While the study found that areas inside the reserve may be more resistant to the establishment of barrens, Dr Perkins said there was no difference in the rate of increase of barrens inside and outside the reserve over the survey period.

ñThe overall barren cover doubled over the five-year survey period regardless of whether areas were protected or not, which raises serious concerns around the likely longer-term trajectory of barren formation, especially as previous IMAS research shows that, once established, recovery of barrens habitat is problematic,ò Dr Perkins said.

ñThis knowledge can be combined with detailed multibeam sonar surveys that can provide a detailed 3D understanding of seabed complexity.

ñWe found that using multibeam seafloor mapping in the study areas enabled us to map out the spatial variation in reef depth and surface roughness, and to use this to more accurately predict where urchin barrens are more likely to form,ò he said.

ñItôs technology that could be used over large sections of coastline to contribute to urchin management approaches currently being undertaken by the Tasmanian Government, such as informing where commercial urchin harvesting may be best targeted to help control the expansion of barrens.ò

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