

TS13 Public Environment Report Response

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**Submission to Talisman Sabre 2013 Public Environment Report
prepared for Friends of the Earth by Robin Taubenfeld**

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To whom it may concern,

We are writing in response to the Talisman Saber 2013 Public Environment Report (PER) prepared for the Department of Defence by Aurecon to express both our concern about the Report and our opposition to Talisman Saber 2013 on environmental, social and political grounds.

Below is our submission regarding Talisman Saber 2013 in its social and political context and our comments regarding the PER Process. Appendix A is an overview of our general concerns specifically regarding the environmental risks posed by these military exercises.

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1. Introduction

Talisman Saber 2013 is a US led military exercise proposed to take place in Australia between July 15- August 6, 2012. The Talisman Sabre exercises are the largest joint and

combined military exercises in which Australia engages and some of the world's largest military exercises. It is stated that up to 23,000 Australian and American personnel will be involved in 2013.

Talisman Saber 2013 is huge in scope, using military and civilian facilities in Queensland, Northern Territory, and New South Wales, including Shoalwater Bay, the Great Barrier Reef Marine Park, Saumarez Reef, the Coral, Arafura and Timor Seas, within the Australian Exclusive Economic Zone and international waters and at various support sites throughout Australia, including Brisbane, Darwin and Townsville.

2. Sustainability and war

The PER 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

The Talisman Saber 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 Saber is an expression of US/Australia joint posturing - a show of potential and formidable force.

The PER attempts to assuage our concerns over social and health impacts of Talisman Saber, 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.” (p58), we are alarmed at the potential firepower and political implications of training with the military equipment listed in the PER.

The list of weapons and equipment that “may be utilised during TS13” (p13) leaves no doubt that Talisman Saber will leave Australia at risk of being perceived as “saber rattling” in the Pacific. The long list includes:

- **Ohio Class submarines:** “The *Ohio* class is a class of nuclear-powered submarines used by the United States Navy. According to the public record, the Navy has 18 *Ohio*-class submarines : 14 ballistic missile submarines (SSBN) and 4 guided missile submarines (SSGN)... “The 14 Trident II SSBNs together carry approximately fifty percent of the total US active inventory of strategic thermonuclear warheads”

The “14 SSBNs (fleet ballistic missile submarines (FBM)), [are]each armed with up to 24 Trident II submarine-launched ballistic missiles (SLBM); they are also known as "Trident" submarines, and provide the sea-based leg of the nuclear triad of the US strategic nuclear weapons arsenal”

The “four SSGNs (cruise missile submarines), [are] each capable of carrying 154 Tomahawk cruise missiles with either conventional or nuclear warheads, plus a complement of Harpoon missiles to be fired through their torpedo tubes.”
http://en.wikipedia.org/wiki/Ohio-class_submarine

- **Los Angeles Class Submarine:** “The Los Angeles-class, sometimes called the LA-class or the 688-class, is a class of nuclear-powered fast attack submarines that forms the backbone of the U.S. Navy's submarine force...
Los Angeles class submarines carry about 25 torpedo-tube-launched weapons and all boats of the class are capable of launching Tomahawk cruise missiles horizontally (from the torpedo tubes). The last 31 boats of this class also have 12 dedicated vertical launching system (VLS) tubes for launching Tomahawks.”
http://en.wikipedia.org/wiki/Los_Angeles_class_submarine

- **Nimitz-class aircraft carrier:** “The Nimitz-class supercarriers are a class of ten nuclear-powered aircraft carriers in service with the United States Navy...With an overall length of 1,092 ft (333 m) and full-load displacements of over 100,000 long tons, they are the largest capital ships in the world...

...An embarked carrier air wing consisting of up to around 90 aircraft is normally deployed on board. After the retirement of the F-14 Tomcat, the air wings' strike fighters are primarily F/A-18E/F Super Hornets and F/A-18C Hornets. In addition to their aircraft, the vessels carry short-range defensive weaponry for anti-aircraft warfare and missile defense.” http://en.wikipedia.org/wiki/Nimitz-class_aircraft_carrier

- **M1A1 Abrams tanks:** Both the Australian and US forces possess M1A1 Abrams tanks and these are listed under both country's potential inventory. American Abrams tanks are DU armoured, meaning they are enforced with a mesh made of Depleted Uranium (DU), or Uranium 238 a toxic and radioactive heavy metal, which can put human health and the environmental at risk. While the PER states that no DU munitions will be used in Talisman Saber, it would be misleading to suggest that DU itself will not be present if US Abrams tanks are used, Defence must clarify if American DU armoured Abrams tanks will be used.
- **Ticonderoga class cruiser:** "Ticonderoga class guided missile cruisers are multi-role warships. Their Mk. 41 VLS can launch Tomahawk cruise missiles to strike strategic targets, as the Navy has in every conflict since the Tomahawk was introduced, or fire long range anti-aircraft Standard Missiles in an anti-aircraft role. Its LAMPS III helicopter support and sonar allow it to perform anti-submarine missions. Ticonderoga class ships are designed to be elements of carrier battle groups, amphibious assault groups, as well as performing missions such as interdiction or escort." http://en.wikipedia.org/wiki/Ticonderoga_class_cruiser
- **Boeing F/A-18E/F Super Hornet and F/A-18F:** The Boeing F/A-18E/F Super Hornet are twin-engine carrier-based multirole fighter aircraft variants based on the McDonnell Douglas F/A-18 Hornet...The Super Hornet has an internal 20 mm gun and can carry air-to-air missiles and air-to-surface weapons...

The Super Hornet entered service with the United States Navy in 1999, replacing the Grumman F-14 Tomcat since 2006, and serves alongside the original Hornet. The Royal Australian Air Force (RAAF), which has operated the F/A-18A as its main fighter since 1984, ordered the F/A-18F in 2007 to replace its aging F-111 fleet. RAAF Super Hornets entered service in December 2010." http://en.wikipedia.org/wiki/Boeing_F/A-18E/F_Super_Hornet

Killing machines.

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 PER which is intended to justify, rather than examine the impact of, Exercise Talisman Saber 2013.

5. Problems with the PER

We specifically note the following flaws in the PER process:

5.1 Lack of meaningful public consultation

Despite frequent mentioning of "public consultation", the document clearly acts as a means to explain (some) details of the military exercise without allowing for meaningful public/stakeholder engagement or dialogue.

Point 1.1 of the PER states: *“The objectives of the PER are to:*

- *communicate activities planned as part of the exercise to the Australian public and relevant stakeholders*
- *outline potential environmental issues and risks associated with conduct of the exercise, and environmental controls to avoid or minimise potential risks.”*

We are concerned by the lack of non-governmental input in the preparation of the PER and the absence of rigor and scrutiny in the impact assessment process.

Numerous organizations are working on the protection of areas such as the Coral Sea and Great Barrier Reef. The lands and seas of many Traditional Owner groups are impacted by the proposed Exercise, and many individuals and organizations have in-putted in to previous public consultations around Talisman Sabre and military developments. However, none of these appear to be “stakeholders” in this PER. Listed as “Defence stakeholders” in the “risk assessment workshop” to prepare the PER are “Senior Environment Managers (SEMs), Regional Environment Officers (REOs), Defence Project Officers (DPOs) and key Australian Government Stakeholders, the Department of Sustainability, Environment, Water, Population and Communities (DSEWPC) and the Great Barrier Reef Marine Park Authority (GBRMPA).” (p. 10)

It appears that no local community, First People’s, arts, non-governmental political, social justice, women’s health (rape and crisis), student, academic, scientific or non-aligned environmental organizations were involved in the “risk assessment” or PER process. This is inadequate, cannot be called “community consultation” or even “stakeholder consultation”, and cannot possibly lead to non-biased assessment. A wider sphere of representation and a diversity of voices are necessary to ensure that the “risk assessment” activities and other aspects of “consultation” are not merely rubber-stamping exercises.

Furthermore, despite numerous references to the Environmental Protection and Biodiversity Conservation (EPBC) Act, detailed description of flora and fauna in impacted environments and proposed risk management plans, Talisman Saber will not actually be the subject of an Environmental Impact Assessment.

“The PER will not be formally assessed by the Department of Sustainability, Environment, Water, Population and Communities (DSEWPaC) because the activities do not trigger a referral under the EPBC Act.” (p.4)

This is unacceptable. Talisman Saber poses significant risk to the Environment and must be assessed with the scrutiny of other environmentally risky actions. Talisman Saber must be rigorously assessed under the EPBC Act.

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

“The primary aim of TS13 is to improve training and interoperability between the Australian and US Armed Forces at the operational and tactical level...Both Australia and the United States have worked hard to remove barriers to interoperability, to ensure that Australian and US Armed Forces can work together effectively and safely during overseas deployment.” (p. 9)

One barrier that has been removed is the requirement for a critical and comprehensive assessment process.

5.2 Social and Economic Aspects ignored

The PER 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 PER 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.

5.3 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.

5.4 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.

5.5 Unnecessary risk to the environment

The PER fails to provide the public with a full and accurate picture of the risks, omitting the entire class of those the authors deem to be of low risk and downplaying others, such as risks associated with sonar and high explosive residues. Furthermore, the PER wrongly claims that nuclear powered ships “do not generate radioactive any waste” (p. 54). The risk assessment is both flawed and inadequate. We assert that any risk is too high.

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 TS13 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.” (p. 6) 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 Saber also uses other locations of environmental significance such as Saumarez Reef, the Timor, Arafura and Coral Seas, Cowley Beach (Qld - located within the Wet Tropics World Heritage Area (WTWHA), and habitats for endangered species such as the Northern Quoll and Gouldian Finch (Bradshaw, Delamere Range and Mt Bundy, NT) and vulnerable and/or endangered species such as turtles, dugongs and migrating whales.

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 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.

5.6 Rationale omitted: The PER states: “It is not the intent of this PER to justify the undertaking of military training and joint military Exercises of the Australian Defence Force with US Forces. It does recognise however that there are concerns and preconception of the public on undertaking such activities – and the broad social, governance (political) and economic environments this impacts upon.” (p. 22)

A fair assessment of any planned environmental action, would, at the minimum provide a rationale for the undertaking and a cost-benefit analysis. The PER fails to explain why Talisman Saber needs to be conducted.

There is no mention of:

- Options regarding military exercises i.e., options to not have the TS exercises or to locate them elsewhere.
- An explanation for the need for ‘interoperability’.
- An explanation of how the need for combined training, in particular nuclear weapons capable training, with the U.S. sits within Australia’s national interest.

5.6 Further clarification required

Also, as in the past, we ask the following questions to aid our assessment of the intention, the impacts and the process involved in the PER:

- Has Defence considered not having the TS13 or any Talisman Saber military exercises? What other options were considered?
- What consultation has taken place with local Aboriginal and Islander Traditional Owners of the sites used within Australian Territory, the Arafura, Coral and Timor Seas and Traditional Owners of Guahan/Guam and Hawaii?
- Who has the right to veto or deny consent for Talisman Saber 2013 to take place?
- What defence necessity requires Australia to engage in military training with nuclear powered and nuclear capable war ships?
- What defence capacity requires Australia to engage in combined training with the U.S.?
- Why is Talisman Saber not formally assessed by the Department of Sustainability, Environment, Water, Population and Communities (DSEWPaC) under the EPBC Act?
- What, if any, agreements exist for U.S. exemptions from environmental protection and management regulations?
- What resources does the U.S contribute to environmental management and rehabilitation?
- What would the US’s obligations be in case of a nuclear accident or toxic hazard from US military machinery or weapons in Australian waters? In international waters?
- How does Defence’s commitment to environmental sustainability actually look in real warfare?
- How is the environmental risk assessment calculated and what is its relevance in real war scenarios?
- What is the total financial cost of Talisman Sabre 2013? How is this paid for? By whom?
- What consultation has taken place with local communities in the production of the PER?
- Who was notified of the Public Sessions? When and how were they notified, who attended?
- Who was notified of the release of the Draft PER? When and how were they notified?

5.7 No case for war rehearsals

Though not considered as an option in the PER, an comprehensive assessment of environmental impacts would explore the option of not Talisman Saber 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.

We believe that Talisman Saber poses a threat to the environment, to safety, to security and to peace in our region. We would like to see Talisman Saber 2013 cancelled and all of the lands and seas proposed for use in Talisman Saber, 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 PER and Talisman Saber.

Thank you,

Robin Taubenfeld
Friends of the Earth Brisbane

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 Baver (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, Tetryl, 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 Pinatabu 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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