**Why is further growth planned for Bribie Island when it is already living beyond its ecological limits?**

**John Oxenford, Paul Dargusch and John Harden**

Abstract

Bribie Island is a sand island formed in recent geological times at the northern end of Moreton Bay. Unlike other Bay islands, Bribie has no rocky “backbone” to give it some stability. It is kept together only by the hardy vegetation that has adapted to this environment. Its mean height above sea level is about 4 metres and its peak height is about 12 metres. It is extremely vulnerable to erosion from long-shore currents and storm events and it is estimated that a 1-in-100 year tidal surge would inundate over 60% of existing Bribie dwellings. The whole island is extremely fragile and vulnerable. The slightest disruption in one area can have huge consequences over the widest areas.

Bribie Island consists of National Park (about 50%), State Forrest (about 25%), and the rest is freehold. Bribie supports a permanent population of around 15,000 people and recent projections suggest this population is expected to grow to 30,000+.

This presentation will highlight that Bribie is already living beyond its ecological limit, and it will examine whether such population growth is sustainable without major degradation and/or permanent destruction of Bribie’s unique environment. These non-sustainable areas include:

Water resources: Bribie’s aquifers are beyond their current limit to supply the existing population

Waste treatment: Bribie’s treatment plant is beyond capacity and during high inflows is discharging untreated sewage into the on-shore and offshore Ramsar-protected areas

Foreshore erosion: Foreshore vegetation has been extensively removed in recent years to improve sea views for residents. This has caused major foreshore erosion loss leaving the remaining dunes most vulnerable

Threatened species: Vegetation clearing has resulted in increased sediment load and degradation of offshore seagrass areas. This, combined with the loss of foreshore habitat, has placed at risk some of the highly endangered local populations.

Speakers’ Biography

John Oxenford (i) - Engineering Consultant; Adjunct Associate Professor, Sustainable Management Alliance in Research and Training (SMART), University of Queensland

John is an engineering consultant and, like all the co-authors, he is a Bribie Island resident. He graduated from University of Queensland and completed his post-graduate research in mineral processing at Colorado School of Mines. He has worked over 40 years in the resource industry in various countries including 24 years in Canada’s oil sands. His specialty areas include mineral processing, mass transport, and the rehabilitation of disturbed areas. He is currently involved in a major Canadian project that will recover valuables from mine wastes and reduce harmful emissions. He is the author/co-author of over 15 scientific publications and refereed papers.

Dr. Paul Dargusch – Energy Management Lecturer and Researcher; School of Geography, Planning and Environmental Management, University of Queensland

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