing for and undertaking seasonal collection of water samples

For the Perth metropolitan, Peel, South West, Great Southern, Goldfields-Esperance, Wheatbelt regions, and the Mid-West and Gascoyne region areas south of the -26° latitude, the sampling season extends between November to May for monitoring of environmental/ recreational waters.

For locations north of the -26° latitude (including the Kimberley, Pilbara and Gascoyne regions), it may be better to undertake recreational water sampling activities between May and November, to cater for the peak tourist season recreational water use and continued warm to hot weather.

Sampling season schedule

The **Sampling Schedule** primarily targets sites south of the -26° latitude, highlights the sampling week's duration and key weeks/times to focus sampling efforts during the November to May sampling season. It also designates PathWest laboratory Christmas closure and opening times.

LGA's and/or WBM's may routinely collect microbiological water samples at any of the times indicated within the sampling schedule between November and May of each year.

Planning sampling times

The NHMRC guidelines recommend that most samples are collected during peak use times e.g. summer/school holidays etc. when the weather is hotter and there is a greater likelihood for people to be swimming. During these times, samples should be collected more frequently e.g. weekly as circumstance permits.

Targeting peak recreational days and times is particularly important, especially when WA Health has determined that a minimum of 5 samples/season is only required for a sampling site.

Rainfall sample monitoring

Rainfall samples should also be targeted and collected within 24-48hrs following rainfall. The total rainfall (mm) for the nearest weather station, and the accompanying sample results should be recorded into the **Field Observations Summary** excel template.

It is recommended that officers collecting water samples review the Bureau of Meteorology website: [Western Australia Weather and Warnings \(bom.gov.au\)](http://www.bom.gov.au) and schedule certain sampling (where possible) to coincide with days/times of forecast rainfall. Undertaking water sample collection during or within 24-48 hours following rainfall events will confirm the most commonly significant risk factor: Rainfall events from the [Sanitary Inspection Report](#).

NB – *it is particularly important to collect rainfall samples for heavy rainfall events >10mm to confirm potential health risks to the community.*

Note: *rainfall data can be accessed by clicking on: <http://www.bom.gov.au/climate/data/> and typing in the suburb location of the sampling site to identify the closest weather station.*

Contact PathWest Waters laboratory

- As a courtesy, it is recommended that you contact PathWest Waters (PWW) laboratory prior to sampling to advise how many samples are expected to be submitted for analysis. This is important in emergency or response sampling situations e.g. wastewater overflow events, where samples may arrive at the laboratory later in the day and/or require priority analysis.

Phone: 96457 2583 or, **Email:** waters.pathwest@health.wa.gov.au

- Use the 250ml sterilised bottles supplied directly by PWW. Contact PWW to request a [Supply Order Form](#) to complete your order of sample bottles, foam eskies and ice bricks as required. Sample bottles and supplies can also be collected directly from PWW.
- Pre-fill the [PathWest Water Examination Laboratory Request Form](#) (See below). An electronic version of this form is available from PWW. When filling out detail the form as follows:

Company name: Local Government Authority / Agency (Name)

Address: Local Government Authority / Agency (Address)

Contact email: Local Government Authority / Agency (Email)

Water type: Tick: Natural Waters (Fresh) = *Enterococci* and *E. coli* analysis, **OR**
Tick: Natural Waters (Marine) = *Enterococci* analysis only

Site code: Local government prefix #3/ reference number e.g. AC3/001

Description: Sampling site location title description

| LABORATORY USE ONLY | | SAMPLE DETAILS | | | | TREATMENT | | SAMPLE SUBMITTED (please tick) | | LABORATORY USE ONLY | |
|---------------------|-----------|----------------|--------------|-----------|------------------|-----------|----|--------------------------------|--------------------------|----------------------------|---------------------------|
| Laboratory Number | Site Code | Description | Time Sampled | Temp (°C) | Type (Cl, B, ec) | ppm | pH | Bacteria (chilled) | Amoebae (ambient) | Bacteria set up by / Date: | Amoebae set up by / Date: |
| | | | | | | | | <input type="checkbox"/> | <input type="checkbox"/> | | |
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Samples Received By: _____ Temperature ("chilled"): _____ Laboratory Comments: _____ Report Type: _____ Emailed: _____
 Received Date: _____ Temperature (amoeba): _____ Date: _____

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Types of microbiological water samples/analysis

Enterococci is the standard bacterial indicator used to analyse recreational water quality. *E. coli* should also be tested where fresh to estuarine waters are sampled (e.g. rivers, lakes, brooks, creeks, streams, drains, bores, reservoirs etc.)

Amoeba used to test for *naegleria fowleri* should also be tested in fresh or estuarine waters used for primary contact recreation (e.g. swimming, skiing etc.)

Sampling site observations

Site observations can provide background information to assist the investigation for elevated bacterial water quality results. They can also inform the Sanitary Inspection Report (SIR) over time.

Site observations should be recorded at each sample site for each sampling event **in the field** using the **Field Observation Form for Recreational Water Sampling** (see below).



Field Observation Form for Recreational Water Sampling

Date: ____/____/____

Samplers Name: _____

Today's Weather: _____ Temp: _____

Rain in past: 24 hours? Yes / No 48 hours? Yes / No

| Site Code | Site Name | Water Body Type: (O, R, L...) | Time | Wind Direction (N, E, S, W etc.) | Wind Speed (0-4) or (km/h) | Tide: (H, M, L) Or (m) | Water Cond: Calm/ Med/ Rough | Water Clarity (1-5) 1= very clear, or (m) | ** Turbidity (NTU) | Water Temp °C | ** pH | ** EC (µS/cm) | ** TDS (mg/L) | Algae (Y/N) | Drain Flowing (Y/N) | ~ No. Birds | No. Dogs | Other Animal Type (Y/N) | ~ No. Bathers | ~ No. People on Beach | No. Boats | Comments |
|-----------|-----------|-------------------------------|------|----------------------------------|----------------------------|------------------------|------------------------------|--|--------------------|---------------|-------|---------------|---------------|-------------|---------------------|-------------|----------|-------------------------|---------------|-----------------------|-----------|----------|
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Site observations in the form above should also be entered into the **Field Observations Summary** excel template. This template has some useful website links in the worksheet tabs. At the end of the sampling season (in May), email the completed excel template to: ehinfo@health.wa.gov.au
ATTN: Water Unit Officer – environmental waters.

Sanitary Inspection Reports

The [Sanitary Inspection Report](#) (SIR) provides a risk assessment of factors that may influence bacterial water quality at the site. It is used as part of the overall site classification and informs site investigation and management actions. SIRs for each site should be completed and emailed to: ehinfo@health.wa.gov.au ATTN: Water Unit Officer – environmental waters. Completed SIRs should be reviewed annually and only updated if the situation/context/risk profile has changed.

Environmental water publications

Further publications and guidance notes that may be of regarding environmental waters and the microbiological sampling program, are located at: [Environmental waters publications \(health.wa.gov.au\)](#).

Summary

In summary, please ensure you:

1. **Collect** the minimum number of samples, at peak use times and for available rainfall events;
2. **Complete** SIR's for each site and email to WA Health, review annually, and only update if the situation/context/risk profile has changed;
3. **Collate** sampling site observations, with rainfall totals (mm) and sampling results, and email to WA Health at the end of the sampling season (in May).

More information:

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