

Inskip Peninsula Recreation Area – geotechnical summary report

Inskip Peninsula north of Rainbow Beach is a popular camping and fishing area that is important to generations of beach campers and to the local economy.

A section of coastline disappeared into the sea on 26 September 2015, resulting in the loss of a vehicle, van and camper trailer, followed by the immediate temporary closure of two campgrounds and the commissioning of a geotechnical report.

What's the latest?

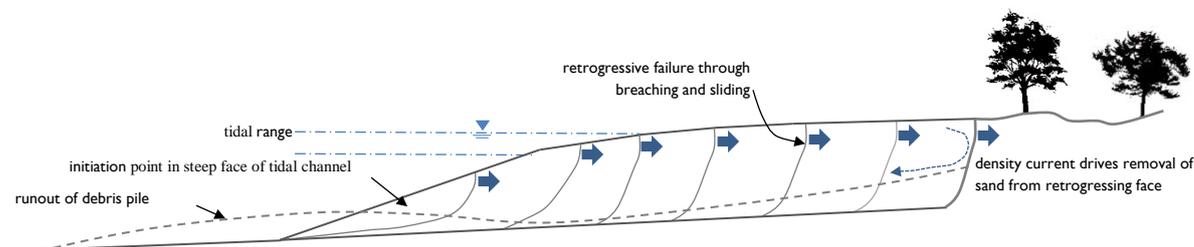
Investigations on land and at sea were carried out by the Port of Brisbane and consulting engineers in October 2015.

Queensland Parks and Wildlife Service (QPWS) received the consultant's final report in late November 2015.

The report identifies that some parts of the coastline are more susceptible to this behaviour than others, and defines low, moderate and high susceptibility zones. After discussion with the consultant engineer, QPWS partitioned off the high susceptibility section of the coastline as a buffer zone where it was recommended that no camping, driving or parking should be permitted.

What did the report show?

As we already knew, the gap in the coastline that appeared on 26 September was definitely not a sinkhole. Some called it a nearshore landslide but the more correct term is **retrogressive breach flow slide**. This is where a large body of sand moves quickly, forming a scarp (small cliff) that moves rapidly inshore as the sand debris moves out to sea.



These events happen occasionally at Inskip and other coastal areas, and can't be predicted. The triggers for rapid sand movement like this are uncertain and can be natural or human-caused. Some examples of potential triggers are tidal eddies, waves that differ from usual energy level, seismic acceleration from earthquakes, erosion from ship propellers, or vibrations from pile driving.

There is no evidence to suggest the September 2015 Inskip event was linked to earthquakes that had occurred several hundred kilometres away and several months before. Also, it is not certain if tides played a part, although there are often rapid tidal flows and resulting eddies off Inskip Peninsula. Some other factors related to tides or the physical condition of some pockets of sand might have been involved.

The most probable reason in this particular case is rapid, turbulent tidal flows acting on a steep off-shore slope of fine to medium-grained sand.

Did the report suggest how to manage risks?

The report identified risk management options, which QPWS is considering. Some will need more work to assess whether they would be effective and practical.

Avoid the risk e.g. by ensuring no camping on the beach and foreshore areas, restricting camping to areas less susceptible to future flow slides, preventing or limiting beach driving, and consider moving camping to other areas. QPWS has established a buffer zone, temporarily excluded driving from that area pending consultation with the community, and will look at options for future expansion of camping options.

Reduce the probability of unexpected instability: At this stage the triggers for these events cannot be determined. This would need more analysis over time. QPWS will collect data on timing and conditions of future events.

Reduce consequences of instability: This would require deep rock walls which would be very expensive to design, build and maintain. It is likely to be impractical due to the constantly changing sand environment and not cost-effective at this site. An alternative is a high bund of sand. Even if that was proved effective, it would be very costly and would have social and environmental impacts.

Manage the risk with monitoring or warning signs or systems: QPWS is considering further scientific monitoring of the sea floor, is putting up warning signs at the buffer zone, and will seek advice on how effective a warning system would be. A siren system would require training of campers, could be prone to false alarms through human error or misuse, and is not considered a practical option at this point.

What is QPWS doing right now?

Safety is our first priority. The foreshore area of MV Beagle and Sarawak campgrounds and part of a day-use area along the Inskip beachfront have had a buffer zone to the coastline sectioned off which is now closed to camping, while the beach immediately in front of that buffer zone is temporarily closed to vehicles, pending consultation with the public. These zones can be used for day activities not involving vehicles. The beach is still open to walkers.

Temporary barriers mark out the “no camping” buffer zone, and will be replaced by a permanent low fence in December 2015. Signage marks the temporary “no driving” zone.

QPWS will put up signs in the buffer zone to inform visitors about safety, regulations around the closures, and the natural forces behind such events as the September 2015 flow slide.

Has camping capacity been reduced?

While the capacity of the MV Beagle and Sarawak campgrounds have been reduced slightly for safety reasons, there is plenty of capacity at Inskip, and elsewhere in the Great Sandy Region, for example at Teewah Beach and Freshwater campground south of Rainbow Beach and on Fraser Island. QPWS is also looking at future possible options for new camping areas in the region.

Can we drive on the beach in front of the buffer area?

Not at present. For safety the beach in front of the buffer zone is closed to driving or parking of vehicles as a temporary arrangement pending public consultation. You can still walk in that area.

Will more flow slides occur at Inskip, and if so, will QPWS have to close more areas?

Queensland’s coastal sand masses are dynamic environments. They are always shifting and changing. Inskip is no exception, with such an event happening, on average, at least once a year.

As we can’t predict when and where another event like the one on 26 September will occur, QPWS will monitor Inskip Peninsula and make any further changes to campgrounds and access as needed with safety in mind.

Nov 2015: Inskip Peninsula showing "no camping" buffer zone

