

Appendix A: Sanitary inspection report

Sanitary inspection report

+ Determination of Beach Suitability Grade

Version 11

Summary of findings

Site name: _____ Site reference number: _____

Site visit date: _____ Council meeting date: _____

Sanitary Inspection Category (SIC): _____ Determined on: _____

Microbial Assessment Category (MAC): _____ Calculated on: _____

Matrix for determining the Beach Suitability Grade

Sanitary Inspection Category (SIC)	Microbial Assessment Category (MAC) (95th percentiles – enterococci cfu/100 mL)			
	A ≤40	B 41–200	C 201–500	D >500
Very Low	Very Good	Very Good	Follow up	Follow up
Low	Very Good	Good	Follow up	Follow up
Moderate	Good	Good	Poor	Poor
High	Good	Fair	Poor	Very Poor
Very High	Follow up	Fair	Poor	Very Poor

Beach Suitability Grade: _____ for the year: _____

Entered into database on: _____

This template can be used as a field sheet for the Beachwatch Sanitary Inspection Database or on its own as a sanitary inspection report. The template is available as a fillable form on the Beachwatch website.

For further guidance in determining the likelihood of pollution from each pollution source contact Beachwatch – beachwatch@environment.nsw.gov.au

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1. Site information

Site name: _____ Site reference number: _____

Type of site: Ocean Estuarine Freshwater

Other _____

Sandy beach? Yes No

Swimming dimensions: Length (m): _____ Width (m): _____ = Area (m²): _____

Catchment area: _____ square kilometres

Catchment land use: Bushland: _____% Rural: _____% Urban: _____%

Contact details

Responsible authority: _____

Name: _____ Position: _____

Landline: _____ Mobile: _____ Fax: _____

Email: _____

Site location

Address: _____

Latitude: _____ Longitude: _____

Site description: _____

Diagram of site



1. Site information, cont.

Level of flushing: High (e.g. coastal beach)

Medium (e.g. estuarine)

Low (e.g. lagoon)

Elevated enterococci (>40 cfu/100mL): After light rain (5 mm in 24hrs)

After moderate rain (10 mm in 24hrs)

After heavy rain (20 mm in 24hrs)

After very heavy rain (50 mm in 24hrs)

2A. Site use

Activities at site: Swimming Surfing Jet skiing Canoeing/kayaking
 Fishing Sailing Boating Diving
 Other _____

Groups using site: Young children (<7yrs) Elderly (>60yrs)
 Adults & older children Tourists

Number of users: _____ to _____ people per day on weekends
_____ to _____ people per weekday (non-holiday period)
_____ to _____ people per weekday (holiday period)

Off-street parking? No Yes, number of bays: _____

Lifeguards: Unpatrolled Weekends Weekdays (non-holiday)
 Summer/School holidays

Do conditions deter people from entering?

No Yes, details: _____

Any complaint of illness recorded?

No Yes, details: _____

Consequence

Minor

- Rarely used on weekdays
- Occasionally used on weekends or holidays
- Few people enter the water
- Location not popular with children or the elderly
- Location of minimal importance to the local economy

Moderate

- Occasionally used on weekdays (e.g. <100 people per day for non-holiday period)
- Frequently used on weekends or holidays
- Most people enter the water
- Location very popular with children or the elderly
- Location of some importance to the local economy

Major

- Frequently used on weekdays, weekends and holidays
- Most people enter the water
- Location very popular with children or the elderly
- Location of great importance to the local economy

2B. Pollution sources

Pollution source inventory

Pollution sources that could affect the water quality at the swimming site:

- Do **bathers** use the site?
- Are **toilet facilities** located within close proximity to the site?
- Are **wastewater treatment plants (including outfalls)** located within 2 km of the site?
- Do **designated sewage overflows** occur in the catchment (or within approximately 1 km radius of the site)?
- Do **sewer chokes or leakages** occur in the catchment (or within approximately 1 km radius of the site)?
- Do surrounding properties use **onsite sewage disposal systems**?
- Does **wastewater re-use** occur within 100 m radius of the site?
- Does **stormwater** discharge within 500 m of the site?
- Do **rivers** discharge within 1 km of the site?
- Do **lagoons** discharge within 500 m of the site?
- Are **boats** located in the vicinity of the site?
- Are **animals** (wildlife or domestic animals) present at the site?

Bather shedding

Applicable Not applicable, details: _____

Number of bathers at busy times: _____

Toilets available? No Yes, location: _____

Bather density calculation

Use **area** as defined on the *Site details* sheet.

Use **number at busy times** as defined above.

Number at busy times: _____ *divided by* site area: _____ = _____ (people/m²)

Low (bather density <0.2)

High (bather density ≥0.2)

Likelihood of pollution from bathers (select from the following matrix)

		Toilets available = YES		Toilets available = NO	
		Low bather density	High bather density	Low bather density	High bather density
Flushing	Low	Low	Moderate	Low	Moderate
	Medium	Very Low	Low	Low	Moderate
	High	Very Low	Low	Low	Moderate

Likelihood of pollution from bathers is: _____

Is this likelihood appropriate? Yes No, revised likelihood: _____

Comments/Justification: _____

Toilet facilities

Applicable Not applicable, details: _____

Distance from toilets to site (m): _____

Total number of toilets: _____

Total number of showers: _____

Type of sewerage system: Sewered

Onsite system, how often serviced? _____

Discharges/odours recorded? No, details: _____

Yes, details: _____

Likelihood of pollution from toilet facilities (select from the following matrix)

		Distant proximity		Close proximity	
		Low use/flow	High use/flow	Low use/flow	High use/flow
Facility condition	Poor	Low	Moderate	Moderate	High
	Good	Very Low	Low	Low	Moderate

Likelihood of pollution from toilet facilities is: _____

Is this likelihood appropriate? Yes No, revised likelihood: _____

Comments/Justification: _____

Wastewater treatment plant (within 2 km)

Applicable Not applicable, details: _____

Name of outfall: _____

Distance from site (m): _____

a. Discharges from wastewater treatment plants

Outfall type: Direct Short Long (offshore)

Treatment level: None Preliminary Primary Secondary + disinfection
 Tertiary Tertiary + disinfection Lagoon

Likelihood of pollution for discharges from wastewater treatment plants (select from the following matrix)

		Outfall type		
		Direct	Short	Long (offshore)
Treatment level	None	Very High	High	Low
	Preliminary	Very High	High	Low
	Primary	Very High	High	Low
	Secondary	High	High	Low
	Secondary + disinfection	Moderate	Moderate	Very Low
	Tertiary	Moderate	Moderate	Very Low
	Tertiary + disinfection	Low	Low	Very Low
	Lagoons	High	High	Low

b. Wastewater treatment plant bypasses

Average discharge volume per bypass event (mL): _____

Dilution of bypass effluent: High Low

Minimum treatment level of bypassed effluent:

None Primary Secondary Tertiary/lagoon

Bypassed effluent disinfected: Never Sometimes Always

Bypass discharge location: Direct Short Long (offshore)

Wastewater treatment plant (within 2 km), cont.

Likelihood of pollution for wastewater treatment plant bypasses (select from the following matrix)

		Wastewater treatment plant bypass frequency (assuming effluent is not disinfected)				
		May occur in exceptional circumstances (1 in 10 years)	Unlikely to occur but could occur at least once in a 5-year period	Might occur at least once or twice per bathing season	Will probably occur at least 3–4 times per bathing season	Will occur on a regular basis (once a week)
Dilution (from discharge location)	High	Very Low	Very Low	Low	Moderate	High
	Low	Very Low	Low	Moderate	High	Very High

If there is no history of bypasses the likelihood of contamination for wastewater treatment plants is determined using the likelihood of pollution from wastewater treatment plant discharge matrix (a); however, if there is a history of treatment bypasses at the wastewater treatment plant the likelihood is determined by using likelihood of pollution for wastewater treatment plant bypasses matrix (b).

Likelihood of pollution from the wastewater treatment plant is: _____

Is this likelihood appropriate? Yes No, revised likelihood: _____

Comments/Justification: _____

Designated sewage overflows

Applicable Not applicable, details: _____

For each overflow in the catchment (or 1 km radius), list:

Name	Address	Frequency/10yrs	Volume
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Dilution: High Low

Likelihood of pollution from designated sewage overflows (select from the following matrix)

		Frequency				
		May occur in exceptional circumstances (1 in 10 years)	Unlikely to occur but could occur at least once in a 5-year period	Might occur at least once or twice per bathing season	Will probably occur at least 3–4 times per bathing season	Will occur on a regular basis (once a week)
Dilution	High	Very Low	Very Low	Low	Moderate	High
	Low	Very Low	Low	Moderate	High	Very High

Likelihood of pollution from designated sewage overflows is: _____

Is this likelihood appropriate? Yes No, revised likelihood: _____

Comments/Justification: _____

Sewer chokes and leakages

Applicable Not applicable, details: _____

For each overflow in the catchment (or 1 km radius), list:

Date	Address
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Dilution: High Low

Likelihood of pollution from sewer chokes and leakages (select from the following matrix)

		Frequency				
		May occur in exceptional circumstances (1 in 10 years)	Unlikely to occur but could occur at least once in a 5-year period	Might occur at least once or twice per bathing season	Will probably occur at least 3–4 times per bathing season	Will occur on a regular basis (once a week)
Dilution	High	Very Low	Very Low	Low	Moderate	High
	Low	Very Low	Low	Moderate	High	Very High

Likelihood of pollution from sewer chokes and leakages is: _____

Is this likelihood appropriate? Yes No, revised likelihood: _____

Comments/Justification: _____

Onsite sewage disposal systems

Applicable Not applicable, details: _____

Approximate number of systems in catchment: _____

Distance to site from nearest system (m): _____ (not including onsite toilet facilities identified under 'Toilets facilities')

Discharges/odours recorded? No, details: _____

Yes, details: _____

Likelihood of pollution from onsite sewage disposal systems (select from the following matrix)

		Distant proximity		Close proximity	
		<50 systems	≥50 systems	<50 systems	≥50 systems
Condition	Good – no complaints	Very Low	Very Low	Low	Low
	Poor – history of odours and discharges	Low	Moderate	Moderate	High

Likelihood of pollution from onsite sewage disposal systems is: _____

Is this likelihood appropriate? Yes No, revised likelihood: _____

Comments/Justification: _____

Wastewater re-use

Applicable Not applicable, details: _____

Location of wastewater re-use area: _____

Distance from site to re-use area: _____

Wastewater treated prior to use? No Yes, details: _____

Likelihood of pollution from wastewater re-use (select from the following matrix)

		Distant proximity		Close proximity	
		Low volume	High volume	Low volume	High volume
Treatment level	High – disinfected	Very Low	Very Low	Low	Low
	Low – not disinfected	Low	Moderate	Moderate	High

Likelihood of pollution from wastewater re-use is: _____

Is this likelihood appropriate? Yes **No, revised likelihood:** _____

Comments/Justification: _____

Stormwater

Applicable Not applicable, details: _____

Total number of drains at swimming site: _____

Pick the **two drains** that have the most influence on your sampling site (or if there is only one drain, enter its details).

Drain 1

Location: _____ Authority: _____

Distance from site (m): _____

Type of drain: Box culvert Creek Pipe

Discharge area: Dune Beach Offshore Direct <50m Direct ≥50m

Drain 2

Location: _____ Authority: _____

Distance from site (m): _____

Type of drain: Box culvert Creek Pipe

Discharge area: Dune Beach Offshore Direct <50m Direct ≥50m

Primary land use: High density urban Low density urban Rural – grazing
 Rural – cropping Bushland/reserve

Likelihood of pollution from stormwater (select from the following matrix – choose the highest likelihood if you have two different drains)

		Discharge area		
		Dune	Beach, offshore or direct ≥50 m	Direct <50 m
Land use	High density urban	Low	Moderate	High
	Low density urban	Very Low	Low	Moderate
	Rural – grazing	Very Low	Low	Moderate
	Rural – cropping	Very Low	Low	Low
	Bushland/reserve	Very Low	Low	Low

Stormwater, cont.

Likelihood of pollution from stormwater drains is: _____

Is this likelihood appropriate? Yes **No, revised likelihood:** _____

Comments/Justification: _____

River discharge

Applicable Not applicable, details: _____

Name of river: _____

Distance from discharge point to site (m): _____

Pollution sources in river discharge: Urban stormwater Leachate from onsite wastewater systems

Agricultural runoff Intensive livestock production

Other, details: _____

Likelihood of pollution from river discharge (select from the following matrix)

		Distant proximity		Close proximity	
		Low discharge volume	High discharge volume	Low discharge volume	High discharge volume
River water quality	Good	Very Low	Very Low	Low	Low
	Poor	Low	Moderate	Moderate	High

Likelihood of pollution from river discharge is: _____

Is this likelihood appropriate? Yes No, revised likelihood: _____

Comments/Justification: _____

Lagoons

Applicable Not applicable, details: _____

Name of lagoon: _____

Distance from site (m): _____

Area of lagoon (sq. km): _____

Catchment area (sq. km): _____

Sources of pollution to lagoon: Urban stormwater Agricultural runoff
 Other, details: _____

% time open to ocean (recent average): _____

Entrance managed or modified?

No Yes, details: _____

Likelihood of pollution from lagoons (select from the following matrix)

Likelihood of pollution from lagoons				
Very Low	Low	Moderate	High	Very High
May occur only in exceptional circumstances, e.g. 1 in 10 years	Unlikely to occur but could occur at least once within a 5-year period	Might occur at least once or twice per bathing season	Will probably occur at least 3–4 times per bathing season	Will occur on a regular basis, e.g. once a week

Likelihood of pollution from lagoons is: _____

Is this likelihood appropriate? Yes No, revised likelihood: _____

Comments/Justification: _____

Boats

Applicable Not applicable, details: _____

What is located near the site?

<input type="checkbox"/> Marina	<input type="checkbox"/> Permanent moorings
<input type="checkbox"/> Harbour	<input type="checkbox"/> Temporary moorings
<input type="checkbox"/> Anchorage	<input type="checkbox"/> Jetty
<input type="checkbox"/> Boat ramp	<input type="checkbox"/> Ferry berth

Distance from site to nearest boat (m): _____

Number of boats near site: _____

Pump-out facilities provided?

No Yes, details: _____

Complaints of boat discharges?

No Yes, details: _____

Onshore toilets provided?

No Yes, details: _____

Likelihood of pollution from boats (select from the following matrix)

		Number of boats		
		<20 boats	20–50 boats	50–100 boats
Waste management	Good (holding-tanks required)	Very Low	Very Low	Low
	Poor (holding-tanks not required)	Low	Moderate	Moderate

Likelihood of pollution from boats is: _____

Is this likelihood appropriate? Yes **No, revised likelihood:** _____

Comments/Justification: _____

Animals

Applicable Not applicable, details: _____

Aquatic birds? Yes No

Density: Low Medium High

Roosting structures present? Yes No

Native animals? Yes No

Density: Low Medium High

Domestic animal exercise area? Yes No

Type: Dogs Horses Other, details: _____

Dog waste bags available? Yes No

Animals directly access water? Yes No

Area regularly cleaned? Yes No

Likelihood of pollution from animals (select from the following matrix)

Likelihood of pollution from animals				
Very Low	Low	Moderate	High	Very High
May occur only in exceptional circumstances, e.g. 1 in 10 years	Unlikely to occur but could occur at least once within a 5-year period	Might occur at least once or twice per bathing season	Will probably occur at least 3–4 times per bathing season	Will occur on a regular basis, e.g. once a week

Likelihood of pollution from animals is: _____

Is this likelihood appropriate? Yes **No, revised likelihood:** _____

Comments/Justification: _____

2C. Management

Which management controls are in place to warn people of periods of increased risk?

None Permanent onsite signage Temporary onsite signage

Media releases Beach closures Website

Other, details: _____

Provide details of advisories: _____

Do management controls effectively prevent people from entering the water during these periods?

No Yes, details: _____

Is there a management response plan in place to deal with exceptional events such as sewage overflows and bypasses?

No Yes, details: _____

3. Calculating the Sanitary Inspection Category

On the **form on the next page** complete the following steps:

STEP 1: Fill out the likelihood for each of the pollution sources in the top part of the form (leave blank if pollution source is not applicable).

STEP 2: By referring to the table below, fill out the numerical likelihood values for these pollution sources.

Likelihood	Numerical likelihood
Very Low	0.1
Low	0.2
Moderate	1
High	3
Very High	12

STEP 3: Sum the numerical likelihoods.

STEP 4: By referring to the table below, fill out the numerical likelihood for animal pollution source (if applicable) in the second part of the form and sum the total numerical likelihood.

Likelihood	Numerical likelihood
Very Low	0.1
Low	0.1
Moderate	0.2
High	1
Very High	1

STEP 5: Using the total numerical likelihood, identify the Sanitary Inspection Category using the table below.

Total numerical likelihood	Sanitary Inspection Category
0–0.19	Very Low
0.2–0.99	Low
1–2.99	Moderate
3–11.99	High
>12	Very High

Pollution source	Likelihood	Numerical likelihood
Bathers	_____ = _____
Toilet facilities	_____ = _____
Wastewater treatment plant	_____ = _____
Designated sewage overflows	_____ = _____
Sewer chokes and leakages	_____ = _____
Onsite sewage disposal systems	_____ = _____
Wastewater re-use	_____ = _____
Stormwater	_____ = _____
River discharge	_____ = _____
Lagoons	_____ = _____
Boats	_____ = _____
Sum of numerical likelihoods		= _____

Pollution source	Likelihood	Numerical likelihood
Animals	_____ = _____
Sum of numerical likelihoods from previous table		= _____
Total numerical likelihood		= _____

The **Sanitary Inspection Category** for this site is: _____