

Bega Valley Shire Council

Ocean beaches: Camel Rock, Horseshoe Bay, Beares, Tathra, Short Point, Merimbula Main, Pambula, Aslings, Cocora. **Lagoons/estuaries:** Wallaga Lake Bridge, Mogareeka Boat Ramp, Mogareeka Lions Park, Spencer Park, Mitchies Jetty, Bar Beach, Pambula River Mouth, Cuttagee Inlet, Back Lake. **Tidal pools:** Bruce Steer Pool, Big Blue Pool.



Local government area description

Bega Valley Shire is situated on the South Coast of New South Wales. It is the largest coastal council in the State, covering an area of 6279 square kilometres. The council stretches from Wallaga-Lake Bermagui to the north to the Victorian border to the south.

Almost two-thirds of the Shire is either National Park or State Forest, with a further 20 per cent used for agriculture. The major industries in the region are agriculture, tourism, fishing and forestry.

The population of the Bega Valley exceeds 31 000. The main towns are Bega, Merimbula, Eden, Pambula and Bermagui, with numerous small villages (Bega Valley Shire Council 2004).

Program outline

Twenty swimming sites were monitored by Bega Valley Council: nine ocean beaches, nine lagoon or estuarine sites and two pools.

Faecal coliform samples were collected from all locations between early December 2007 and end of January 2008. Compliance with NHMRC (1990) swimming guidelines was assessed for January 2008.

All sites were previously monitored during summer 2004–2005, 2005–2006 and summer 2006–2007 (DEC 2006a and 2006b, DECC 2007).

Bega Valley Council issued joint media releases with DECC to provide the community with information on water quality at swimming sites.

Rainfall data

Rainfall data presented in the timeseries plots were obtained from the Bureau of Meteorology's gauges at Narooma, Bega and Eden (Timbillica). Rainfall for each site is from the closest rain gauge.

Ocean beaches

A high level of compliance was recorded at all nine ocean beaches. Camel Rock, Horseshoe Bay, Beares, Tathra, Short, Merimbula, Pambula, Aslings and Cocora beaches all passed the NHMRC (1990) swimming guidelines in January 2008, the only month in which compliance was assessed (Figure 13).

Low background levels of faecal coliforms were measured at all sites throughout the monitoring period.

Low bacterial levels were also measured during the 2004–2005, 2005–2006 and 2006–2007 summer swimming seasons (DEC 2006a and 2006b, DECC 2007).

Lagoons and estuaries

All nine lagoon and estuarine swimming locations (Wallaga Lake Bridge, Mogareeka Boat Ramp, Mogareeka Lions Club, Spencer Park, Mitchies Jetty, Bar Beach, Pambula River Mouth, Cuttagee Inlet and Back Lake) complied with the NHMRC (1990) swimming water quality guidelines during January 2008 (Figure 13).

Levels of faecal coliforms were generally low at all locations, providing no evidence of sewage contamination during dry weather conditions.

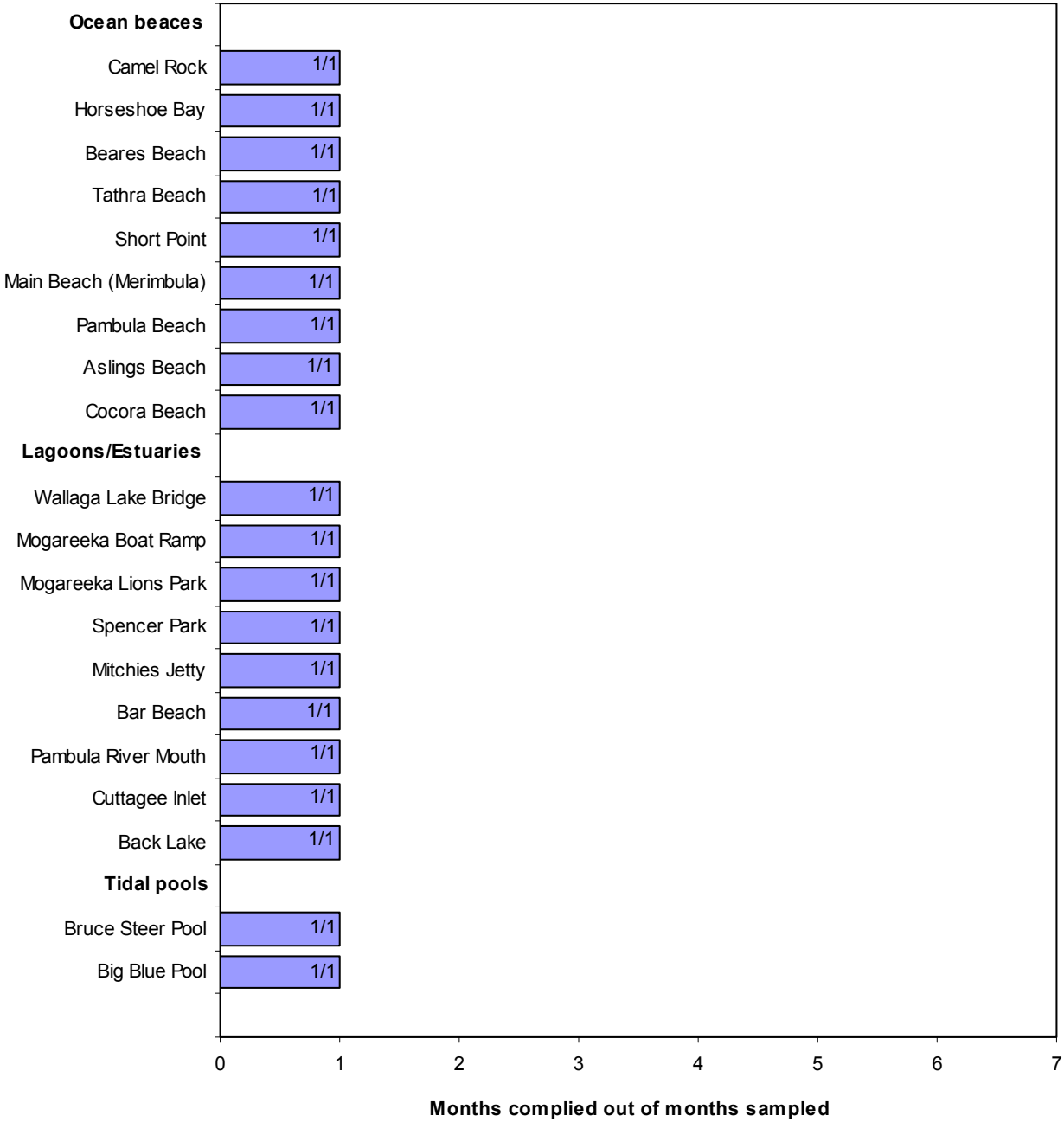
Similar results were obtained during the 2004–2005, 2005–2006 and 2006–2007 summer swimming seasons (DEC 2006a and 2006b, DECC 2007).

Tidal pools

Bruce Steer Pool and Big Blue Pool complied with the NHMRC (1990) swimming water quality guidelines in January 2008 (Figure 13). Low levels of bacteria were measured in the pools, providing no evidence of sewage contamination.

Similar results were obtained during the 2004–2005, 2005–2006 and 2006–2007 summer swimming seasons (DEC 2006a and 2006b, DECC 2007).

Figure 13: Summary of compliance with NHMRC (1990) microbiological guidelines for swimming at Bega Valley Shire Council swimming sites during January 2008



Camel Rock Beach

See page 177 for key to map

Description Camel Rock Beach is situated at the northern end of Haywards Beach, which runs south to Bermagui. Much of the beach is cobbled and gravelled, and the point is named for its camel-shaped rock. The beach is popular with surfers and is one of the few beaches protected from marine stingers during north-east winds. Access is via the Camel Rock carpark.

Pollution sources There are no known pollution sources for this beach.

Compliance Camel Rock Beach was monitored between December 2007 and January 2008. Faecal coliform levels at Camel Rock Beach complied with NHMRC (1990) swimming guidelines in January 2008.

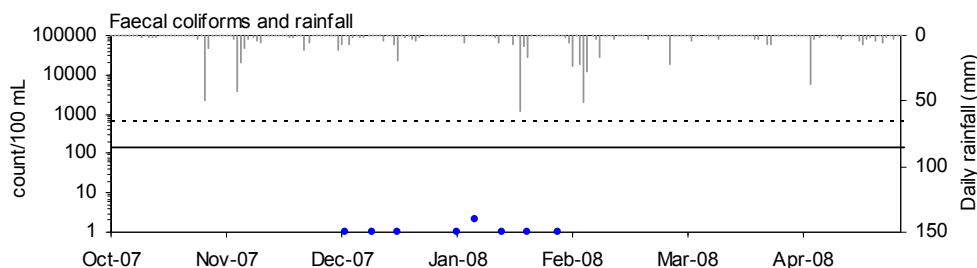


Compliance with NHMRC (1990) swimming guidelines at Camel Rock Beach

	DEC '07	JAN '08
FC	**	PASS

** Insufficient samples to calculate compliance were collected in this month.

Timeseries plots Levels of faecal coliforms were very low throughout the monitoring period, providing no evidence of sewage contamination.



See page 5 for key to graph

Horseshoe Bay

See page 177 for key to map

Description

Horseshoe Bay is approximately 300 metres long and runs from Bermagui Point towards Point Dickinson. The beach is backed by a park, playing field and car park. The bay faces the north and usually has small surf conditions, ideal for children. It is relatively safe and is patrolled during summer.



Pollution sources

Stormwater runoff from the main business district of Bermagui and car parks may affect the bay following heavy rain. The bay is also used for commercial beach fishing (hauling), which may temporarily affect beach amenity.

Compliance

Horseshoe Bay was monitored between December 2007 and January 2008. Faecal coliform levels at Horseshoe Bay complied with NHMRC (1990) swimming guidelines in January 2008.

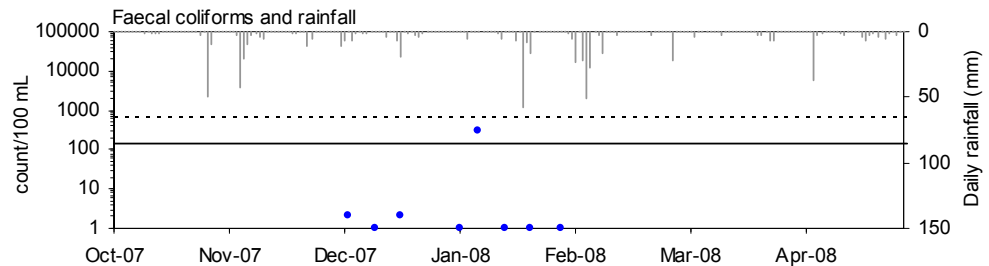
Compliance with NHMRC (1990) swimming guidelines at Horseshoe Bay

	DEC '07	JAN '08
FC	**	PASS

** Insufficient samples to calculate compliance were collected in this month.

Timeseries plots

Levels of faecal coliforms remained generally low throughout the monitoring period, with a single elevated result recorded in January 2008.



See page 5 for key to graph

Beares Beach

See page 177 for key to map

Description This unpatrolled surf beach is situated on the southern outskirts of Bermagui. The beach is approximately one kilometre long and because it is protected from north-east winds during summer it is a popular tourist and surfing beach. Access is via the carpark at the northern end of the beach.

Pollution sources The Bermagui Sewage Treatment Plant discharges treated effluent to the ocean via a near-shore outfall approximately 350 metres south of Beares Beach. Stormwater from the surrounding residential area discharges through a drain across the beach.

Compliance Beares Beach was monitored between December 2007 and January 2008. Faecal coliform levels at Beares Beach complied with NHMRC (1990) swimming guidelines in January 2008.

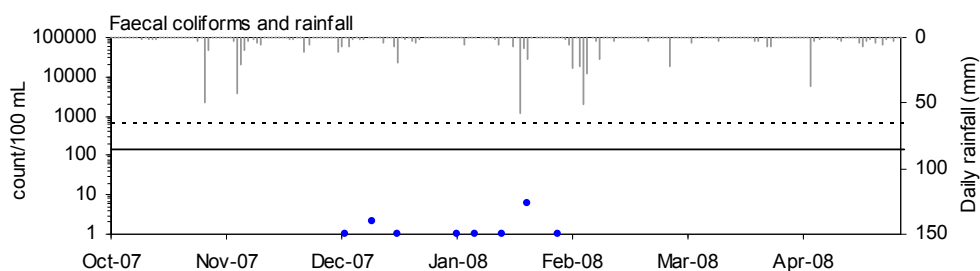


Compliance with NHMRC (1990) swimming guidelines at Beares Beach

	DEC '07	JAN '08
FC	**	PASS

** Insufficient samples to calculate compliance were collected in this month.

Timeseries plots Levels of faecal coliforms were generally very low throughout the monitoring period, providing no evidence of sewage contamination.



See page 5 for key to graph

Tathra Beach

See page 177 for key to map

Description

Tathra Beach is approximately five kilometres long and is the main swimming beach in Tathra. The sampling site is located near the patrolled area at the surf club in the southern corner of the beach. The beach is protected from southern swells and popular with the local community and tourists.

Pollution sources

Runoff from the small urban area drains to the beach, and there is a caravan park behind the dune near the site. It is possible that the Tathra Sewage Treatment Plant, which may discharge to the Bega River estuary during very high rainfall, could affect the water quality at this location in these conditions.

Compliance

Tathra Beach was monitored between December 2007 and January 2008. Faecal coliform levels at Tathra Beach complied with NHMRC (1990) swimming guidelines in January 2008.



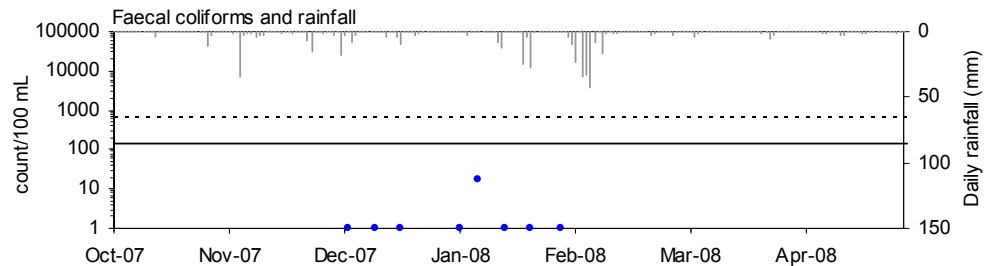
Compliance with NHMRC (1990) swimming guidelines at Tathra Beach

	DEC '07	JAN '08
FC	**	PASS

** Insufficient samples to calculate compliance were collected in this month.

Timeseries plots

Levels of faecal coliforms were generally low throughout the monitoring period, providing no evidence of sewage contamination.



See page 5 for key to graph

Short Point Beach

See page 177 for key to map

Description

Short Point Beach is a popular beach located between Merimbula and Tura. The southern end of the beach is patrolled during summer, and this is the location of the sampling site. The beach is backed by a carpark and caravan park. A large rock platform and rocky reefs can create dangerous swimming conditions. The majority of beach users tend to be surfers.



Pollution sources

The adjacent Back Lake is intermittently open to the ocean and receives urban runoff during heavy rain. The upgraded Tura Beach Sewage Treatment plant was opened in August 2005. Treated effluent from the plant is discharged for reuse on the adjacent golf course. Council also has an EPA licence to use exfiltration beds in the dune system adjacent to Tura Beach.

Compliance

Short Point Beach was monitored between December 2007 and January 2008. Faecal coliform levels at Short Point Beach complied with NHMRC (1990) swimming guidelines in January 2008.

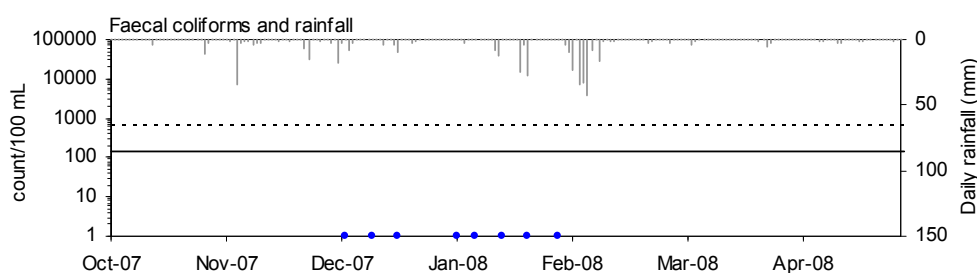
Compliance with NHMRC (1990) swimming guidelines at Short Point Beach

	DEC '07	JAN '08
FC	**	PASS

** Insufficient samples to calculate compliance were collected in this month.

Timeseries plots

Levels of faecal coliforms remained very low throughout the monitoring period, providing no evidence of sewage contamination.



See page 5 for key to graph

Merimbula Main Beach

See page 177 for key to map

Description

Merimbula Main Beach is the northern end of a six kilometre long beach that extends from the entrance of Merimbula Lake south to Pambula. The beach is patrolled during summer and, owing to its proximity to the town centre, it is popular with the local community and tourists. The beach faces south-east and offers calm conditions in the prevailing summer northeast winds.



Pollution sources

The Sewage Treatment Plant for Merimbula and Pambula is located approximately 3.5 kilometres south of the site and discharges tertiary-treated effluent via a near-shore outfall at the beach. A portion of effluent is currently reused on the adjacent golf course.

Compliance

Merimbula Main Beach was monitored between December 2007 and January 2008. Faecal coliform levels at Merimbula Main Beach complied with NHMRC (1990) swimming guidelines in January 2008.

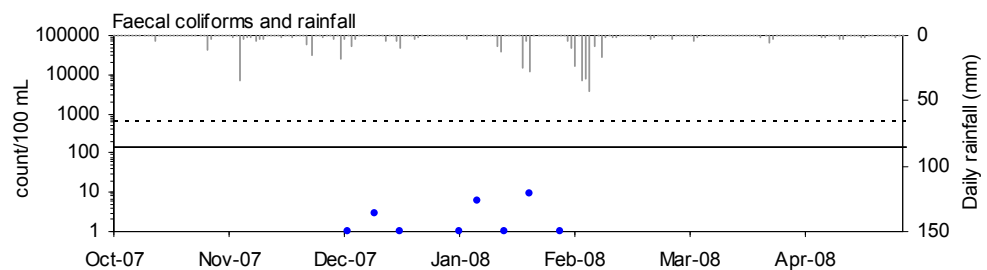
Compliance with NHMRC (1990) swimming guidelines at Merimbula Main Beach

	DEC '07	JAN '08
FC	**	PASS

** Insufficient samples to calculate compliance were collected in this month.

Timeseries plots

Levels of faecal coliforms remained generally low throughout the monitoring period, providing no evidence of sewage contamination.



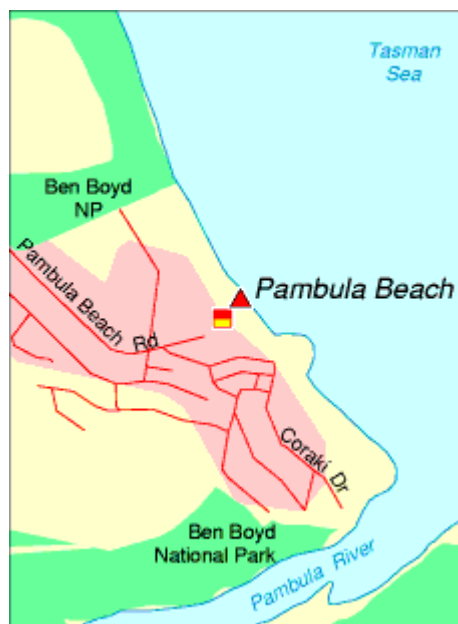
See page 5 for key to graph

Pambula Beach

See page 177 for key to map

Description

Pambula Beach is located at the southern end of a six kilometre long beach that extends to the entrance of Merimbula Lake in the north. The beach is patrolled during summer and is popular with the local community and tourists. A carpark and caravan park are located behind the beach. The sampling site is at the patrolled section of the beach.



Pollution sources

The Sewage Treatment Plant for Merimbula and Pambula is located approximately 2.5 kilometres north of the site and discharges tertiary-treated effluent via a near-shore outfall at the beach. There have been community concerns about the cleanliness of the water in this area. There are also caravan parks and camping grounds adjacent to the beach. Over the past three years Pambula Beach has experienced problems with several species of non-toxic marine algae blooms induced by ocean upwellings.

Compliance

Pambula Beach was monitored between December 2007 and January 2008. Faecal coliform levels at Pambula Beach complied with NHMRC (1990) swimming guidelines in January 2008.

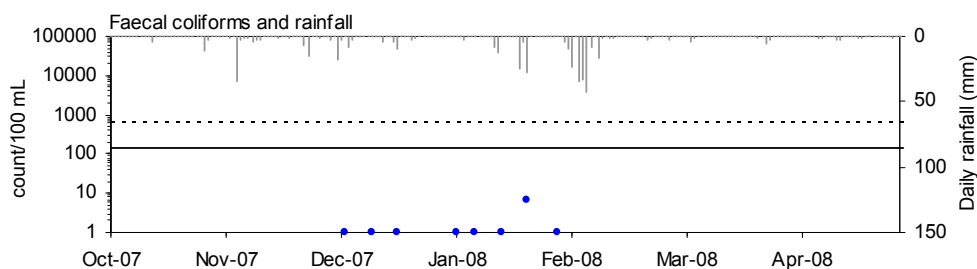
Compliance with NHMRC (1990) swimming guidelines at Pambula Beach

	DEC '07	JAN '08
FC	**	PASS

** Insufficient samples to calculate compliance were collected in this month.

Timeseries plots

Levels of faecal coliforms were generally very low throughout the monitoring period, providing no evidence of sewage contamination.



See page 5 for key to graph

Aslings Beach

See page 177 for key to map

Description

Aslings Beach is the main surf beach in Eden. It is popular with the local community and tourists. The southern end of the beach is patrolled during summer. The beach is backed by a cricket oval, carpark and parkland with picnic facilities. The beach forms part of a barrier dune separating Curalo Lagoon from the ocean.



Pollution sources

Curalo Lake intermittently discharges to the beach approximately two kilometres north of the sampling site. Urban stormwater runoff drains to both the lake and the beach, and following heavy rainfall this may be a source of pollution. Eden Sewage Treatment Plant discharges treated effluent approximately 500 metres south of the southern end of the beach. Samples are collected at the southern end of the beach to monitor this possible source of pollution.

Compliance

Aslings Beach was monitored between December 2007 and January 2008. Faecal coliform levels at Aslings Beach complied with NHMRC (1990) swimming guidelines in January 2008.

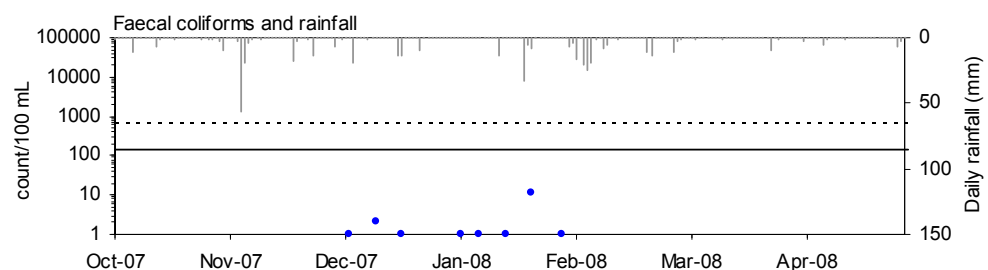
Compliance with NHMRC (1990) swimming guidelines at Aslings Beach

	DEC '07	JAN '08
FC	**	PASS

** Insufficient samples to calculate compliance were collected in this month.

Timeseries plots

Levels of faecal coliforms were generally very low throughout the monitoring period, providing no evidence of sewage contamination.



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Cocora Beach

See page 177 for key to map

Description Cocora Beach is a protected ocean beach approximately 300 metres long and located in the north of Twofold Bay. The sampling site is near the centre of the beach, approximately one kilometre from Eden's town centre. The beach is not patrolled but remains popular with families with small children in summer.

Pollution sources There is a small cluster of holiday homes and dwellings adjacent to the beach, and the urban centre of Eden is within one kilometre. Accidental or illegal spills and discharges from vessels using the port could affect the water quality from time to time.

Compliance Cocora Beach was monitored between December 2007 and January 2008. Faecal coliform levels at Cocora Beach complied with NHMRC (1990) swimming guidelines in January 2008.

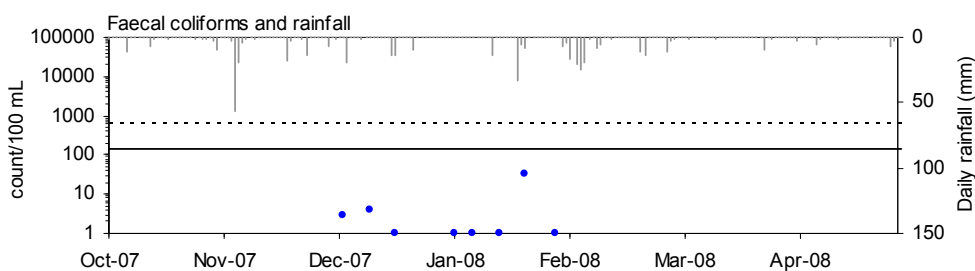


Compliance with NHMRC (1990) swimming guidelines at Cocora Beach

	DEC '07	JAN '08
FC	**	PASS

** Insufficient samples to calculate compliance were collected in this month.

Timeseries plots Levels of faecal coliforms were generally low throughout the monitoring period, remaining below the median guideline limit.



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Wallaga Lake

See page 177 for key to map

Description

The sampling site is located at a popular fishing spot approximately one kilometre from the mouth of the Lake. The Lake is usually closed to the ocean, so the area is non-tidal and calm. This area of the lake is also used for swimming, sailing, prawning and water skiing. The area has great spiritual significance to local Aboriginal people. The surrounding Gulaga National Park, which incorporates the former Wallaga Lake National Park, has been handed back to the Aboriginal owners for joint management as a National Park.



Pollution sources

Until recently residents and caravan parks in the surrounding area relied on septic tanks with absorption trenches and some pump-out systems. At peak holiday times the capacity of these systems could be exceeded, and sewage could affect the water quality of the lake. The Bermagui Wallaga Lake Sewerage Scheme (BWLSS) is now operational and property connections to the pressure sewerage system commenced on 31 March 2008.

Compliance

Wallaga Lake was monitored between December 2007 and January 2008. Faecal coliform levels at Wallaga Lake complied with NHMRC (1990) swimming guidelines in January 2008.

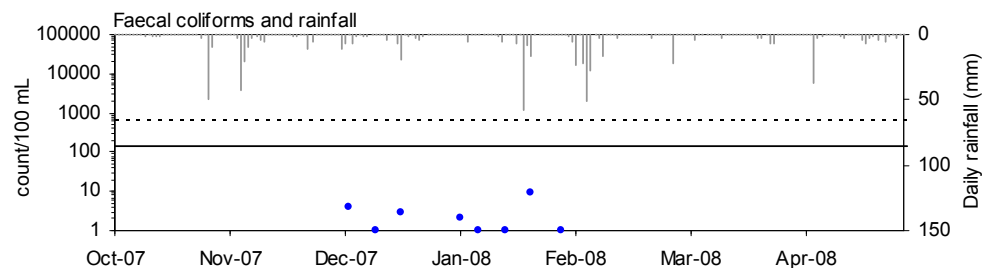
Compliance with NHMRC (1990) swimming guidelines at Wallaga Lake

	DEC '07	JAN '08
FC	**	PASS

** Insufficient samples to calculate compliance were collected in this month.

Timeseries plots

Levels of faecal coliforms were remained low throughout the monitoring period, providing no evidence of sewage contamination.



See page 5 for key to graph

Cuttagee Inlet

See page 177 for key to map

Description

The sampling site is located at the entrance to Cuttagee Lake, a near-pristine coastal waterway a few kilometres south of Bermagui town centre. The sample site is sandy and protected, ideal for children. The inlet is occasionally open to the ocean at Cuttagee Beach. The area is popular for swimming, prawning, fishing (commercial and recreational) and picnicing.



Pollution sources

Although the catchment contains part of Biamanga National Park, during heavy rain the water quality in the lake can be affected by turbid river inflows. There is a roadway and bridge immediately adjacent to the site; these could also be sources of localised pollution.

Compliance

Cuttagee Inlet was monitored between December 2007 and January 2008. Faecal coliform levels at Cuttagee Inlet complied with NHMRC (1990) swimming guidelines in January 2008.

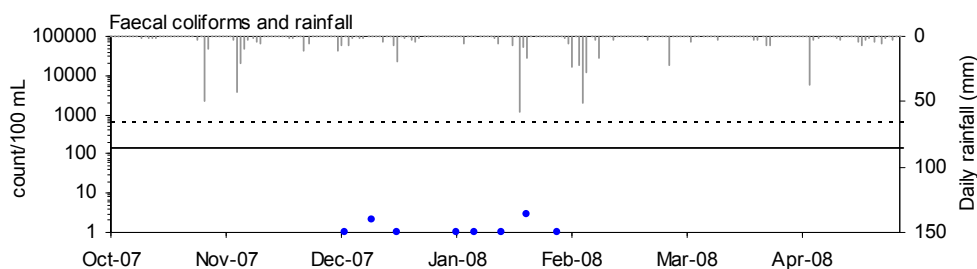
Compliance with NHMRC (1990) swimming guidelines at Cuttagee Inlet

	DEC '07	JAN '08
FC	**	PASS

** Insufficient samples to calculate compliance were collected in this month.

Timeseries plots

Levels of faecal coliforms were generally very low throughout the monitoring period, providing no evidence of sewage contamination.



See page 5 for key to graph

Spencer Park

See page 177 for key to map

Description

This swimming area is located in Merimbula Lake, adjacent to the Big Game Fishing Club and close to the centre of town. The small beach is on the northern side of the entrance channel and is popular in summer for water sports and swimming. It is also close to parks and amenities.



Pollution sources

Urban runoff from the town centre of Merimbula may affect this location during heavy rain. This area is also adjacent to waterfront holiday homes and picnic areas.

Compliance

Spencer Park was monitored between December 2007 and January 2008. Faecal coliform levels at Spencer Park complied with NHMRC (1990) swimming guidelines in January 2008.

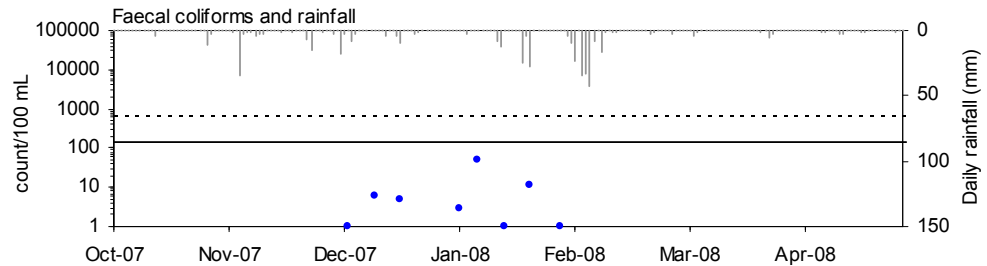
Compliance with NHMRC (1990) swimming guidelines at Spencer Park

	DEC '07	JAN '08
FC	**	PASS

** Insufficient samples to calculate compliance were collected in this month.

Timeseries plots

Levels of faecal coliforms were generally low throughout the monitoring period, with all values below the median guideline limit.



See page 5 for key to graph

Back Lake

See page 177 for key to map

Description

Back Lake is a small lagoon located behind Short Point Beach. The lake entrance is at the southern end of the beach and is periodically open to the ocean. The shallow waters of the lake offer a warm, safe swimming environment for young children, particularly as the ocean beach is not always ideal for swimming.



Pollution sources

Back Lake is intermittently open to the ocean and receives urban runoff during heavy rain.

Compliance

Back Lake was monitored between December 2007 and January 2008. Faecal coliform levels at Back Lake complied with NHMRC (1990) swimming guidelines in January 2008.

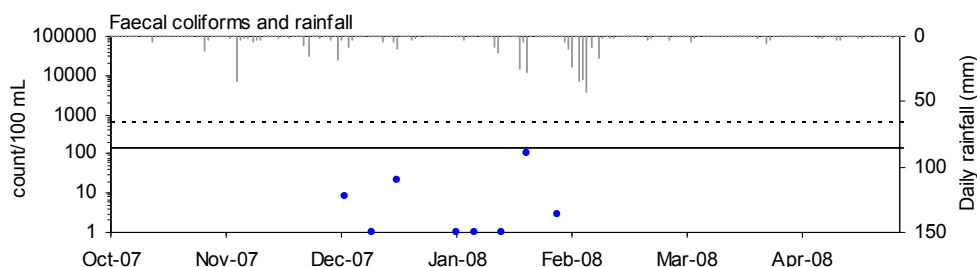
Compliance with NHMRC (1990) swimming guidelines at Back Lake

	DEC '07	JAN '08
FC	**	PASS

** Insufficient samples to calculate compliance were collected in this month.

Timeseries plots

Levels of faecal coliforms were generally low throughout the monitoring period, with all values below the median guideline limit.



See page 5 for key to graph

Mogareeka Boat Ramp

See page 177 for key to map

Description

This is a popular swimming area located on the northern side of the Bega River estuary, approximately 500 metres upstream of the entrance. The Mogareeka Inlet is intermittently open to the ocean. This area is also well known for water-sports and is popular for picnics. Threatened shorebirds such as the Little Tern nest at the entrance to the estuary.



Pollution sources

The Tathra Sewage Treatment Plant discharges to the estuary and has historically caused some pollution of the Bega River Estuary. The plant has recently been upgraded to cope with larger peak season loads and wet weather storage. There may be some runoff from nearby urban areas such as Tathra and Mogareeka. There is also some community concern about faecal pollution from dairy farms located in the upper catchment.

Compliance

Mogareeka Boat Ramp was monitored between December 2007 and January 2008. Faecal coliform levels at Mogareeka Boat Ramp complied with NHMRC (1990) swimming guidelines in January 2008.

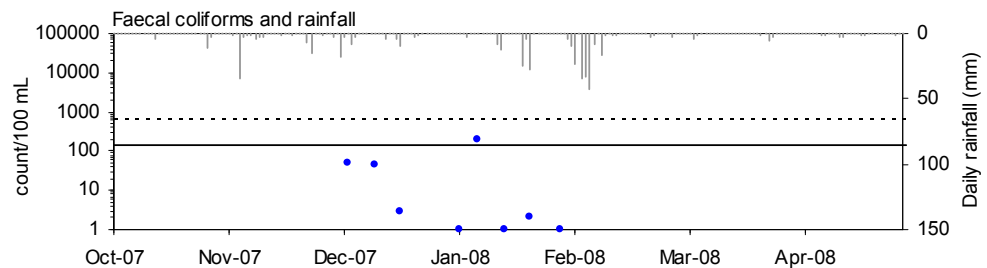
Compliance with NHMRC (1990) swimming guidelines at Mogareeka Boat Ramp

	DEC '07	JAN '08
FC	**	PASS

** Insufficient samples to calculate compliance were collected in this month.

Timeseries plots

Levels of faecal coliforms were generally low throughout the monitoring period, with a single value above the median guideline limit recorded in early January 2008 during dry weather conditions.



See page 5 for key to graph

Mogareeka Lions Park

See page 177 for key to map

Description

This is a popular swimming area located on the southern side of the Bega River estuary, approximately 500 metres upstream of the entrance. The Mogareeka Inlet is intermittently open to the ocean. This area is also well known for water-sports and is popular for picnics. Threatened shorebirds such as the Little Tern nest at the entrance to the estuary.



Pollution sources

The Tathra Sewage Treatment Plant discharges to the estuary and has caused some pollution of the Bega River Estuary. The plant has recently been upgraded to cope with larger peak season loads and wet weather storage. There may be some runoff from nearby urban areas such as Tathra and Mogareeka. There is also some community concern about faecal pollution from dairy farms located in the upper catchment.

Compliance

Mogareeka Lions Park was monitored between December 2007 and January 2008. Faecal coliform levels at Mogareeka Lions Park complied with NHMRC (1990) swimming guidelines in January 2008.

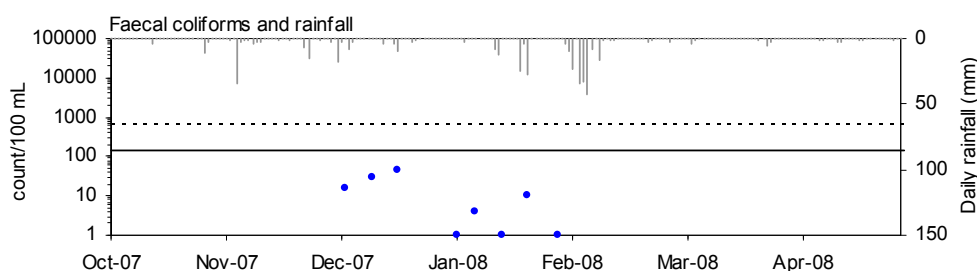
Compliance with NHMRC (1990) swimming guidelines at Mogareeka Lions Park

	DEC '07	JAN '08
FC	**	PASS

** Insufficient samples to calculate compliance were collected in this month.

Timeseries plots

Levels of faecal coliforms were generally low throughout the monitoring period, remaining below the median guideline limit.



See page 5 for key to graph

Mitchies Jetty

See page 177 for key to map

Description

This is a protected swimming area located on the southern shore of the entrance to Merimbula Lake, approximately 400 metres from the ocean. The site is adjacent to historic fish pens and a boat hire business. The area is shallow and sandy, and provides a protected and calm swimming and play area that is very popular with families with small children.



Pollution sources

Urban runoff from the town centre of Merimbula may affect this location during heavy rain.

Compliance

Mitchies Jetty was monitored between December 2007 and January 2008. Faecal coliform levels at Mitchies Jetty complied with NHMRC (1990) swimming guidelines in January 2008.

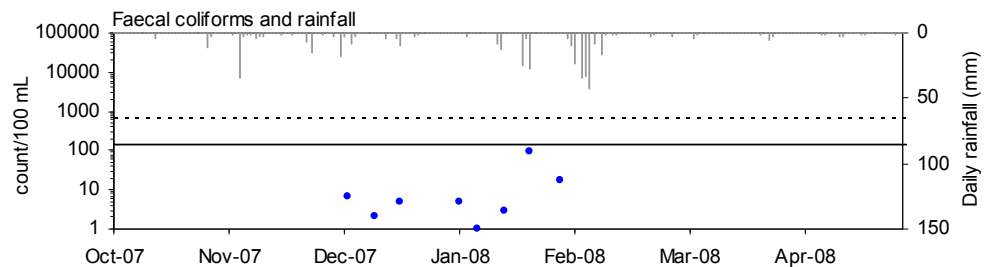
Compliance with NHMRC (1990) swimming guidelines at Mitchies Jetty

	DEC '07	JAN '08
FC	**	PASS

** Insufficient samples to calculate compliance were collected in this month.

Timeseries plots

Levels of faecal coliforms were generally low throughout the monitoring period, with all values below the median guideline limit.



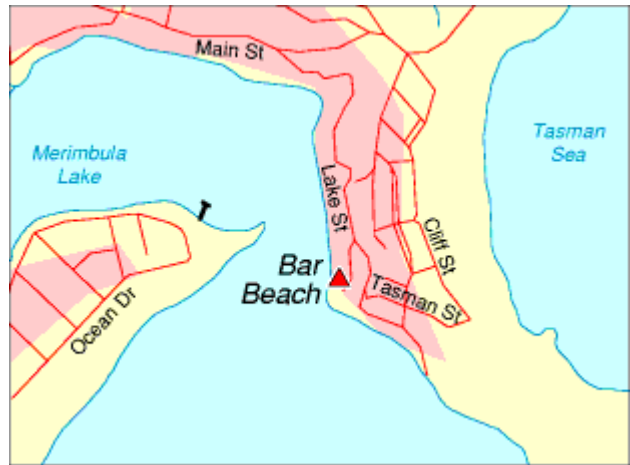
See page 5 for key to graph

Bar Beach

See page 177 for key to map

Description

Bar Beach is a sandy intertidal area located on the northern side of the inlet to Merimbula Lake. The beach is popular with local families during summer and is backed by a carpark. The area is used for boating and swimming, although it is subject to strong tidal currents and is not patrolled.



Pollution sources

Urban runoff from the town centre of Merimbula may affect this location during heavy rain. This area is also adjacent to waterfront holiday homes and picnic areas.

Compliance

Bar Beach was monitored between December 2007 and January 2008. Faecal coliform levels at Bar Beach complied with NHMRC (1990) swimming guidelines in January 2008.

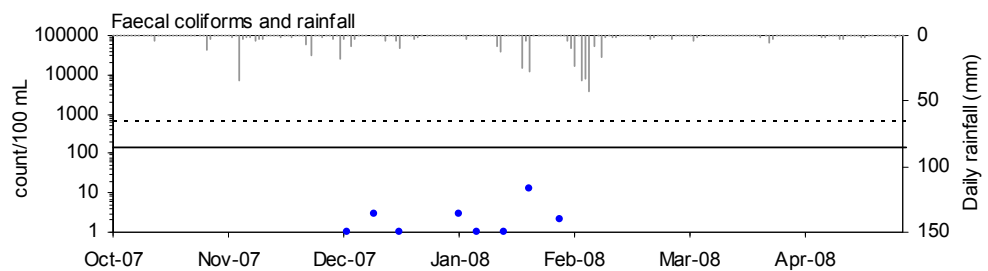
Compliance with NHMRC (1990) swimming guidelines at Bar Beach

	DEC '07	JAN '08
FC	**	PASS

** Insufficient samples to calculate compliance were collected in this month.

Timeseries plots

Levels of faecal coliforms were generally low throughout the monitoring period, with all values below the median guideline limit.



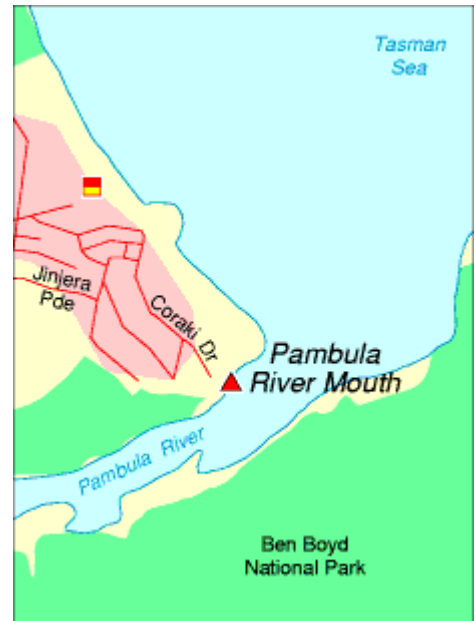
See page 5 for key to graph

Pambula River Mouth

See page 177 for key to map

Description

The mouth of Pambula River is a sandy tidal reach that is shallow, calm and protected from ocean swells. The river is well-flushed and open to the ocean and provides an alternative to the nearby Pambula Beach swimming area for families with small children. The southern side of the channel is part of Ben Boyd National Park.



Pollution sources

Pambula Lake contains little development and much of the lake catchment is bushland or national park. The sewage treatment plant for Merimbula and Pambula discharges to the ocean approximately 2.5 km north of the location. Caravan parks and camp grounds with septic systems are located in the vicinity of the site.

Compliance

Pambula River Mouth was monitored between December 2007 and January 2008. Faecal coliform levels at Pambula River Mouth complied with NHMRC (1990) swimming guidelines in January 2008.

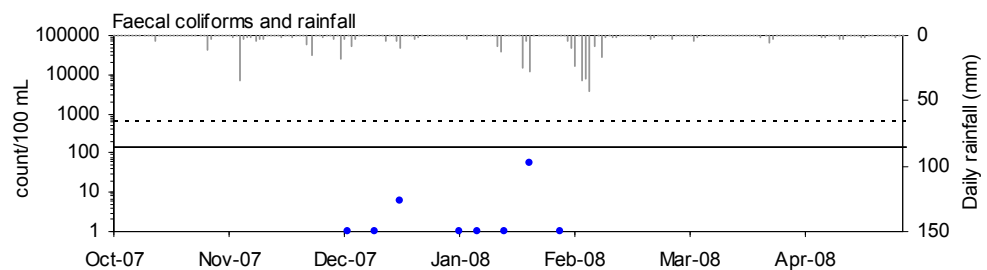
Compliance with NHMRC (1990) swimming guidelines at Pambula River Mouth

	DEC '07	JAN '08
FC	**	PASS

** Insufficient samples to calculate compliance were collected in this month.

Timeseries plots

Levels of faecal coliforms remained generally low throughout the monitoring period with all values below the median guideline limit.



See page 5 for key to graph

Big Blue Pool

See page 177 for key to map

Description

Blue Pool is a historic swimming area located around the headland from Horseshoe Bay, to the south of Bermagui town centre. The big pool is approximately 40 x 20 metres and up to five metres deep. It is popular for swimming and snorkelling. The pool is well-flushed with seawater and a popular location for lap-swimming all year and for families in summer.



Pollution sources

The Bermagui Sewage Treatment Plant discharges treated effluent to the ocean via a near-shore outfall approximately two kilometres south of the pool.

Compliance

Blue Pool was monitored between December 2007 and January 2008. Faecal coliform levels at Big Blue Pool complied with NHMRC (1990) swimming guidelines in January 2008.

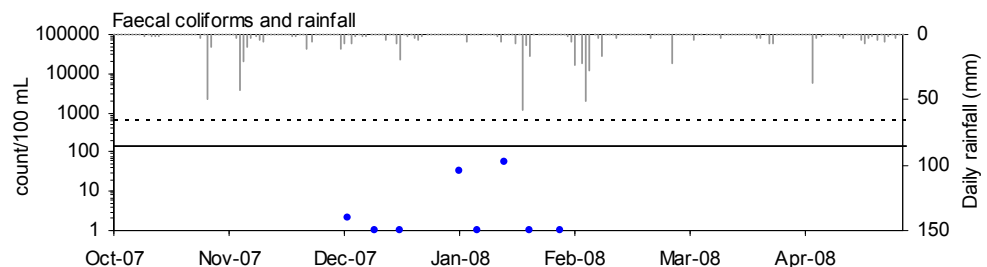
Compliance with NHMRC (1990) swimming guidelines at Big Blue Pool

	DEC '07	JAN '08
FC	**	PASS

** Insufficient samples to calculate compliance were collected in this month.

Timeseries plots

Levels of faecal coliforms remained generally low throughout the monitoring period, providing no evidence of sewage contamination.



See page 5 for key to graph

