

Note H(iv): Catchment Assessment Checklist (CAC) for marine recreational waters

The purpose of the checklist is to identify potential catchment risk factors for use in establishing the Sanitary Inspection Category (SIC).

Site/area name: _____

Type of site: *Open coastal beach* _____ *Estuarine* _____ *Enclosed bay* _____ *Other* _____

Location: _____

Map references: Latitude _____ Longitude _____

Name of local authority (specify authority responsible) _____

Name of person completing checklist (for compiling report): _____

Check and tick all that apply and note findings for subsequent report.

Part A: Land use

Type of land or human activity surrounding the recreational site.

Land cover/geography

- | | | | | | |
|-----------------|--------------------------|-------------------------|--------------------------|------------|--------------------------|
| Forest/bush | <input type="checkbox"/> | Pasture | <input type="checkbox"/> | Urban | <input type="checkbox"/> |
| Swamp/mangroves | <input type="checkbox"/> | River/stream/irrigation | <input type="checkbox"/> | Sand dunes | <input type="checkbox"/> |
| Hilly | <input type="checkbox"/> | Flat | <input type="checkbox"/> | | |

Urban

- | | | | | | |
|----------------------------------|--------------------------|------------------------------------|--------------------------|---|--------------------------|
| Residential (population density) | <input type="checkbox"/> | Commercial | <input type="checkbox"/> | Industry (specify) | <input type="checkbox"/> |
| Hotel | <input type="checkbox"/> | Harbour | <input type="checkbox"/> | Airport | <input type="checkbox"/> |
| Road/rail | <input type="checkbox"/> | Military/prison (restricted areas) | <input type="checkbox"/> | Other potentially polluting activity (please specify) | <input type="checkbox"/> |
| Sanitary landfills/old dumps | <input type="checkbox"/> | | | | |

Disposal of human wastes (degree and type of treatment applied - (please specify))

Part B: Rural land use

Indicate the presence of the following for agricultural land use.

| | | | | | |
|---------|--------------------------|------------|--------------------------|--------|--------------------------|
| Sheep | <input type="checkbox"/> | Dairy/beef | <input type="checkbox"/> | Horses | <input type="checkbox"/> |
| Pigs | <input type="checkbox"/> | Deer | <input type="checkbox"/> | | |
| Poultry | <input type="checkbox"/> | Feral | <input type="checkbox"/> | | |

Is there disposal of animal wastes? (please specify) _____

Part C: Water uses

Indicate the presence of the following for the marine area.

| | | | |
|-------------------------|--------------------------|------------------|--------------------------|
| Marina | <input type="checkbox"/> | Fish boat berths | <input type="checkbox"/> |
| Permanent boat moorings | <input type="checkbox"/> | Harbour | <input type="checkbox"/> |
| Temporary boat moorings | <input type="checkbox"/> | Ferry berth | <input type="checkbox"/> |

Additional influencing factors

Size of bathing area:

| | |
|------------|----------------------|
| Area | _____ m ² |
| Length | _____ m |
| Mean width | _____ m |

Is there a beach?

| | |
|--------------------|----------------------|
| Average area | _____ m ² |
| Length | _____ m |
| Width at low tide | _____ m |
| Width at high tide | _____ m |

Are there lagoons used for bathing?

Is the beach subject to above average seasonal/holiday loading?

Direction of prevailing onshore winds _____

Direction of prevailing water currents _____

Shoreline configuration/geomorphology/erosion gullies: _____

Presence of sandbars

Presence of surf: average wave heights _____

Total rainfall

Total annual: _____ mm

Seasonal patterns: _____

Part D: Microbiological hazards

Sewage and animal waste

Is the water quality in the recreational area *affected, or likely to be affected* by:

Is it present?

Is it likely to cause an effect?

- 1 discharge of untreated human effluent onto or adjacent to a recreational area
- 2 stormwater outlets with potential sewage contamination / combined stormwater outlet onto or adjacent to a recreational area
- 3 urban stormwater that is protected from sewage ingress
- 4 on-site or other private sewage disposal systems (e.g. septic tank or package plant)
- 5 communal sewage disposal or primary or secondary treatment facilities
- 6 communal sewage disposal with tertiary treatment facilities
- 7 intensive agricultural use in immediate catchment and potential for run-off from untreated animal effluent (e.g. dairying, piggeries, milking sheds)
- 8 the incidence and density of bird life (particularly where lagoons or estuarine conditions exist)
- 9 water craft mooring or use (for boats, proximity, densities and pump-outs).

Is there a river or stream (including a piped stream) discharging into the recreational area?

Yes

No

If 'Yes' complete Questions 10–15 to determine an effect.

River/stream discharge influences

Is the water quality of any river or stream discharging into the recreational area affected or *likely to be affected* by:

Is it present? Is it likely to cause an effect?

- | | | | |
|----|---|--------------------------|--------------------------|
| 10 | discharge of untreated human effluent, primary or secondary wastewater treatment plant discharge, on-site or other private sewage disposal systems (e.g. septic tank) | <input type="checkbox"/> | <input type="checkbox"/> |
| 11 | stormwater outlets with potential sewage contamination/combined stormwater outlet | <input type="checkbox"/> | <input type="checkbox"/> |
| 12 | communal sewage disposal with tertiary treatment facilities | <input type="checkbox"/> | <input type="checkbox"/> |
| 13 | high-intensity agricultural/rural activities, incidence and density of feral animal/bird population | <input type="checkbox"/> | <input type="checkbox"/> |
| 14 | focal points of drainage, as run-off from low-intensity agriculture/urban/rural catchment | <input type="checkbox"/> | <input type="checkbox"/> |
| 15 | potential for run-off from feral animals (e.g. forest or bush). | <input type="checkbox"/> | <input type="checkbox"/> |

Other influences

Is it present? Is it likely to cause an effect?

- | | | | |
|----|---|--------------------------|--------------------------|
| 16 | tidal movements or onshore winds that are likely to carry water polluted by untreated / primary / secondary treated effluent or onsite waste treatment systems into the recreational area | <input type="checkbox"/> | <input type="checkbox"/> |
| 17 | tidal movements or onshore winds that are likely to carry water polluted by tertiary treated wastewater into the recreational area. | <input type="checkbox"/> | <input type="checkbox"/> |

Further considerations

Yes No

- | | | |
|--|--------------------------|--------------------------|
| Does rainfall trigger contamination events? | <input type="checkbox"/> | <input type="checkbox"/> |
| Does microbiological water quality data exceed the national guidelines (280 single-sample exceedance) on any occasion? | <input type="checkbox"/> | <input type="checkbox"/> |
| Is there additional information implying risk (such as notified illness related to recreational water activities)? | <input type="checkbox"/> | <input type="checkbox"/> |

Note: If the box is ticked indicating the presence of any of the above microbiological hazards, the answer as to whether it is causing an effect may be obvious (e.g. discharge of human or animal effluent onto or adjacent to a recreational area). If it is unclear whether it is causing an effect, a more detailed investigation may be required to establish relative importance and magnitude of the effect.