



**A Strategy to protect Wooli in the medium term** (See Note 1 below)

2019 saw Wooli's first beach scraping project successfully nourish and vegetate the dune in front of the southern-most 800metres of the village providing protection from a 20-year storm event. To build on this success, we need a comprehensive strategy for ongoing management of Wooli beach based on the Coastal Zone Management Plan (CZMP) approved in 2018.

To this end, a Beach Management Strategy (BMS) has been prepared. This aims to build and maintain Wooli's dunes by enough to not only protect the village against a 50-year storm event (Note 2), but also to offset the average annual shoreline recession rate of 2 metres (Note 3).

This will be done by increasing sand reserves and dune revegetation to establish healthy and resilient dunes using a combination of periodic beach scraping and dune management backed up by sand back-passing (from the north of Wooli beach) when necessary (Note 4). This approach provides an opportunity to develop a cost-effective strategy that works with nature (Note 5).

Three scenarios are proposed each of which includes beach scraping and back-passing along with a vegetation management strategy. Repeated campaigns will be needed over the life of the BMS as each scenario involves a relatively minor increase in sand reserves (note 6). This approach will minimise adverse environmental impacts and provide a cost effective protection for Wooli. Ideally each campaign would be completed in 2 to 4 weeks at a cost of \$50,000 to \$250,000.

## Notes

1. The BMS will not remove all risk to assets from storm damage in the long term. For example, climate change driven factors including larger cyclones and sea-level rise may need other solutions.
2. The sand reserves needed to achieve this are estimated at 195 cubic metres for each metre of the beach to be protected.
3. Recent analysis of more frequent and detailed data about Woolli beach has justified a reduction in the average rate of recession from 4m to 2m.
4. Back-passing (also called beach nourishment) was proposed as the primary source of sand in the CZMP, but further analysis of the beach shows it is more suitable as an emergency source in the event of major damage to the dunes.
5. Woolli's annual wave pattern means sand is often available in front of the village during April and May. Beach scraping at this time harvests what nature provides thereby being very cost effective. Alternatively, back-passing should there be an urgent need, is better suited to later in the year when more sand is available at the northern end of the beach.
6. The increase in sand reserves above mean sea level will be about 10 cubic metres per metre for each metre of the beach to be protected.