

# Sandy beaches

## Fact sheet



### BEACH BITES



© GPC, by Tamara Leitch, Wildlife Unlimited

**1** The size of the sediment (dirt and rocks) found on a beach tells a lot about the wave and wind energy in the area. Shorelines that are protected from waves and winds usually have finer sediment than exposed coastlines where small sediment is suspended in the choppy waters.

**2** Sandy beaches are mostly made of silica ( $\text{SiO}_2$ ) in the form of the mineral *quartz*.

**3** Sandy beaches change shape with the seasons. Beaches facing the open ocean can become steep in winter, when waves carry sand just offshore, and flatter in summer, when waves move sand back onto the beach.

**4** Sandy beaches aren't always golden. Depending on the kind of materials that make up the sand, beaches can vary from fine white sand to black rock sand and even brown or red! Can you guess what makes a black sand beach?

## Explore the sandy beaches of the Gladstone region

Shaped by wind, waves, and tide, the sandy beach environment looks more like a desert than a vibrant ecosystem. But if you take a closer look you will find millions of macrofauna and meiofauna calling your local beach home!

Macrofauna are invertebrates that are larger than one millimetre and include Ghost Crabs (crustaceans), pippies (molluscs), worms, and amphipods (also called beach fleas - but don't worry, they don't bite!).

Meiofauna are the little guys - smaller than half a millimetre (the size of a grain of sand) and bigger than 42 micrometres (microscopic). They can look like worms, shrimp and snails and common ones include ostracods, copepods, polychaete worms and nematode worms.

Although seaweed doesn't grow on sandy beaches, the dead weed (called wrack) you find washed ashore is an important part of beach ecology and should be left alone!

### Sandy beaches matter

Sandy beaches are more than great places to run, walk, or fish from, they are very important to the health of the marine ecosystem. They:

- filter and purify seawater and rainwater runoff
- protect the coastline from waves
- capture wrack (dead seaweed and algae) which is broken down to return nutrients to the environment
- provide habitat for nesting sea turtles, crabs, pippies, snails and shorebirds – just to name a few!



Tannum Sands Beach  
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## Examples of macrofauna



Common Pippi  
© Cardno



Crustacean isopod  
© Cardno



Ghost crab  
Source: Wikicommons

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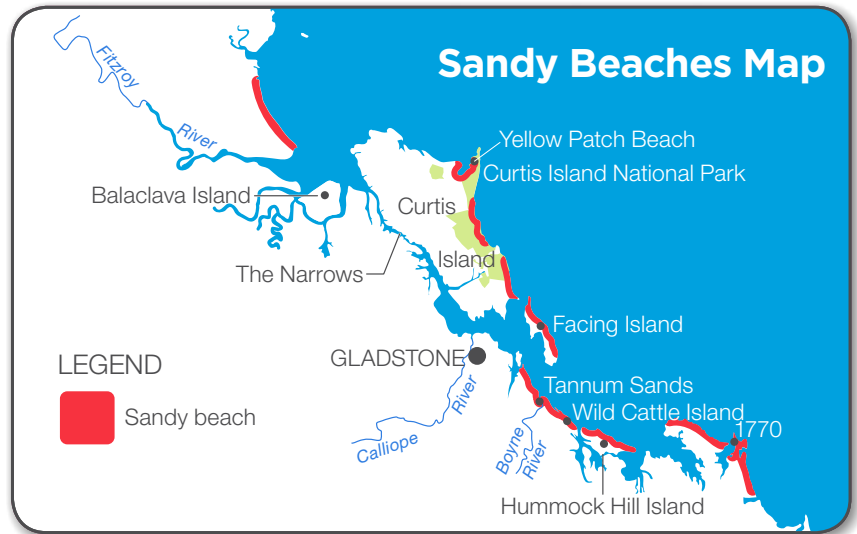
## Where they are

Gladstone is lucky to have lots of beautiful sandy beaches on its outskirts that are enjoyed by locals and bring visitors to the city year after year.

The map to the right shows some of the Gladstone region's sandy beaches.



Flatback turtle, South End Beach, Curtis Island  
© Megan Ellis



## Threats to your sandy shoreline

- Changing the coastline or seabed by removing or adding sediment and can affect the way sand is deposited and restocked on beaches.
- Four-wheel-driving on beaches packs down the sand and can destroy habitat for species including crabs and shorebirds.
- Cleaning wrack off beaches reduces the organic material needed by small animals as well as food for shorebirds.



Tannum Sands  
© Kerry Raymond / Wikimedia

SAVING SANDY SHORES



## Find out more

Science Kids Fun Beach Facts  
[www.sciencekids.co.nz](http://www.sciencekids.co.nz)

Marine Science: Sandy Beach Processes  
[www.marinebio.net](http://www.marinebio.net)

BeachSafe  
[beachsafe.org.au](http://beachsafe.org.au)

Department of National Parks, Sport and Racing  
[www.npsr.qld.gov.au](http://www.npsr.qld.gov.au)

## What you can do to help

- Follow the rules for four-wheel-driving to minimise damage to the environment.
- Remember that all drains lead to the ocean and that litter and pollution can upset the beach ecosystem – always put your rubbish in a bin and never pour chemicals down the drain.
- When visiting a beach the best rule is to “take only photos, leave only footprints”!



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