



9. Sandstone Point to Turner's Camp

9.1 Site description

The Sandstone Point study area is located from the Bribie Island Bridge north to Turner's Camp on the northeast section of Sandstone Point along the eastern mainland coastline (refer to [Figure 43](#)). Between the Bribie Island Bridge and Spinnaker Sound Marina, the foreshore is under freehold tenure. Spinnaker Sound Marina itself is covered by leasehold tenure. The foreshore northwest of this extending to Turner's Camp in esplanade reserve under the trusteeship of Moreton Bay Regional Council.

South of the Spinnaker Sound Marina entrance, mud flats extend out beyond a small beach zone, with foreshore erosion evident and impacting landscaped plants and maintained lawns (refer to [Photo Plate 9-1](#) and [Photo Plate 9-2](#)). Close to the bridge is an area of mangrove plants and oysters along sandy and rocky beach areas. The marina entrance has a concrete sea wall and rock protection on each side (refer to [Photo Plate 9-3](#) and [Photo Plate 9-4](#)).

North of the marina is a public boat ramp with fish-cleaning bench and car park, with minor erosion along the foreshore and an area of inundated mangrove wetland behind the foredune ([Photo Plate 9-5](#) and [Photo Plate 9-6](#)).

A seagrass bed extends north of the boat ramp (north of the marina), which may hold significance as a food source for marine mammals, shorebirds and fish and as habitat for marine invertebrates (refer to [Photo Plate 9-7](#)).

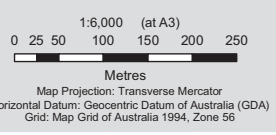
Turner's Camp is the site of a memorial for Frederick and Alma Turner. The foreshore shows evidence of minor erosion where fill has been placed for the car park (refer to [Photo Plate 9-8](#)). The shoreline features seagrass beds along its length, providing important habitat for marine animals and birds. The park contains a memorial statue, car park area and toilet facility.

A desktop review of this area indicated that the following are a consideration at this site:

- ▶ No declared fish habitat is mapped between Sandstone Point and Spinnaker Sound Marina. A declared fish habitat area is mapped immediately north-west of the northern part of this study area (refer to declared fish habitat area map in [Appendix B](#)).
- ▶ Remnant vegetation that is a 'least concern' RE is mapped at this site. The RE found at this site is RE 12.2.5 which is described as open-forest to low closed forest of eucalypt, banksia and melaleuca species on coastal dunes and sandy banks of coastal streams. This site is not mapped as essential habitat for protected wildlife.
- ▶ A Coastal Management District over Land is mapped along the shoreline and some esplanade and park areas in this section (refer to [Appendix B](#)).



Stormwater Pipe	Cadastral Boundary	Section 86 Permits	Culvert/Bridge/Weir/Groyne/Wall	Dredging Area
Footpath	Community Facility	Jetty/Pier/Pontoon	Marina/Building	Beach Nourishment
Main Road	Foreshore Reserve	Boat Ramp/Works/Access	Channel/Canal	Seawall



Moreton Bay Regional Council
Shoreline Erosion Management Plan

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Sandstone Point to Turner's Camp -
Locality Plan

Figure 43

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Data source: MBRC Quickbird Image and Council Infrastructure, 2009; DERM, Moreton Bay DCDB, 2009, Section 86 Permits, 2010. Created by: S Potts

Photo Plate 9-1 Shoreline south of marina



Source: GHD 21/12/2009 16:13

Photo Plate 9-2 Erosion south of marina



Source: GHD 21/12/2009 16:45

Photo Plate 9-3 Marina entrance



Source: GHD 21/12/2009 17:14

Photo Plate 9-4 Sea wall on southern side of marina entrance



Source: GHD 21/12/2009 17:15

Photo Plate 9-5 Minor erosion south of boat ramp



Source: GHD 21/12/2009 17:16

Photo Plate 9-6 Shoreline north of boat ramp



Source: GHD 21/12/2009 17:16

Photo Plate 9-7 Seagrass beds from boat ramp to Turner's Camp



Source: GHD 21/12/2009 17:46

Photo Plate 9-8 Turner's Camp park



Source: GHD 21/12/2009 17:45



9.2 Historical shoreline changes

9.2.1 Aerial photography assessment

The coverage of aerial photography on the western side of Pumicestone Passage is not as comprehensive or regular as that over the Bribie Island shoreline, particularly before 1982. The earliest photography available dates from 1942 and shows very little development along the shoreline. There appears to be several small jetties and possibly some oyster beds in the nearshore area in the vicinity of Sandstone Point. Much of the shoreline is fronted by a wide sand flat and is punctuated by several small coastal creeks. The width of the upper beach tends to decrease towards the southern end of the coastal sector as the sand flat widens.

By 1982, significant development had occurred in the area, most notably the construction of the Bribie Island Bridge and Spinnaker Sound Marina. The marina appears to have been located in an existing low lying area that was once a small coastal creek. Material dredged from the marina does not appear to have been used to nourish the surrounding beach areas. The jetties evident in the 1942 images appear to have been removed, possibly as a result of the bridge providing access to Bribie Island. The structures that appeared to be oyster beds are also no longer evident. The beach in the vicinity of the bridge and the marina appears to have undergone relatively little change, particularly since 1975 (refer to Figure 44). While the location of the cadastre in some areas with respect to the coastline suggests some discrepancies, cadastral information is not deemed to be a reliable indicator of the location of the coastline and the outcomes of the aerial photography analysis have been relied upon in this regard.

Based on the available aerial photography, additional dredging of the sand flat at the marina entrance is evident in the 1990 photography. By 1999, the dredged channel was not as well defined, indicating that the sediment transport rates are relatively low. The lack of noticeable accretion or erosion on either side of the marina entrance also indicates that sediment transport is occurring in both directions at approximately equal rates. The 2009 photography did not have good penetration of the water surface so was unable to be used to identify if changes to the sand flat had occurred.

Just north of the marina and seaward of the Silver Shores Caravan Park, an informal boat ramp area had developed by 1982. Small changes in the shoreline are evident by 1999; the discontinuity of sand in the vicinity of the boat ramp again reinforces that sediment transport rates are low due to the time taken for the discontinuity to become evident, but it also indicates that at the time, the dominant sediment transport direction was marginally to the north. More recently, sand has built up on the northern side of the boat ramp (Plate 9.6) and minor erosion has occurred to the south of the ramp (Plate 9.5), indicating a net transport from north to south. By 2009 the boat ramp and substantial car and boat parking area had been formalised.

North of the boat ramp but still seaward of the caravan park, the shoreline has experienced some localised movements over time due to migration of a small coastal creek (refer Figure 44 Shorelines). The closest development is located approximately 30m landward of the back of the beach in this area and to date the shoreline has been able to respond to these changes naturally.

The remaining sector of beach between the caravan park and Turners Camp has very limited aerial photography coverage. There does appear to have been a recession of the beach

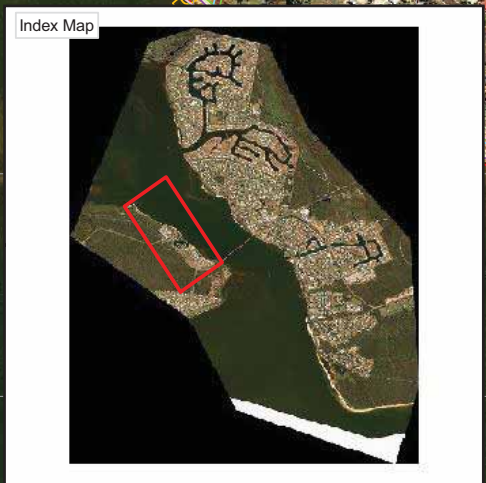


alignment since 1958 but there does not appear to be any significant shoreline changes evident from the more recent photography since then.

Overall, the shoreline between the marina and the bridge, and from the caravan park to Turners Camp has been relatively stable (refer to Figure 44 Shorelines and Figure 45 Vegetation Lines). The localised changes in the centre of the beach compartment (i.e. around the marina and the boat ramp) have been small and largely driven by human interference.

9.2.2 Likely future changes

It is expected that the boat ramp will continue to cause an interruption to the longshore transport of sediments. A program of occasional manual relocation of beach sediments from the southern to the northern sides of the ramp may be needed to ensure that the ramp remains functional without causing adverse impacts to the beach. Localised beach changes around the small creek adjacent to the caravan park will also continue. Maintenance of the sediment supply to this area from the south will help minimise requests for any future property protection works at the caravan park.



LEGEND Shorelines

	1982		2003
	1958		1990
	1975		2007
			1999
			2009

1:6,000 (at A3)
 0 25 50 100 150 200 250
 Metres

Map Projection: Transverse Mercator
 Horizontal Datum: Geocentric Datum of Australia (GDA)
 Grid: Map Grid of Australia 1994, Zone 56



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**Sandstone Point to Turner's Camp -
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Figure 44



LEGEND Vegetation Lines		1982	2003
1958	1990	2007	
1975	1999	2009	

1:6,000 (at A3)
 0 25 50 100 150 200 250
 Metres

Map Projection: Transverse Mercator
 Horizontal Datum: Geocentric Datum of Australia (GDA)
 Grid: Map Grid of Australia 1994, Zone 56



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**Sandstone Point to Turner's Camp -
 Vegetation Lines**

Figure 45



9.3 Longshore transport

This section presents details of the potential longshore transport for this particular section of the coastline with both the annual southerly, northerly, and net transport movements shown as well as the seasonal variations. Just as the annual calculations are based on the average wind climate over the period of record for the full 12 months, the seasonal calculations are based on the average wind climate over the period of record for that particular season.

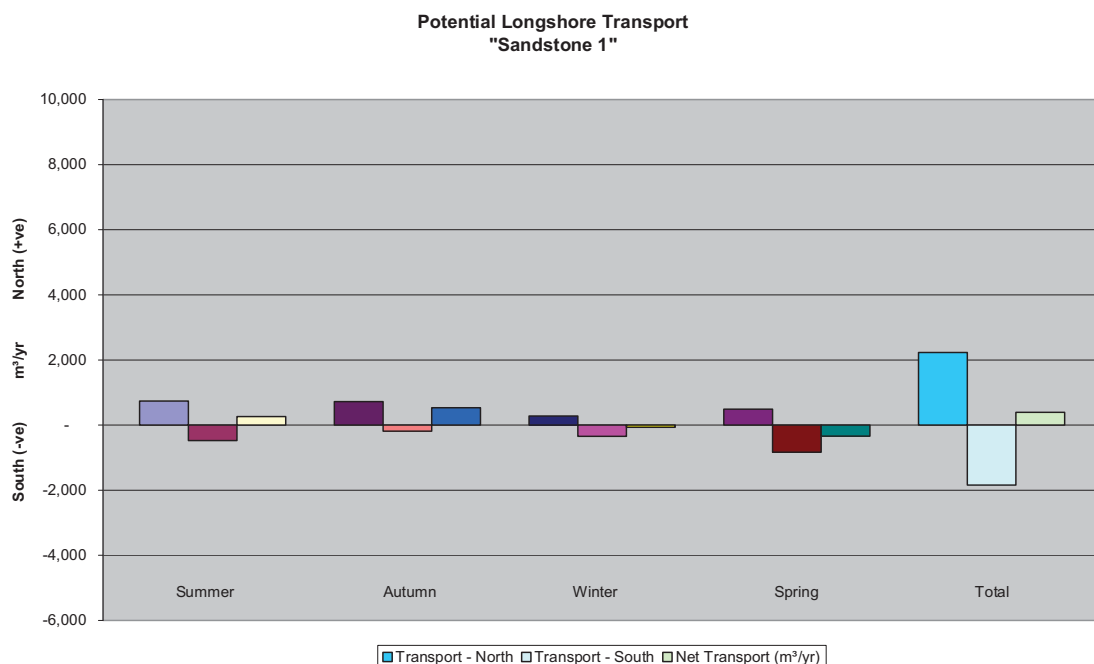
The seasons are defined as follows:

- ▶ Summer – December, January, February;
- ▶ Autumn – March, April, May;
- ▶ Winter – June, July, August; and
- ▶ Spring – September, October, November.

For this section of the coast the following observations can be made (refer [Figure 46](#)):

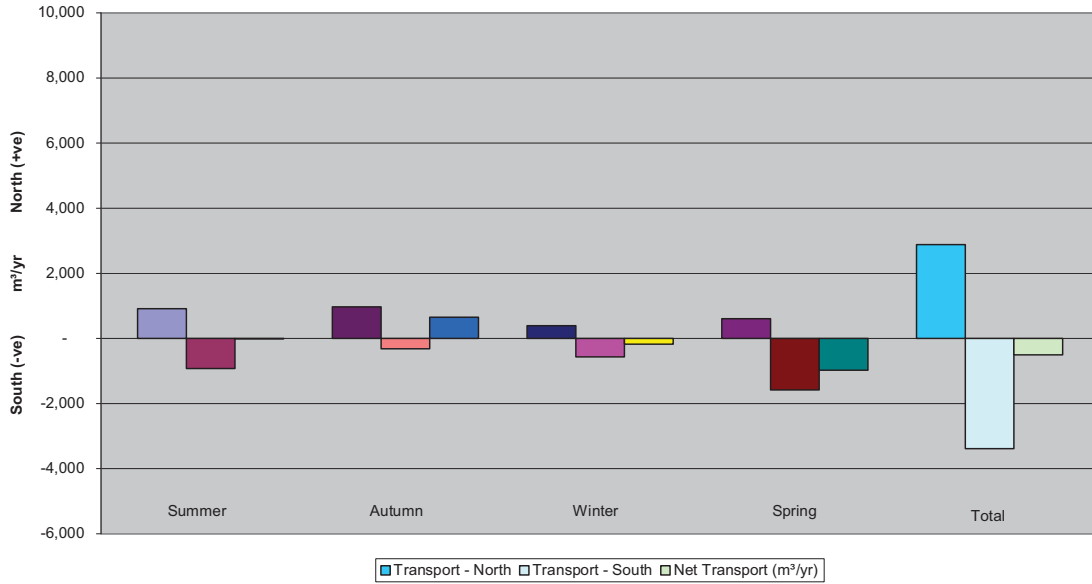
- ▶ The section of coastline between the Bribie Bridge and the Spinnaker Sound marina is well protected from waves from all directions except from north-east across the Passage, and waves from this direction break parallel to the beach with little influence on longshore transport (which relies on waves breaking at an angle to the beach alignment);
- ▶ The net transport increases to the north from virtually zero at Bribie Bridge to around 5000 m³/yr at Turners Camp due to the increased exposure of this area to waves propagating up the Passage and refracting onto the beach and to local waves from the south-east; and
- ▶ This area shows the most variation across the seasons than other areas with both northerly and southerly net transport directions.

Figure 46 Sandstone Point to Turner’s Camp – Longshore Transport

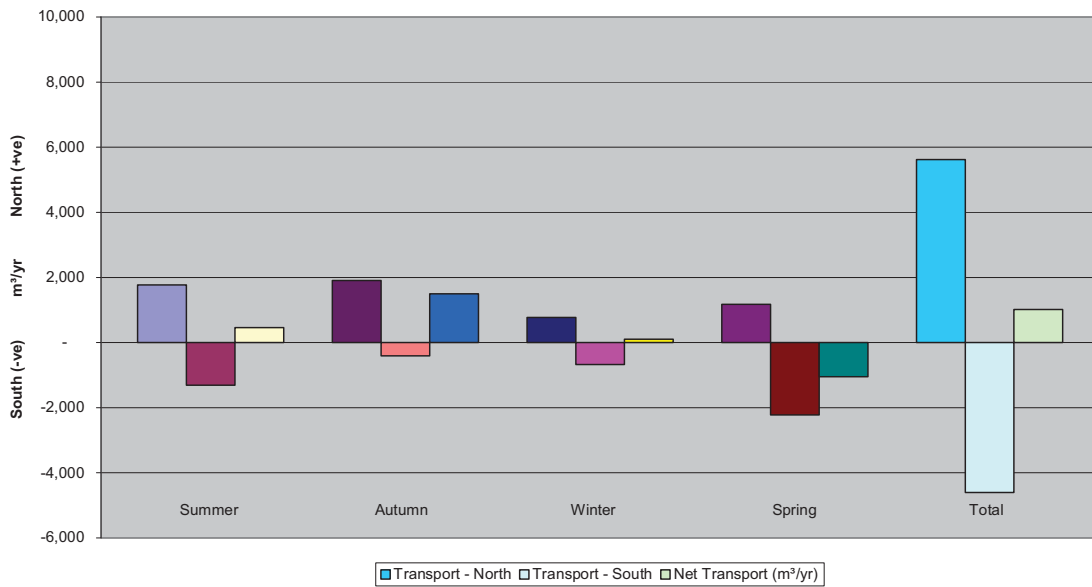




Potential Longshore Transport
"Sandstone 2"



Potential Longshore Transport
"Boat Ramp"





Potential Longshore Transport
"Turners Camp"

