DEPARTMENT OF PLANNING, INDUSTRY & ENVIRONMENT

Sanitary inspection paperbase plus determination of Beach Suitability Grade

Version 11

Summary

Site name: _____ Site reference number: _____

Site visit date: _____ Council meeting date: _____

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

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

		Microbial assessment category (MAC) (95th percentiles – enterococci cfu/100mL)			
		A ≤40	B 41-200	C 201-500	D >500
Sanitary inspection category (SIC)	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 year _____

Entered in database on: _____

This template can be used as a field sheet for the *OEH Beachwatch Sanitary Inspection Database* or on its own as a sanitary inspection report. For further guidance in determining likelihood of pollution from each pollution source, contact Beachwatch at beachwatch@environment.nsw.gov.au.

Contents

1. Site information

Name: _____ **Reference number:** _____

Type: ☐ Ocean ☐ Estuarine ☐ Freshwater ☐ Other _____

Sandy beach? ☐ Yes ☐ No

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

Catchment area: _____ square kilometres

Catchment landuse: Bushland _____% Rural _____% Urban _____%

Contact details: Responsible authority _____

Name _____

Position _____

Mobile _____

Phone _____ Fax _____

Email _____

Site location _____

Address _____

Latitude _____ Longitude _____

Site description _____

_____

Diagram of site

Level of flushing:	☐ High (e.g. coastal beaches) ☐ Medium (e.g. estuarine sites) ☐ Low (e.g. lagoons)
Elevated Enterococci (>40 cfu/100mL):	☐ After light rain (5mm in 24hrs) ☐ After moderate rain (10mm in 24hrs) ☐ After heavy rain (20mm in 24hrs) ☐ After very heavy rain (50mm in 24hrs)

2A. Site use

Activities at site:	☐ Swimming	☐ Surfing	☐ Jetskiing	☐ Canoeing/Kayaking
	☐ Diving	☐ Fishing	☐ Sailing	☐ Boating
	☐ 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 complaints of Illness recorded?	☐ No	☐ Yes, details: _____ _____		

Consequence

☐ Minor	Rarely used on weekdays Occasionally used on weekends/holidays Few people enter the water Location not popular with children or the elderly Of minimal importance to local economy
☐ Moderate	Location occasionally used on weekdays (e.g. <100 people per day for non-holiday period) Location 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	Location 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 which could affect 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 approximately 1 km radius of site)?

☐ Do sewer chokes or leakages occur in the catchment (or approximately 1 km radius of site)?

☐ Do surrounding properties use on-site sewage disposal systems?

☐ Does wastewater re-use occur within 100 m radius of site?

☐ Does stormwater discharge within 500 m of site?

☐ Do rivers discharge within 1 km of 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

Number of bathers at busy times: _____

Toilets available? ☐ Yes, location: _____ ☐ No

Bather density calculation:
Get area as defined in s*ite details*
Get number at busy times as defined above
(Number at busy times) *divided by* (Area) = _____ (people/m^2)

Bather density ≥ 0.2 ☐ High

Bather density < 0.2 ☐ Low

Likelihood of pollution from bathers (circle the relevant likelihood)

	Toilets = Yes		**Toilets = No**	
Flushing	**Low bather density**	**High bather density**	**Low bather density**	**High bather density**
Low	Low	Moderate	Low	Moderate
Medium	Very Low	Low	Low	Moderate
High	Very Low	Low	Low	Moderate

Likelihood for bathers is _____

Is this likelihood appropriate? □ Yes □ No

If no, new likelihood is _____ (please justify).

Comment/Justification: _____

_____

_____

Toilet facilities

☐ Applicable ☐ Not applicable

Distance from toilets to site (m) _____

Total number of toilets _____

Total number of showers _____

Type of sewage system ☐ Sewered

☐ Onsite system: how often serviced? _____

_____

Discharges/odours recorded? ☐ No, details: _____

_____

☐ Yes, details: _____

_____

Likelihood of pollution from toilet facilities (circle the relevant likelihood)

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

Likelihood for pollution from toilet facilities is _____

Is this likelihood appropriate? □ Yes □ No

If no, new likelihood is _____ (please justify).

Comment/Justification: _____

_____

_____

Wastewater treatment plant
(within 2km)

☐ Applicable ☐ Not applicable

Name of outfall: _____

Distance to site (m): _____

Outfall type: ☐ Direct ☐ Short ☐ Long

Treatment level – Secondary + Disinfection: ☐ None ☐ Preliminary ☐ Primary ☐ Tertiary ☐ Tertiary + Disinfection ☐ Lagoons

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

Likelihood of pollution from wastewater treatment plant (circle the relevant likelihood)

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)
Often suitable when: • treatment is Secondary/Tertiary and disinfected **and** • discharged offshore.	Often suitable when: Tertiary treated and disinfected, and discharged direct or nearshore **or** • if no treatment or disinfection, but discharged offshore.	Often suitable when: • treatment is Secondary/ Tertiary and may be disinfected **and** • discharges direct or nearshore.	Often suitable when: • treatment is None to Secondary and no disinfection **and** • discharged nearshore.	Often suitable when: • treatment is None to Primary only and no disinfection **and** • discharges direct to swimming area.

Likelihood for pollution from wastewater treatment plan is _____

Is this likelihood appropriate? □ Yes □ No

If no, new likelihood is _____ (please justify).

Comment/Justification: _____

_____

_____

Designated sewage overflows ☐ Applicable ☐ Not applicable

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

1. Name: _____

   Address: _____

   Frequency per 10 years: _____ Volume: _____

2. Name: _____

   Address: _____

   Frequency per 10 years: _____ Volume: _____

3. Name: _____

   Address: _____

   Frequency per 10 years: _____ Volume: _____

4. Name: _____

   Address: _____

   Frequency per 10 years: _____ Volume: _____

5. Name: _____

   Address: _____

   Frequency per 10 years: _____ Volume: _____

6. Name: _____

   Address: _____

   Frequency per 10 years: _____ Volume: _____

Dilution: □ High □ Low

Likelihood of pollution from designated sewage overflow (circle the relevant likelihood)

	Frequency				
Dilution	**May occur only in excep-tional circum-stances, 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.**
High	Very Low	Very Low	Low	Moderate	High
Low	Very Low	Low	Moderate	High	Very High

Likelihood for pollution from designated sewage overflow is _____

Is this likelihood appropriate? □ Yes □ No If no, new likelihood is _____ (please justify).

Comment/Justification: _____

_____

Sewer chokes and leakages

☐ Applicable ☐ Not applicable

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

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

Dilution: □ High □ Low

Likelihood of pollution from sewer chokes and leakages (circle the relevant likelihood)

	Frequency				
Dilution	**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.**
High	Very Low	Very Low	Low	Moderate	High
Low	Very Low	Low	Moderate	High	Very High

Likelihood for pollution from sewer chokes and leakages is _____

Is this likelihood appropriate? □ Yes □ No

If no, new likelihood is _____ (please justify).

Comment/Justification:_____

_____

_____

Onsite sewage disposal system

☐ Applicable ☐ Not applicable

Approximate number of systems in catchment _____

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

Any discharges/odours recorded?

☐ No

☐ Yes, details: _____

_____

Likelihood of pollution from onsite sewage disposal system (circle the relevant likelihood)

	Distant proximity		Close proximity	
Condition	**<50 systems**	**>50 systems**	**<50 systems**	**>50 systems**
Good – no complaints	Low	Moderate	Moderate	High
Poor – history of odour and discharge	Very Low	Low	Low	Moderate

Likelihood for pollution from onsite sewage disposal system is _____

Is this likelihood appropriate? □ Yes □ No

If no, new likelihood is _____ (please justify).

Comment/Justification: _____

_____

_____

Wastewater reuse

☐ Applicable ☐ Not applicable

Location of wastewater reuse area _____

Distance from site to reuse area (m) _____

Wastewater treated prior to use? ☐ No

☐ Yes, details: _____

_____

Likelihood of pollution from wastewater reuse (circle the relevant likelihood)

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 for pollution from wastewater reuse is _____

Is this likelihood appropriate? □ Yes □ No

If no, new likelihood is _____ (please justify).

Comment/Justification:_____

_____

_____

Stormwater ☐ Applicable ☐ Not applicable

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 to site (m) _____

Type: ☐ Box Culvert ☐ Creek ☐ Pipe

Discharge area: ☐ Dune ☐ Beach ☐ Offshore ☐ Direct <50m ☐ Direct >50m

Drain 2

Location: _____

Authority: _____

Distance to site (m) _____

Type: ☐ Box Culvert ☐ Creek ☐ Pipe

Discharge area: ☐ Dune ☐ Beach ☐ Offshore ☐ Direct <50m ☐ Direct >50m

Primary land use (choose one): ☐ High density urban ☐ Low density urban ☐ Rural – grazing ☐ Rural – cropping ☐ Bushland/reserve

Likelihood of pollution from stormwater drain (circle the relevant likelihood)

		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

Likelihood for pollution from stormwater drain is _____

Is this likelihood appropriate? □ Yes □ No

If no, new likelihood is _____ (please justify).

Comment/Justification:_____

_____

_____

River discharge

☐ Applicable ☐ Not applicable

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 (circle the relevant likelihood)

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 for pollution from river discharge is _____

Is this likelihood appropriate? □ Yes □ No

If no, new likelihood is _____ (please justify).

Comment/Justification:_____

_____

_____

Lagoons

☐ Applicable ☐ Not applicable

Name of lagoon: _____

Distance to site (m): _____

Area of lagoon (sq km): _____

Catchment area (sq km): _____

Sources of pollution to lagoon:

☐ Urban stormwater ☐ Agricultural runoff

☐ Other, details: _____

Likelihood of pollution from lagoon (circle the relevant likelihood)

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 for pollution from river lagoon is _____

Is this likelihood appropriate? □ Yes □ No

If no, new likelihood is _____ (please justify).

Comment/Justification:_____

_____

_____

Boats

☐ Applicable ☐ Not applicable

What is located near the site?

☐ Marina
☐ Harbour
☐ Anchorage
☐ Boat ramp
☐ Permanent moorings
☐ Temporary moorings
☐ Jetty
☐ 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 (circle the relevant likelihood)

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

Likelihood for pollution from boats is _____

Is this likelihood appropriate? □ Yes □ No

If no, new likelihood is _____ (please justify).

Comment/Justification:_____

_____

_____

Animals ☐ Applicable ☐ Not applicable

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

Types: ☐ Dogs ☐ Horses ☐ Other, details: _____

Dog waste bags present? ☐ Yes ☐ No

Animals directly access water? ☐ Yes ☐ No

Area regularly cleaned? ☐ Yes ☐ No

Likelihood of pollution from animals (circle the relevant likelihood)

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 for pollution from animals is _____

Is this likelihood appropriate? ☐ Yes ☐ No

If no, new likelihood is _____ (please justify).

Comment/Justification:_____

_____

_____

2C. MANAGEMENT

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

☐ None ☐ Permanent on-site signage ☐ Temporary on-site 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. Risk calculation and summary

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

Step 1: Fill out the **likelihood** for each of the identified pollution sources (leave blank if pollution source not relevant/identified).

Step 2: For each identified pollution source, select whether the pollution will occur during dry and/or wet weather conditions.

Step 3: Fill out the **numerical likelihoods** (on the next page) only where they exist for dry and/or wet weather conditions –

Very low = 0.1

Low = 0.2

Moderate = 1.0

High = 3.0

Very high = 12.0

Step 4: Sum the **numerical likelihoods** and write the totals for dry and/or wet weather conditions.

Pollution source	Likelihood	Numerical likelihood
Bathers	_____	= _____
Toilet facilities	_____	= _____
Sewage treatment plant outfalls	_____	= _____
Designated sewage overflows	_____	= _____
Sewer Chokes and Leakages	_____	= _____
Onsite sewage disposal systems	_____	= _____
Wastewater reuse	_____	= _____
Stormwater	_____	= _____
River discharge	_____	= _____
Lagoons	_____	= _____
Boats	_____	= _____
	Sum of numerical likelihoods:	**=** _____

Step 5: Add **numerical likelihood** for animal pollution sources where they exist for dry and/or wet weather conditions to the **sum of numerical likelihoods** calculated in the previous table.

Very low = 0.1
Low = 0.1
Moderate = 0.2
High = 1.0
Very high = 1.0

Pollution source	Likelihood	Numerical likelihood
Animals	_____	= _____
	Sum of numerical likelihoods (from table above):	**=** _____
	Total numerical likelihood	**=** _____

Step 6: Using the **total numerical likelihood** (calculated above), identify the **sanitary inspection category** using the table below.

Total numerical likelihood	Sanitary inspection category
0.0–00.19	Very low
0.2–00.99	Low
1.0–02.99	Moderate
3.0–11.99	High
>12	Very high

The sanitary inspection category for this site is: _____

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