

Shoalwater Bay Training Area: capability, conservation and collaboration

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The Australian Defence Force (ADF) performs a unique role in support of Australia's strategic and national security interests. The role requires not only naval and amphibious warfare capabilities but also disaster relief, search and rescue, and border patrol training capabilities in a range of settings. Currently, Shoalwater Bay Training Area (SWBTA) is one of the only locations in Australia that allows large-scale joint and combined exercises necessary for the development of alliances and multi-lateral Defence agreements, commonly involving the United States, New Zealand and Singapore. However, SWBTA delivers other values in parallel with Defence training. It contains a range of highly significant ecosystems which encompasses areas of the Great Barrier Reef World Heritage Area, as well as freshwater and intertidal wetlands which have been recognised as being of international importance under the Ramsar Convention.

For over 40 years, the Department of Defence's investment in the management of SWBTA has aimed at striking a balance between supporting military training and conserving the natural environment. Many Defence operational activities often assist, directly or indirectly, in the achievement of World Heritage management objectives including the conduct of hydrographic surveys and fisheries and border protection patrols.

Shoalwater Bay Training Area

Shoalwater Bay Training Area is arguably Australia's single most important area for the conduct of Royal Australian Army, Navy and Air Force combined exercises. It occupies approximately 453,700 hectares (289,700 hectares of which is terrestrial and 164,000 hectares is marine) and is located on the central Queensland coast about 70 kilometres north of Rockhampton (Figure 1).

SWBTA covers two Queensland bioregions (the Brigalow Belt and Central Queensland Coast) and contains 71 different regional ecosystems. Twelve of these ecosystems are considered 'endangered' in Queensland and 31 are 'of concern' (Department of Defence 2009).

Much of SWBTA is in a relatively natural state, with almost 100% vegetation cover. Prior to the acquisition by Defence in 1965, 4% of the total area of SWBTA had been cleared for grazing with around 22% selectively logged. Most of the disturbed areas have since regenerated. Consequently, the area exhibits high natural integrity, with continuous ecosystem gradients. Few other areas in eastern Australia combine such a diversity of ecosystems and species with the ecological connectivity and continuity present in SWBTA (Department of Defence 2009).



Much of the biodiversity value of SWBTA lies not only in the number of species present, but in the diversity of species assemblages within a relatively small area. At least 201 plant and animal species recorded in SWBTA are at or near their known southern or northern distribution limits which represents a higher number of species at their distribution limits, than most other areas of similar size in Australia (Department of Defence 2009). A significant number of endangered, vulnerable or rare plant and animal species either occur in SWBTA or depend on the area during their migrations.

Collaborative environmental management at SWBTA

For successful and effective environmental management of an area as complex and large as SWBTA, it is important for Defence to take a collaborative approach, engaging the expertise of many external specialists. Defence is in constant communication with organisations such as state and local government agencies, other Commonwealth government agencies, the Darumbal People (who are the Traditional Owners of the area), universities, research institutes and neighbouring land owners, to ensure that Defence activities are consistent with the principles of ecological sustainability.

Defence has a history of collaborative environmental management of SWBTA dating back to the late 1960s when the area's first 'Ecological Management Plan' was proposed. From that time until the late 1980s, CSIRO's Woodland Ecology Unit was engaged to advise Army on land management and in particular, bushfire management (Cosgrove 1996).

Since 1994, the management of SWBTA has been aligned with the findings of the Commonwealth Commission of Inquiry that determined that while Defence use should remain the primary use of the Area, conservation should be a concurrent use and be of equal significance (Commission of Inquiry into Shoalwater Bay 1994).

Defence works with a range of Commonwealth and state agencies, and the Darumbal People, all of whom have a well established history in ecosystem management and local expertise in the Shoalwater Bay area and its inherent characteristics. Defence, and the SWBTA itself, have derived considerable benefits through maintaining strong and productive relationships with the operational arms of these entities.

Defence regional environmental personnel that manage SWBTA are based in Rockhampton. They communicate with and seek the expertise of these entities on a regular basis to ensure that environmental management of the area is holistic, effective and in accordance with best practice.

For example, Queensland Parks and Wildlife Service personnel are in regular contact with Defence staff over management activities in the marine parks and the islands within the Defence training area. Queensland Parks and Wildlife personnel from Byfield National Park and Marine Parks work with Defence on matters relating to bushfire management and feral animal control (including wild dogs, cats and pigs). Queensland Parks and Wildlife is also involved in compliance and enforcement activities throughout the year which detect illegal fishing practices within SWBTA. Biosecurity Queensland also contributes to the battle against feral animals in SWBTA. Biosecurity Queensland is actively involved in conducting feral animal eradication programs and disease testing of feral species and provides guidance on weed species management within the training area.

Each year, the Queensland Department of Environment and Heritage Protection conducts water quality testing to examine a wide variety of parameters from dissolved oxygen content to heavy metal content. The department also conducts habitat monitoring of water quality sites via the use of the AusRivers habitat indicators and recently, the new Queensland Bio-Condition Assessment. The data on water quality standards collected within SWBTA is intended to be used by the Queensland Government as a benchmark for other areas in central Queensland.

The Queensland Department of Environment and Resource Management also conducts two annual Landscape Monitoring Programs that include flora and fauna surveys for key species such as the Rusty Monitor (*Varanus semiremex*) and the Water Mouse (*Xeromys myoides*), as well as long-term vegetation monitoring sites within SWBTA. This data is fed back into Queensland Government databases such as *Wildnet*. One of the advantages of using biological monitoring sites within SWBTA is that the area provides the Queensland Government with data from sites which have not been under any grazing pressure for several decades.

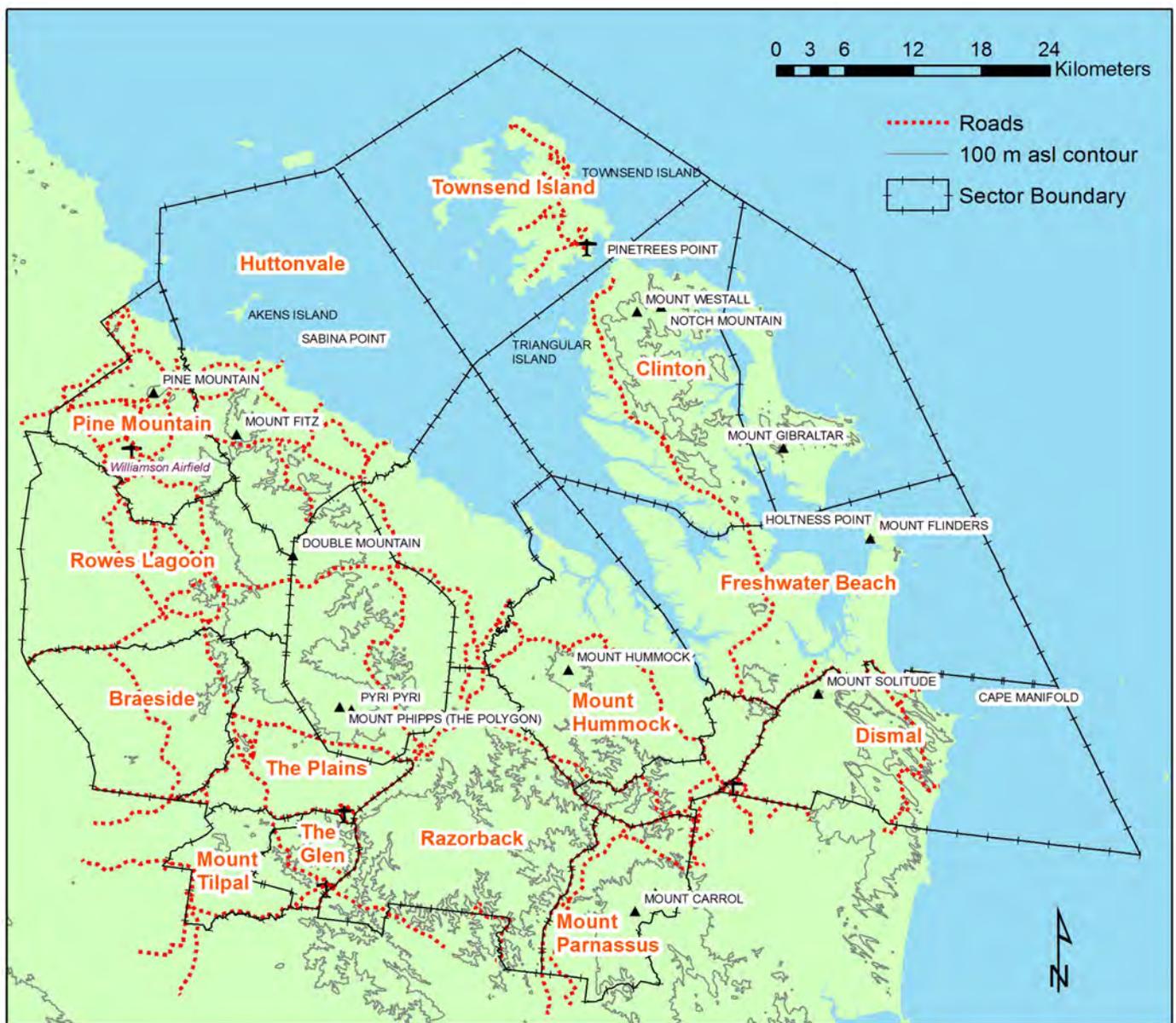


Figure 1. Topography and operational sectors of the Shoalwater Bay Training Area.

The Great Barrier Reef Marine Park Authority (GBRMPA) and Defence meet formally twice a year to discuss strategic environmental matters and share the latest research information and technologies. This forum, in addition to Defence's ongoing environmental management and monitoring, generates tailored environmental management techniques for major exercises such as the biannual Talisman Saber series¹. Regulatory officers from the GBRMPA and the Australian Government's Department of Sustainability, Environment, Water, Population and Communities participate in the environmental risk assessment process, environmental impact assessment and planning of these types of exercises. These organisations are invited to comment at every stage of the impact assessment process. Copies of appropriate

documents such as the Talisman Saber Public Environment Report are made available to the public via the Australian Defence Force website² and through social media such as Facebook and Twitter. This provides a window into Defence activities within SWBTA for interest groups and the general public.

Military exercises like Talisman Saber involve extensive consultation between the Australian Defence Force, United States forces and Australian Government environmental agencies. This identifies and minimises environmental impacts through the planning and conduct of the exercise. At the close of each exercise, redeployment of military forces out of SWBTA is managed on a policy of 'no footprint'. This means all exercise materials, equipment and debris removed and all disturbances such as tracks, off-road rutting and defensive positions and engineering works are remediated.

¹ Exercise Talisman Saber is a bilateral Australian-United States exercise conducted biennially to practice combined operations in order to improve combat readiness, enhance interoperability and trial emerging capabilities.

² <http://www.defence.gov.au/opEx/exercises/ts11/environment.htm>

The Australian Quarantine and Inspection Service (AQIS) is also involved in engagements where military forces travel into the training area. In accordance with Australian quarantine regulations, AQIS inspects equipment coming into the training area from overseas. This helps to prevent the introduction of noxious weeds as well as non-native fauna.

Defence has facilitated research and monitoring activities by external institutions in SWBTA, such as the Central Queensland University, James Cook University and CSIRO. Recently, researchers from James Cook University conducted aerial surveys of Dugongs (*Dugong dugon*) across a significant portion of the training area. This information, along with further Dugong and turtle population investigations, will inform environmental approvals of Defence activities within SWBTA and contribute to future strategic assessments of Defence activities within the wider Great Barrier Reef Marine Park. It also provides a strong indication that the conduct of maritime and amphibious training can be delivered responsibly alongside conservation objectives.

Summary

Shoalwater Bay Training Area is arguably Australia's single most important military training area for the conduct of Army, Navy and Air Force joint training exercises. The activities that occur within the training area develop and maintain the capabilities needed to allow the Australian Defence Force to remain one of the world's most modern, responsive and effective Defence forces.

However, SWBTA is far more than just a military training area. The outstanding natural values and high biodiversity of the area are well known and have been recognised at both a national and international level. Due to its large size, isolation from human settlement, restrictions on access and generally low level of disturbance, SWBTA exhibits high natural integrity – an increasingly important aspect as large-scale habitat modification and development pressures increases along the eastern coast of Australia.

In maintaining a strong and effective level of environmental management of this large and complex area, Defence understands the critical importance of a continuous and collaborative approach with external stakeholders.

Defence is involved in multiple environmental initiatives with a wide variety of external organisations, only some of which are discussed in this chapter. Development and refinement of initiatives like the ones described here ensure that Defence has played, and continues to play, a strong environmental stewardship role in the areas under Defence's jurisdiction. Indeed, the approach that Defence takes towards environmental management in SWBTA typically resembles the approach for management of other Defence training areas.

It is the excellent condition and diversity of SWBTA's natural land and seascapes that provides such a wide range of training opportunities for Defence. It is therefore in Defence's own interests to deliver quality environmental outcomes in parallel with the realism of military capability objectives.

More information on environmental management within the Department of Defence can be seen at www.defence.gov.au/environment/

References

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Julia Bowett works within Defence's Directorate of Environmental Protection and Assessments. This Directorate is responsible for environmental impact assessment across the entire breadth of Defence projects and activities, including infrastructure construction and demolitions, capability acquisitions and disposals, as well as the conduct of training exercises and development of training areas. Julia is a marine scientist with Bachelor and Masters degrees in Marine Biology and Applied Marine Science and a PhD in International Environmental Politics.

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Tennille Danvers is the Regional Environmental Officer for central Queensland with Defence Support Operations. Tennille has worked in this role for six years, prior to that working with both Queensland Parks and Wildlife Service and the Queensland Environment Protection Agency throughout central Queensland for five years. Tennille is an environmental scientist with tertiary qualifications specialising in Queensland endemic fauna.