

TS19 Environmental Report Response
Friends of the Earth Brisbane
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**Submission to Talisman Sabre 2019 Environmental Report
prepared for Friends of the Earth Brisbane by Robin Taubenfeld**

May 17, 2019

To whom it may concern,

We are writing in response to the Talisman Sabre 2019 Environment Report (ER) prepared by the Department of Defence to express both our concern about the Report and our opposition to Talisman Sabre 2019 on environmental, social and political grounds.

Below is our submission regarding Talisman Sabre 2019 in its social and political context and our comments regarding the ER Process.

Appendix A is an overview of our general concerns specifically regarding the environmental risks posed by these military exercises as per our submission to the PER process in 2013/2011.

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APPENDIX A: Environmental risks of military exercises and war as per our submission in 2013

1. Introduction

Talisman Sabre is a joint AUS –US military exercise US proposed to take place in Australia July 2019, with major components in Queensland July 11-24. While the spelling of the name alternates between Sabre and Saber, depending on which country is designated the “lead” nation, the exercises are overwhelmingly American – with normal approximately 2/3 of the personnel being from the US. The Talisman Sabre exercises are some of the world’s largest military operations seeing combined force, land, sea and air training in Queensland, the Northern Territory and the Timor, Arafura and Coral Seas. It is stated that up to 25,000 Australian and American personnel will be involved, with some participation from Japan, New Zealand and the U.K.

Talisman Sabre 2019 is huge in scope, using military and civilian facilities in Queensland and the New South Wales as well as support facilities and infrastructure around Australia.

Much of Talisman Sabre takes place in environmentally vulnerable areas. Shoalwater Bay itself is under stress, not only from ongoing military use, but also from recent weather events which have seen cyclones and unprecedented rainfall rip through the area after years of drought. Ongoing stress to the wider Great Barrier Reef are known and well documented. Unlike past Talisman Sabre iterations, TS19 will be explicitly using new and previously used "Non-Defence Training Areas" as well, Defence locations not previously explicitly used in Talisman Sabre and a location in New South Wales, Evans Head.

While this spreading of the exercise will in minimally diminish its impact on Shoalwater Bay, all of the official coastal locations other than Evans head, still sit within the Great Barrier Reef Marine Park World Heritage Area. The diversifying of location increases the number of ecosystems impacted, engages more Australian communities in provocative war preparations and sets a precedent for ongoing military expansion into non-defence areas.

It is significant that unlike previous Talisman Sabre's, Talisman Sabre 2019 is stated to be absent "*of any live fire activities. This will result in the use only of dummy or blank ammunition and certain pyrotechnics in order to generate the necessary effects. Consequently, there will be no underwater demolitions/detonations, naval gunnery, aerial bombardment or live fire from indirect and direct fire weapons systems.*" The absence of live firing during the official exercises should greatly diminish some aspects of Talisman Sabre's environmental footprint and is a move in the right direction.

However, it is also clear that live firing will take place at Shoalwater Bay and possibly other locations in the lead up to and after Talisman Sabre, which are not assessed as part of Talisman Sabre because they fall outside of the official exercise dates. "A number of activities will occur in advance of and following execution of the FTX...Unilateral training activities on SWBTA occurring prior to TS19 will involve live fire exercises (LFX)... After the conclusion of TS19, it is probable that further unilateral training on SWBTA will be undertaken. (ER p24-25) It is also notable that Defence includes possible inclusion of other country's forces in what it refers to as unilateral training. (ER, p. 24)

Further to the training locations identified in the Defence Environmental Report, a number of Defence bases and other locations will be used to support the exercise. We can also expect training activities not mentioned in the Environmental Report to take place.

In 2017, new locations: Upstart Bay and Kings Beach, were added to the exercises or their preparations, in June, a month before Talisman Sabre 2017 commenced, well after the Public Environment Report process has concluded. Also in 2017, a US Osprey crashed off the Rockhampton coast, killing three service people, during "regularly scheduled operations" (<https://www.abc.net.au/news/2017-08-06/what-we-know-about-the-us-marine-corps-osprey-crash/8779200>) after the official end of Talisman Sabre 2017.

We are aware that the Shoalwater Bay Training Area is used for much of the year by Australian, Singaporean and possibly other forces. The impact of the huge Talisman Sabre exercise, addressed in isolation in the Environmental Report, is part of the ongoing degradation of the environment of its key region, Shoalwater Bay. We are aware of the ongoing push to expand both the size and use of Shoalwater Bay. We believe that Defence is going being its original mandate of dual-purpose Defence and Conservation stewardship, prioritising military use rather than protection of Shoalwater Bay, which is in its own right, one of Queensland's greatest natural assets, as well as the broader World Heritage listed Great Barrier Reef and the Coral Sea within which most of Talisman Sabre 2019 takes place.

We also are aware that in the lead up, during and beyond Talisman Sabre, we can expect military vessels from the US fleet, including a nuclear-powered aircraft carrier and its battle contingent, to traverse the Great Barrier Reef and visit Australian ports. We will see civilian infrastructure, such as Brisbane port and airport used to support military activity. Large convoys of Australian, US and New Zealand military vehicles will be on the roads travelling from across Australia and converging at Rockhampton and Shoalwater Bay area. Military vehicles will also operate in and around Evans Head, Bundaberg, Mackay, Midge Point, Sarina, Bowen, Proserpine, Gladstone using main and country roads. Amphibious landing practice may take place at other locations and aircraft will be over head in locations in Queensland and New South Wales.

Most of these military actions will undergo minimal environmental and social impact assessment, if any.

We have concerns about both the impact of the military exercises as well as the process undertaken to produce the Environmental report. Our concerns include the following:

- The Environmental Report presented is anonymously authored by Defence, for Defence.
- Baseline environment reports presented for 2 areas are simply baseline environmental reports stating clearly that they are not impact assessments
- Defence conducts new activities at locations with no environmental assessment – or at least no visible documentation of that the environmental impact process – provided,
- Defence has not provided baseline environment reports for other locations previously not used in Talisman Sabre such as: Sarina, Bundaberg, Evans Head NDTA, Duke Island, Bowen

The Department of Defence's anonymously-authored, self-published Environmental Report estimates that "significant impact to the environment is not likely as a result of TS19."
(*Environmental Report Exercise Talisman Sabre 2019 Pg li*)

Though Defence has prepared the Environmental Report itself, we expect Defence to adhere to the basic guidelines as identified in the *Guidance on the Preparation of an Environmental Report*. This callas for the ER:

- to be peer-reviewed and
- to explain the methodology for its findings.

(*Guidance on the Preparation of an Environmental Report v 2. Technical authority: ASEE Nov. 2017, p 4*)

We find no evidence that the assessment presented has been peer-reviewed. While the ER refers and defers to the previous AECOM-prepared PER for Talisman Saber 2017, the question of scientific rigour can be raised here as well.

Plant and animal species lists of areas that will be used or traversed– such as seagrass habitats, benthic regions and coral environments - are non-existent or incomplete, there is no evidence or surveying for certain species, such as prawns, which have been both ecologically and economically valuable.

The Snub-Fin Dolphin, listed as Vulnerable in Queensland, is recognised as a migratory cetacean and therefore protected under the EPBC. Due to the recentness of its identification, however, its status nationally has yet to be determined. Research shows that a small but significant population of these rare dolphins live in Keppell Bay and have been found in Shoalwater Bay. (*Cagnazzi D, Parra GJ, Westley S, Harrison PL (2013) At the Heart of the Industrial Boom: Australian SnubfinDolphins in the Capricorn Coast, Queensland, Need Urgent Conservation Action. PLoS ONE 8(2): e56729.*)

<https://doi.org/10.1371/journal.pone.0056729>) With little research to date, and little mention of this species in the ERIt is premature to suggest that military activity in inshore areas would have insignificant impact.

Baseline studies prepared for two non-Defence areas planned for use in Talisman Sabre 2019, describe the habitats and the surrounds. They do not purport to assess the environmental impacts of Defence activities there. Surveys of other areas new to use in Talisman Sabre - have not been presented; we can assume they have not been carried out.

While Defence claims that the impact of Talisman Sabre will be insignificant, there is no methodology presented to substantiate this claim. With no baseline understanding of the inhabitants of regions identified as potentially “scoured” in an amphibious landing, for example, how can a level of impact be assessed? And more to the point, how can its impact be claimed to be negligible?

2. Sustainability and war

The ER explains environmental management issues related to the military exercises. We appreciate the extent to which the Department of Defence expresses concern to address environmental issues in its local practices, however, this does not negate the incompatibility of military activity and the environment or any notion of sustainability. At best, the environmental management plans proposed may mitigate some of the damage to or repair of our local eco-systems, however, it is unlikely that these translate in to positive practices in real-life war scenarios.

In recent years, Australia has been involved in US led military activity that has killed flora, fauna and humans, left oil fields burning, exposed civilians to toxic chemicals, left environments radioactive, and had destroyed infrastructure vital to maintaining health and welfare of communities.

3. The political context

In the pre-Trump era, it was clear that China had concerns about this show of military might in the region. With the Pacific Pivot in full swing, and a president calling for an expansion of the US nuclear weapons arsenal, the social, psychological and political ramifications of Australia's continued military partnership with the US cannot be ignored.

The Talisman Sabre exercises are one facet of an expanding US military presence in our region, and Australia's support for it. US troops are set to be increasingly and permanently present in Darwin, Australia already houses Pine Gap, a strategic US satellite base, hosts troop change overs, allows US bombing flyovers, welcomes nuclear powered and nuclear-weapons capable war ships and opens both its civilian and military infrastructure to the US. With changing economic and political priorities, the US is restructuring its global force positioning and Australia is playing a vital role in both acting as launching pad for US military activity, as an ally in the field, and as the face of the US nuclear umbrella in the Asia-Pacific region. To our neighbours, Talisman Sabre is an expression of US/Australia joint posturing - a show of potential and formidable force.

The ER attempts to assuage our concerns over social and health impacts of Talisman Sabre, by noting certain localised potential risks while avoiding the bigger-picture social and political implications. For example, impacts on the built environment, indigenous and non-indigenous heritage, and some workplace health and safety matters are addressed. Social impacts, such as a claimed benefit to the economies of regions in which the exercises take place, and public safety issues such as from bush fires, unexploded ordnance, and noise from low-flying aircraft are mentioned. These are flagged as

triggers for public concern about the war games. However, the social, psychological and political ramifications of training with the world's foremost nuclear armed military are ignored.

4. Practicing for nuclear war

Understanding that “for security reasons, it has been the long-standing policy of the United States Government to never confirm or deny the presence of nuclear weapons on board their ships.”, we alarmed at the potential firepower and political implications of training with the military equipment listed in the ER.

The list of weapons and equipment that may be utilised during TS19 leaves no doubt that Talisman Saber will leave Australia at risk of being perceived as “saber rattling” in the Pacific.

By narrowly limiting the review to certain aspects of environmental management, Defence has separated the activity, war games, from their purpose – war, in this case nuclear-capable war. However, environmentally managed war rehearsals do not lead to environmentally friendly war. War and war games are not sustainable; war is an anathema to the environment.

We are, therefore, deeply troubled by the limited and biased framework of the ER which is intended to justify, rather than examine the impact of, Exercise Talisman Sabre 2019.

While the ER attempts to disassociate Talisman Sabre from its political context, political agreements - not environmental impacts - are the basis upon which decisions about these exercises are made.

5. Social and Economic Aspects ignored

The Environmental Report also fails to assess the human and political impacts of conducting Talisman Sabre. Military activity impacts on communities. By attempting to ignore the human costs of Talisman Sabre, the ER framework isolates Talisman Sabre from its actual purpose - the practising of war - which is designed to impact on human life. Humans are part of the environment, are impacted by it and impact upon it. An honest assessment of Talisman Sabre must include social impacts.

While military bases and exercises may bring capital in to a suffering local economy, such as Rockhampton's, they are also fraught with serious health and social impacts. Military exercises and bases are linked to increased violence, drug-related crime, rape and crisis in hosting communities and are part of an ongoing legacy of colonisation.

6. Human rights

Talisman Sabre violates the human rights of First Peoples in Australia and in the Pacific. Talisman Sabre takes place on the lands and seas of Aboriginal and Islander First Peoples. It has long been Australian government practice to impose nuclear and military sites on indigenous people's land, limiting their access to sites and their right to practice their culture and heritage. It is of grave concern that the threat of completely losing access to their land may put some Traditional Owners in to a position of acquiescing to military use of their land without equitable options or debate.

The same is true of the US. The island of Guahan/Guam, used to support US military activity in the Pacific, including previous Talisman Sabre exercises, is now 1/3 occupied by the US military. Denial of access to and the destruction of traditional lands and seas is the destruction of culture and heritage and is an infringement of the human rights of these people. The lands and seas proposed for use in Talisman Sabre should be rehabilitated, returned to Traditional Owners, and maintained for future generations.

7. Ongoing social impact and political repercussions

We are greatly concerned that practising warfare, with the world's largest nuclear-armed superpower, sends an aggressive signal to our neighbours and potential allies throughout the world. We question the benefits of improving interoperability for warfare with the U.S. as we oppose the use of violence as a solution to global problems. We believe Australia should be seeking peaceful solutions to conflict at home and overseas. Investing time, energy and resources into infrastructures that perpetuate war, rather than promote peace, is a detriment to our community and world.

8. Unnecessary risk to the environment

While Shoalwater Bay Military Training Facility encompasses some of Queensland's (and Australia's) most pristine coastal regions, it is valued as the ADF's most important area for the conduct of amphibious and combined arms exercises due to its accessible coastline. "The Shoalwater Bay Training Area (SWBTA) is a critical asset for Defence training due to the capacity to integrate training of naval, air and sea units, as well as the capacity to conduct large scale live fire training exercises. The majority of the TS19 exercise activities will be undertaken in this training area. The continuous and relatively undisturbed nature of SWBTA is the key to both a high value for conservation and Defence training capability." (Aurecon TS13 PER p. 6) We understand that TS19 is reported to not include live firing within the key noted exercise dates, but that live firing may be part of pre- and post official Talisman Sabre 2019 dates.

Waters included in its military exclusion zone, used for and traversed during military operations include areas of the Great Barrier Reef Marine Park, and RAMSAR listed wetlands.

Talisman Sabre also uses other locations of environmental significance such the Coral Sea, and habitats for endangered species vulnerable and/or endangered species such as turtles, dugongs and migrating whales.

Talisman Sabre 2019 will include Stanage Bay sites not part of the SWBMTA, but still within the Great Barrier Reef Marine Park. It is clear from the both the 2017 PER that the heritage values had not been assessed:

"Both the Indigenous and Historical heritage values at Stanage Bay are poorly understood generally due to a lack of systematic assessment of the area. It currently has three registered Aboriginal heritage sites in the proposed activity area but there are likely to be more due to lack of detailed archaeological assessment. Camp sites, middens and stone artefact processing sites are likely to be found within the beach foredune areas and anywhere with freshwater. Burial sites can also be found in soft sand in foredunes. In addition to archaeological sites, there are a number of landforms (rocky outcrops, fossilised coral, waterholes and headlands) that are likely to have intangible cultural heritage importance to local Aboriginal people (i.e. sacred sites). These are typically associated with landform and ecological features that are unique in an area." (21-Feb-2016 AECOM Prepared for – Department of Defence Talisman Sabre 2017 Public Environment Report, p.38)

There is no indication that surveying or any action to identify and protect Indigenous heritage at the site has taken place since.

The lack of data surrounding heritage sites in the Stanage Bay region, coupled with the understanding that heritage sites are “likely” (see above), combined with the knowledge that damage to beach and benthic regions and makes any use of Stanage Bay for amphibious landing unacceptable.

Furthermore, it is clear that amphibious landing machinery is expected to be impact on sea floor and beach environments:

“There may be localised scouring of seagrass habitat during beach landing events, however this will be localised in nature and avoided or minimised through operational controls.” (21-Feb-2016 AECOM for – Department of Defence Talisman Saber 2017 Public Environment Report, p 99)

It is alarming that the ER listing of species inhabiting Shoalwater and Stanage Bays are limited primarily to the more well-known or terrestrial. The significant heritage and conservation value of the region come from its mangrove and wetland ecosystems, its seagrass beds, its importance to significant populations of birds, marine and estuarine species as well as the diversity of these which may be endemic or migratory.

Identified impacts include Benthic scouring and possible disruption of seagrass beds – but Benthos are not listed in the species lists presented in the ER.

There are at least 10 species of seagrass present, with seagrass beds extending to depths of 20m due to water clarity. The site is of special value as habitat for endemic fish species. The mangrove, tidal mudflats and salt flats are important habitats for local and migratory shorebirds, including 26 species protected under international migratory bird conservation agreements. Numerous prawns live in the region, including: Hunchback prawn, Coral prawn, Southern velvet prawn, Rosy prawn, Greasyback prawn, School prawn, True endeavour prawn, Red endeavour prawn, Haswell Brown tiger, Red legged banana prawn, Western king prawn, Red Spot king prawn, Banana prawn, Leader prawn, Grooved tiger prawn, Southern rough prawn, Brown rough prawn, Hardback prawn.

Who else lives, breeds, visits or traverses areas planned for use?

Loggerhead Turtles (Endangered), Marlborough Blues (Endangered Plant), Lesser Sand Plovers, Mongolian Plovers (Endangered Bird), *Cycas megacarpa* (No common name) Endangered (Plant), Marlborough Blues (Endangered Plant), Northern Quolls (Endangered Mammal), Capricorn Yellow Chats, Yellow Chats (Critically Endangered Bird), Godwits (Critically Endangered bird), *Capparis thozetiana* (No common name) (Vulnerable Plant), Greater Sand Plovers (Vulnerable Migratory Bird), Green Turtles (Vulnerable), Byfield Matchsticks (Vulnerable Plant), Glen Geddes Bloodwoods (Vulnerable Plant), Hawksbill Turtles (Vulnerable), Squatter Pigeons (Vulnerable Bird), *Marsdenia brevifolia* (No common name) (Vulnerable Plant), Humpback Whales (Vulnerable), Flatback Turtles (Vulnerable), *Neoroepera buxifolia* (No common name) (Vulnerable Plant), Mt Larcom Silk Pods (Vulnerable Plant), Greater Gliders (Vulnerable), Koalas (Vulnerable), Honey Blue-eye (Vulnerable Fish), numerous Sharks, at least 10 species of seagrass, eighteen species of mangroves, a high diversity of freshwater, marine and estuarine fish species, with 445 species recorded...plus more.

Furthermore, being a combined exercise, Talisman Sabre includes army, navy and air force practice. The military, in particular the U.S. military, are known to be some of the world’s greatest polluters and producers of toxic chemicals - and accidents do happen:

In 2013, the US jettisoned four bombs on the Great Barrier Reef, when they had difficulty dropping them on their intended target, Townshend Island. While this drew media attention and international condemnation, these four bombs are just the tip of the iceberg as far as bomb drops and live firing involved in Talisman Saber and other US military training in Australia. Ecologically speaking, Townshend Island, Saumarez Reef, the waters between Townsville and the Palm Islands, the Halifax Training Area, are no less part of the Great Barrier Reef marine environment than areas within the region that have not been designated for military use.

In January 2006, a U.S. nuclear powered aircraft carrier, the USS Ronald Reagan, was found to have left a trail of rubbish in Moreton Bay during a short visit to the port of Brisbane. Soon after leaving the port, a pilot was forced to evacuate his plane during a routine exercise. The plane was never recovered and is still submerged off the southeast Queensland coast.

It is inappropriate to expose some of our last coastal wilderness areas, threatened and endangered species and heritage sites, to bombing, on-shore landing practise, the use of sonar, and potential radiological contamination from the use of nuclear powered ships for these military operations. The lists of flora and fauna developed for the PER are testament to a diversity of life that is worth preserving; the way to do so is to stop military activity in these regions.

8. No case for war rehearsals

Though dismissed as an option in the ER, a comprehensive assessment of environmental impacts that prioritised environmental protection, would recommend the option of Talisman Sabre not going ahead. The most expedient way to protect the environment of the proposed sites is to cease military activities, to rehabilitate used or degraded sites, and to protect them for the future.

The social impacts of hosting some of the world's largest military exercises go beyond short-term gain from potential military tourism dollars, however. Along with the obvious facet of ongoing invasion- the military controls First Nation peoples' access to their land inhibiting their right to be on and practice culture on their land, there is the grief associated with destruction of our habitat, the environment and its unique spaces, such as the Great Barrier Reef. And priming our population to depend on the war economy is a dangerous trajectory.

The Bulletin of the Atomic Scientists, originally a collaboration of scientists who worked on developing nuclear weapons, uses the Doomsday Clock to represent their expert's calculation of our proximity to global catastrophe. With 12 being the apocalypse, the hands of the clock are set forward or back depending on their assessment of geopolitics and environmental factors. Set in 2016, at a perilous 3 minutes to midnight because of the combined threat of climate change and nuclear weapons, the Trump presidency has seen the Doomsday Clock moved forward to 2.5 minutes to midnight.

There are over 15,000 nuclear weapons on the planet today. It is 2.5 minutes to midnight. The threat of large or small scale nuclear war is as high as it has ever been...

Is waving the nuclear sword at China, Australia's best political option? Is engaging in huge nuclear-powered and nuclear-weapons capable military exercises, with one of the world's largest polluters and the world's number one consumer of fossil fuels, the US military, in the midst of World Heritage listed environments the best we can do?

In the 90's the Australian public was sold the idea that removing pastoralists and turning the Shoalwater Bay region into a military training area that would have the dual purpose of defence and conservation – would be better for the environment than farming. And so it possibly was. But it was not best for the environment.

What's best for the environment is protection of Shoalwater Bay from both militarism and pastoralism. What's best for the Great Barrier Reef is complete demilitarisation and denuclearisation of the entire ecosystem. What's best for our community is to redress aspects of military colonialism by returning militarised spaces to their Traditional Owners. What's best for our environment is respecting it for its intrinsic value.

We believe that Talisman Sabre poses a threat to the environment, to safety, to security and to peace in our region. We would like to see Talisman Sabre 2019 cancelled and all of the lands and seas proposed for use in Talisman Sabre, and currently used as military sites, returned to their Traditional Owners with their cultural and environmental dignity and beauty protected for future generations.

We call on the Australian government to use this opportunity to cease being environmental managers of war and become a world leader through peace and environmental protection.

We look forward to hearing your response to our submission and would like to register our contacts to be kept up to date on the progress of the ER and Talisman Sabre.

Thank you,

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APPENDIX A: Environmental risks of military exercises and war

Friends of the Earth believes that all military activity in the Great Barrier Reef Marine Park and other environmentally sensitive areas should be disallowed; it is not compatible with sustainability or environmental protection.

The following is a summary of some of our ongoing concerns with Talisman Saber in its context as a local military exercise and its repercussions as a rehearsal for war.

This document highlights the environmental risks posed by military activity and is largely excerpted from our previous PER submission regarding Talisman Saber 2011, prepared by Kim Stewart, BA, BSc honsA of Friends of the Earth Brisbane.

Environmental Risks posed by military exercises and war: Response to the TS13 Public Environmental report

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1. Environment at risk: Flora and Fauna values

The various locations of the TS13 Exercise have many environmental values recognised by PER. Over 100 species are identified throughout the combined areas of Shoalwater Bay Training Area (SWBTA) and Townsville Field Training Area (TFTA), Delamere Range Facility (DRF), Bradshaw Field Training Area (BFTA), Mount Bunday Training Area (MBTA) and the Coral, Timor and Arafura Seas.

In November 2006 the British journal Science published a report on the state of the world's fisheries that indicates if we do not protect fish habitats and restrain fishing, fish stocks will collapse by 2048. Shoalwater Bay is home to many species of fish and its protected situation and extensive mangrove ecosystem makes it an excellent fish refugia and breeding habitat. The seagrass meadows on which dugongs totally depend, are also the breeding place for economically important species such as rock lobsters,, blue swimmer crab and 20 species of prawns. Other endangered species such as the logger head turtle also visit Shoalwater Bay. The reef and other relatively undisturbed marine habitats are already under pressure from global warming and comprise a piece of natural heritage that should be preserved at any cost. Shoalwater Bay is the biggest and one of the most environmentally significant parts of the Great Barrier Reef Marine Park. With over 300kms of coastline, mangroves, wetlands, and seagrass meadows adjoining and in places part of the Great Barrier

Reef Marine Park its environmental value can not be estimated. Over 100 are listed in Appendix C of the AECOM PER including 85 bird species, 12 species of mammal, 11 reptiles, 5 shark species, and many vulnerable or endangered plant species including the Swamp Orchid. We thanks the AECOM PER for making the public aware of the great biological diversity of the area.

We single out a few endangered species for special mention.

Dugong

Shoalwater seagrass meadows form one of the remaining food habitats for the endangered dugong – the use of sonar, turbulence and potential toxic spills put dugongs at risk. The dugong is suffering from population decline in many parts of its range. It is found in greater numbers in Australian waters than anywhere else in the world. Dugong numbers halved in the decade between 1990 and 2000. There are currently about 4000 dugongs in Australian waters, which is where they are concentrated. Shoalwater Bay is important dugong habitat in Queensland due to its large north facing aspect making it an ideal site for seagrass to grow.

The Great Barrier Reef Marine Park Authority cites “Seagrass loss was a major cause of death of dugongs in Hervey Bay in 1992 following a flood. However, in the Shoalwater Bay area where dugong numbers have declined in recent years, studies since 1995 have shown that there has not been a major loss of seagrass since the 1980s.” Could military activity be the differing factor in Shoalwater dugong decline?

The UN 2002 Report on Dugong recommends that remaining dugong habitats in Australia be protected. Dugong are already under pressure, hence their endangered status, from habitat loss and accidental death by boating collisions and in fishing nets. In 2003 the U.S. DoD were taken to court by environmentalists in Okinawa, Japan for the expansion plans for the U.S. base there onto a nearby reef which would threaten the Okinawa dugong population. The U.S. DoD wanted to landfill coral reef and build a military base with 2,600m runway, aircraft hangers, large fuel storage tanks and many other facilities. Only court action and the adverse publicity it occasioned forced them to withdraw. Is this the action of a responsible environmentally sensitive organisation?

Green Sea Turtle

Shoalwater Bay is an absolutely vital breeding habitat for the endangered Green Turtle: it has the highest concentration in the world of this declining species; this is their premier breeding habitat. The population of Green Turtles is thought to be declining worldwide.

Turtles are sensitive to sonar emissions undersea and could be susceptible to naval use of sonar in the same way as cetaceans and dugong.

A former U.S. DoD military dump sites in the Pacific are listed as a threat to Green Sea Turtles there by the Recovery Plan for U.S. Pacific Populations of the Green Turtle.

Whales

Whales and other cetaceans, including many endangered species including humpbacks, frequent the Coral Sea and Shoalwater Bay where the TS11 exercises will take place. In 2007 the well-publicised presence of the rare white humpback whale Migaloo during the TS07 games indicates that whale presence is likely to occur.

Both the U.S. and Australian vessels use Low Frequency Active Sonar, which are known to cause beachings, brain haemorrhages and ear injuries in cetaceans and whales in particular. In 2007 the U.S. Navy won over a legal challenge to the use of sonar in the Pacific after the intervention of George W. Bush. This is not the action of a responsible environmentally sensitive organisation.

1.2 Biodiversity risks

The PER lists risks to the environment at SWBTA. They rate them as 'medium' to 'high' based on the military's own assessment tool. The lack of objectivity in using a military purpose-built assessment tool calls into question its scientific validity.

Given the danger of global warming to the diverse biota of Queensland, it is important to protect places of significance, such as the heritage listed SWBTA. Habitat loss is the most significant threat to biodiversity in Queensland, making the protection of the SWB region imperative. We contend that military activities, for the many reasons listed in this document, are not compatible with biodiversity protection. They are particularly not compatible with the SWB region due to the number of significant, endangered and vulnerable species living there.

2. Military toxins

U.S. military exempt from a raft of U.S. environmental rules, Australia's foremost environmental law, the *Environmental Protection and Biodiversity Conservation Act* (1999) exempts military activities from the rigorous Environmental Impact Assessments expected of other activities in protected areas and elsewhere.

High explosives ARE chemicals and that they are an environmental risk - *all* military action and munitions involve chemicals.

Past joint military activities have seen the intentional introduction of toxic materials such as red phosphorus marine markers, the release of seawater ballast containing introduced species and the intentional disposal of ship-board waste at sea. These likely events, likely to occur in Talisman Sabre, should not be tolerated in the Great Barrier Reef Marine Park, the Coral Sea, Shoalwater Bay or other environmentally sensitive areas.

Explosive compounds which are used by the U.S. DoD pollute land, water and air in many places. They accumulate in plants and animals. Some of them include:

Perchlorate, the primary ingredient in rocket fuel, is the chemical causing the most concern worldwide with regards to the U.S. DoD's operations. It has been found contaminating groundwater in 20 U.S. states as a result of its use at rocket test sites, military bases, and perchlorate-production plants. It has been linked to thyroid problems, birth defects and newborn development. A recent study has found perchlorate is even contaminating the U.S. food supply and that 'safe' level standards are inadequate.

White Phosphorus was found responsible for the contamination of the

estuarine environment at Eagle River Flats near Fort Richardson base, Alaska, U.S.A. The fishing grounds of local Alaskans were destroyed and thousands of water birds killed, “every year for almost two decades” according to the Military Toxic Project. They also say UXO (un-exploded ordnance) “may exist in, on, and/or under up to 2 million acres of lands and waters outside the current boundaries of the base.” An eyewitness account by a local fisherman indicates that white phosphorus has been used at SWBTA, which is adjacent to the RAMSAR listed Shoalwater/Corio Bay wetlands.

Phosphorus marine markers are reputed to have washed ashore in Yeppoon near the SWBTA on two occasions in the months after the TS05 games. The marine markers were reported in the media to be red phosphorus, MK58 type. Eyewitnesses say the ADF was slow to respond to the presence of the unexploded marker in a populated area. However, there was a fast response from the PR department, which led to misinformation being told the media, who reported the marker disposed of prematurely. The presence of potentially explosive and dangerous military equipment on a populated beach is intolerable to the local population and presents a clear risk, especially to vehicles that drive on that beach. The marker incidents also increase the mental stress to people living in the area.

- **TNT** (trinitrotoluene) is another commonly used explosive that is toxic, used in bombs and gunpowder. IN one US base in Cheatam, Virginia, TNT contamination is largely responsible for the pollution of the entire food chain of the York River, and rendered local crabs, fish and oysters inedible. The US Navy, who owned that site since 1942, denied the problem for some years, although they banned military personnel from swimming there.
- **RDX** (1,3,5-hexahydro-1,3,5-trinitrotriazine) is another explosive compound, used in almost all military explosive compounds.
- **Other heavy metals** including mercury, lead. Heavy metals are bioaccumulative and can cause cancers, mental problems, birth defects, organ failure in the extreme. Importantly, their toxicity only shows up over a long period of time.
- **Practice ammunition**, sometimes called ‘green’ munitions, are toxic: they use the same kinds of metal casings as real ammunition and still require toxic propellants to be fired. Practice munitions can contain antimony, barium, lead, magnesium, red and white phosphorus and a number of other incendiary compounds that can contaminate.

The 2011 PER claims that, “Studies of the residues from high explosives has been found that less than 1% of the explosives used remains, with the majority of explosive compounds consumed in the explosion (Hewitt, et al., 2003)” (PER p53). In a study by the same lead author dated 2005, Hewitt, Jenkins, Walsh, Walsh & Taylor point to bias in their study in that, “the dispersion of particles of unconsumed high explosives material is heterogeneous, which makes it difficult to ensure an accurate estimate of the total residue” and that it, “cannot be considered highly accurate” (Hewitt (2005, p891). The Hewitt study also says that blow in place detonation, partial detonation and unexploded ordnance (UXO) are greater risks. The study cited only examined

RDX and TNT and does not assess the other chemicals and metals used in the production of munitions. Nor does it assess the potential accumulation of 50 years of live firing residues, from year long exercises by the multiple armies that use Australian training areas, even at an minimal "1%" residue.

The Hewitt study cited in the AECOM PER is but one study that by its own admission is not definitive or accurate. It is not representative of the extent of the risk of contamination from the production, use, storage and disposal of munitions. Latham (2000), Pennington & Brannon (2002), Hewitt, Jenkins, Walsh, Walsh & Taylor (2005), Amato, Alcaro, Corsi, Della Torre, Farchi & Focardi (2006), Rosen & Lotufo (2007), Pennington, Hayes, Yost, Crutcher, Berry, Clarke & Bishop (2008a), Pennington, Silverblatt, Poe, Hayes, & Yost (2008b), Pascoe, Kroeger, Leisle & Feldspausch (2010) and Sanderson, Fauser, Thomsen, Vanninen, Soderstrom, Savin, Khalikov, Hirvonen, Niiranen, Missiaen, Gress, Borodin, Medvedeva, Polyak, Paka, Zhurbas & Feller (2010) are a few of the many studies that have found military contamination from live firing, blow in place detonation, military dumping and UXO.

Indeed a study by Clausen, Robb, Curry, and Korte (2003) found that the activities typically carried out on a military range (training area) resulted in the contamination of Camp Edwards, (Mass.) and that the same problems should be expected at other military ranges. Pennington et al (2008b) cite research that indicates in long term ranges the soil contamination of TNT could be as high as 14.3%, which "are potentially significant distributed point sources of contamination to groundwater" (2008, p534).

Of particular interest to this critique is a study by Bayer (2006) of the contamination legacy of 60 years of U.S. military exercises at Vieques, an island 13 km east of Puerto Rico in the Caribbean. Despite the end of live firing exercises at the Vieques base and the withdrawal of the U.S. military from the island, ill health and environmental contamination continue. Depleted Uranium, perchlorate, RDX, TNT and many heavy metals contaminate the site, that encompasses two thirds of the island, and affect food production, human health and environmental health. Not only did the 60 years of exercises physically destroy mangroves and waterways, and leave physical scars on the countryside, it also left behind TNT, NO₃, NO₂, RDX, Teteryl, napalm, perchlorate, mercury, lead, PCBs and DU, much of which can never be cleaned up and continue to contaminate and poison. In addition, the traditional fishing grounds have been rendered dead by "ghost nets" ripped by naval ships. Residents have disproportionately high rates of illnesses like cancer, hypertension and liver disease on the island.

The ADF have practised sea-dumping of war related pollutants including mustard gas and the radioactive hulls of ships used in the British nuclear tests. At sea dumping is not harmless. Szarejko & Namiesnik (2008) in a Baltic Sea study found that dumped WWII munitions corrode and release toxins into the water, most of which are water soluble. As they have been practising in the Shoalwater Bay region since 1952, it is likely that contaminants and UXO are already in the soil there, especially in the Dismal sector where live bombing occurs. The potential for UXO corroding into the environment exists.

The U.S. DoD has a long record of bad environmental stewardship

The U.S. DoD has been described as the world's biggest industrial polluters, given the toxic legacy that their bases and facilities have created worldwide. *Project Censored* estimates that “the U.S. military generates 750,000 tons of toxic waste material annually, more than the five largest chemical companies in the U.S. combined. This pollution occurs globally as the U.S. maintains bases in dozens countries.” The U.S. DOD has sought exemptions from many important environmental laws in the U.S. including the *Migratory Bird Treaties Act*, the *Wildlife Act*, the *Endangered Species Act*, the *Clean Air Act* and the *National Environmental Policy Act*. Hundreds of Superfund contaminated sites in the U.S. are military.

Perhaps the worst cases of U.S. military pollution offshore would be the cases of Vieques, Puerto Rico and Clarkson Air Base in Philippines. In Vieques, Depleted Uranium was used extensively, leading to birth defects and high rates of leukaemia. Perchlorate contaminated the water table and ghost nets set adrift by massive naval vessels continue to devastate the fisheries. At Clarkson Air Base, the Philippines government used the contaminated land to house victims of the Pinatapu eruptions because they did not know the extent of the contamination, resulting in illness and birth defects affecting hundreds of people.

The Military Toxics Project says of Vieques:

Since 1940, the U.S. Navy has used three-quarters of the island of Vieques, Puerto Rico for bombardment, munitions disposal, and other activities. There is strong evidence that heavy metals and other munitions toxins move in the air from the bombing range to the civilian areas. The toxic explosive compound RDX was found in drinking water supplies in civilian areas in the late 1970s. In 2000, excessive levels of mercury were found in the hair and fingernails of 45% of Vieques residents tested. Vegetables and plants growing in civilian areas are highly contaminated with lead, cadmium, and other heavy metals. From 1985-1989, Vieques children aged 0-9 were 117% more likely to contract cancer than children of the same age on the main island of Puerto Rico. Children aged 10-19 were 256% more likely to contract cancer. A 2001 study found that Vieques residents are 73% more likely to suffer from heart disease than residents of the main island, 64% more likely to develop hypertension, 58% more likely to have diabetes, and 18% more likely to be diagnosed with asthma.

Both Vieques and Clarkson Air Base are now closed down and the full effects of their contamination can only be assessed after the military has vacated the premises. No compensation has been offered to these communities devastated by U.S. DoD toxins. Moreover, the U.S. DoD is reluctant to compensate even U.S. citizens for environmental pollution. One study has found that the U.S. DoD is even polluting the national food supply. There are about 140 superfund listed U.S. military sites. The Military Toxics Project estimates contaminated sites number in the several thousands in the U.S. The U.S. Navy has estimated it would cost them U.S. \$33b just to clean up the contaminated navy sites.

Contaminants on those sites include buried munitions, unexploded ordnances, spilled oil, fuel and solvents, toxic explosives compounds including TNT and perchlorate and heavy metals including lead and tungsten. In a stunning double standard, depleted uranium is not permitted to be used on U.S. testing ranges. These kinds of actions call into question the role of the Department of Defence, who exist to protect citizens, not

harm them. ADF collusion with the U.S., and a push for “interoperability” which sees Australia purchasing and using the same weapons and machinery as the U.S. does not reflect well on the reputation of Australia's defence forces. Much of the pollution left globally by the U.S. military is the result of day to day maintenance and training such as that which will occur in Exercise Talisman Sabre.

3. Nuclear risks

Nuclear powered submarines and an aircraft carrier may be participating and these may or may not have nuclear weapons on board. For security reasons, it has been the long-standing policy of the United States Government to never confirm or deny the presence of nuclear weapons on board their ships. ”

There have been numerous accidents and sinkings of nuclear submarines worldwide, including non-destructive accidents with U.S. nuclear submarines. There the hazard of potential radioactive contamination from participating and port-visiting nuclear vessels is real.

In Tokyo, Japan 2006 radiation was detected in the waters around nuclear powered submarine, the U.S. Honolulu. The U.S. navy continues to deny this and maintains they have a good record. Some Japanese ports see the risk of nuclear accident from visiting U.S. warships so great that they hold nuclear leak drills to test their preparedness.

In 1989, the Senate Standing committee on Foreign Affairs Defence and Trade inquiry into nuclear powered ships visiting Australia found that risk assessment based on past record of accidents could not be used as a predictor of future accidents. This calls for the precautionary principle to be applied: the risk is real - the lack of past accidents does not rule out a future accident.

In fact, there have been at least 10 serious peacetime accidents involving U.S. nuclear submarines on the public record. As recently as March 2005 a U.S. nuclear submarine was involved in an undersea crash that killed crew members. A witness to the 1989 Senate inquiry found that the paucity of reported accidents involving nuclear submarines was probably due to, “tight secrecy surrounding sensitive military information” and “it would take blind faith to believe that disaster and near disasters as yet undisclosed, had not occurred in NPW reactors”. In fact, media outlets site incidents in the many hundreds.

4. Sonar risks

Active and passive sonar will be used during the TS war games. Mid to Low Frequency Sonar is associated with whale breaching, brain haemorrhaging in cetaceans and disruption to the breeding cycle of many species.

In 2008, U.S. environment groups took the U.S. Navy to the Supreme Court to stop them using sonar during the TS07 games in Hawaii, saying, “intense sound waves can harm or even kill 37 species of marine mammals, including sea lions and endangered blue whales, by interfering with their ability to navigate and communicate” (New Scientist, Nov 12, 2008). The Navy won, although two high court judges made statements of opposition to the decision: “In her written dissent, Justice Ginsburg cited the substantial and irreparable harm to marine mammals, saying sonar has been

linked to mass strandings and haemorrhaging around the brain and ears” (New Scientist Nov 12, 2008).

The PER says, “The risk of marine mammals (particularly whales) being adversely affected by sonar transmissions is considered low” . We contend that even if this were true, the precautionary principle should apply. The impact of even a small risk would be great if it affected even one member of an endangered species totalling in the hundreds, such as Right Whales and Grey Whales (IWC 2010) In reality, unless an affected animal washes up on shore somewhere, it is unlikely that the military can guarantee that they have not killed cetaceans, or that their use of sonar has not non-lethally injured the many creatures that live in the Coral Sea and the Great Barrier Reef Marine Park.

In recent years the U.S. Navy has developed LFS that operates at lower frequencies and travels further (SURTASS-LFS). Sonar is believed to be responsible for the deaths of whales and dolphins worldwide, the loud noises frightening the animals, causing brain haemorrhages and 'the bends'. The American Cetacean Society (ACS) says, “The U.S. Navy, in developing and testing its SURTASS-LFA (Surveillance Towed-Array Sensor System - Low-Frequency Active, called "LFA" for short) sonar system, was caught bypassing domestic environmental laws and taken to court by environmental groups”. ACS says the U.S. Navy has the capacity to ensonify 80% of the world's oceans. Dr Marsha Green, for the Ocean Mammal Institute says that, “low-frequency (LFAS) and mid-frequency can have a source level of 240 dB, which is one trillion times louder than the sounds whales have been shown to avoid” (Green 2001).

Sonar and ocean noise has also been found to affect fish, injuring or killing them by vibrating their swim bladders, reducing catches and affecting the viability of eggs. The risk sonar poses is acknowledged. Once again, the precautionary principle should apply and the use of sonar should be ceased. The proposal to suspend sonar use if a whale is sited within 1,000-4000 yards from a ship is, therefore, inadequate for the protection of the animals and these environments.

5. Other risks

Fire, Noise and Underwater detonations pose possible risk to the environment.

Crashes and accidents

However, accidents do happen. In January 2006 the USS Ronald Reagan, visited the port of Brisbane. On their return journey from participation in manoeuvres in Australian waters a U.S. FA-18 Hornet strike fighter plane crashed in the ocean 200km SE of Brisbane. No attempt was made to retrieve the \$37m aircraft and the public was not made aware of the potential environmental contaminants contained within that ship.

Ballast Water

Ballast water may be expelled at non-defence ports. Ballast water is a known mechanism for the transfer of exotic species into Australian waters. This risk is not peculiar to military vessels however, but it compounds the number of risks being introduced by the presence of U.S. vessels in environmentally sensitive areas.

Sea dumping of shipboard waste

After TS05 games, shipboard generated domestic waste was found washed ashore on the Sunshine coast at Mudjimba and on the Sunshine Coast. Apparently it is the policy of the U.S. navy to dispose of their waste in this manner, and the bag was accompanied by a letter that said as much. The waste included plastic debris and paper. In January 2006, a US nuclear powered aircraft carrier, the USS Ronald Reagan, was found to have left a trail of rubbish in Moreton Bay during a short visit to the port of Brisbane.

Entanglement in marine debris can restrict an animal's movement, causing starvation, bodily infections, the amputation of limbs and drowning. The Australian Department of Environment and Heritage lists the Green Turtle as one species particularly vulnerable to the dangers of marine debris. Harmful marine debris has been listed as a key threatening process under the *Environmental Protection and Biodiversity Conservation Act 1999*. Disposing of plastics at sea is totally prohibited by the International Convention. Despite this, the EPBCA excludes "marine debris resulting from the legal disposal of garbage at sea", which we presume includes the U.S Navy.

Friends of the Earth fails to see how legally disposed of garbage could be any less threatening to sea creatures than non-legally disposed of garbage and, therefore, condemns yet another flaw in the legislation. Due to the failure of legislation, it is incumbent on the military to act upon their claim of environmental sensitivity and to end this threatening process.

6. Rehearsals for war

Despite attempts to disassociate these military exercises from their purpose and to portray them as eco-friendly training, the purpose of Talisman Sabre is to prepare the U.S. and Australia for war.

The devastating environmental and social impacts of wars anywhere should not be overlooked.

The environmental legacy of two Gulf Wars has included air, water and land contamination by depleted uranium, contamination from the oil well fires and oil spills, vehicle emissions, heavy metal contamination from missiles, dispersal of chemicals and other toxins from bombing of domestic buildings and disturbance of the desert areas by military activities. Not to mention and acts of violence and other traumatic events affecting the human population during invasion and occupation.

The effects have included increased cancers in humans, decline in fish and shrimp stocks in the Gulf and water contamination hampering recovery efforts. Human beings in the region still suffer post-traumatic stress syndrome from both the environmental contamination and the interpersonal violence they were exposed to. The first Gulf War is estimated to have affected the health of over 20,000 residents of nearby Saudi Arabia. While in Iran "black rain" was said to have resulted from oil fires. Iraq is reputed to have experienced a ten fold increase in birth deformities as a result of the use of Depleted Uranium. U.S. troops claim similar effects from exposures. *Project Censored* cites a report on Iraq of the United Nations Environmental Program [UNEP]'s Post-Conflict Assessment Unit

"noted that the heavy Pentagon bombing and the movement of large numbers of Pentagon military vehicles and troops in Iraq "further degraded natural and agricultural ecosystems."

The UNEP Post-Conflict Assessment Unit report also observed that the Pentagon's intensive use of Depleted Uranium [DU] weapons. Significant levels of radioactive contamination were found at four sites in Baghdad in May 2003, by Christian Science Monitor reporter Scott Peterson (CSM, 5/15/03). Much of this radioactive contamination was likely produced by the DU bullets fired into the centre of Baghdad at the Iraqi Ministry of Planning by the Pentagon's A-10 Warthog aircraft, Abrams tanks or Bradley fighting vehicles. According to the Monitor, Pentagon figures indicate that about 250,000 DU bullets were fired by A-10 Warthog aircraft in March and April 2003, leaving an estimated additional 75 tons of DU in Iraq, as a result of the Pentagon's attack. Local air pollution and soil contamination in Iraq also increased, as a result of the recent war. The Pentagon's bombing of Baghdad, for instance, ignited fires which toxic, black smoke that contained dangerous chemicals, which caused harm to Iraqi children and to Iraqi adults with respiratory problems, and further polluted Iraqi ecosystems. (Project Censored 2004)

The World conservation union (IUCN) says that in the first Gulf War alone an estimated 6-8 million barrels of oil were split, 600 oil wells set on fire. Arguably any involvement in preparation for war is preparation for environmental degradation. Any pretence to environmental sustainability of war and practice for war is spurious in this light.

In addition, DU, white phosphorus and cluster munitions have been declared illegal by the United Nations and the continued use of it should not be tolerated in any of Australia's allied countries. These facts and the revelations of the Wikileaks documents indicate that the U.S. military and politics alike are prone to illegal underhanded actions that contribute to conflict, turn nations against each other and promulgate deaths.

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