



# An Independent Assessment of New Zealand Defence Policy

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## About 42 Group

42 Group is a loose association of independent analysts with an interest in south pacific regional security.

42 Group is not associated with any government, government body, or lobby group, is self-funded and has no particular political affiliation.

42 Group acknowledge that it is in the nature of official documents that they are constrained, in terms of language and analysis, by political considerations. For this reason, we believe it is of importance that alternative viewpoints are available; as these allow for a franker discussion of contentious issues. This assessment is an example of such a viewpoint.

## Preface

Readers should note that, while 42 Group does not reject the use of force under all circumstances - for example in cases of genuine self-defence – or when such use of force is explicitly approved by UN resolution - we do reject the legality and morality of other uses of force between groups of people, or nation states.

This assessment, therefore, advocates a shift in New Zealand's military policy; from one that tends to emphasise the purchase of assets designed for 'force projection', to one that favours a genuinely *defensive* military posture, the purpose of which is to protect New Zealand and its diverse peoples from external aggression.

Furthermore, while we may allude within this assessment to the military implications of factors such as climate change and mass population migration, we must make clear that 42 Group does not advocate an isolationist outlook.

A willingness to welcome refugees fleeing conflict or persecution in other parts of the world is one of the facets of New Zealand society that is most admirable.

We believe there is a difference, however, between on the one hand being willing to offer humane assistance to refugees wanting to integrate into New Zealand society, and on the other hand being unwilling to prepare for armed invasion by external groups seeking to take possession New Zealand's land, or resources, by force.

We sincerely hope that New Zealand continues to display its humanity in the former case, while it prepares itself for (but with luck is never forced to face), the consequences of the latter case.

Kia pai, kia whakapehapeha, kia rite.

42 Group

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## 1. Executive Summary

New Zealand's Strategic Defence Policy Statement 2018 acknowledges that a number of factors, which it describes as *complex disrupters*, will affect New Zealand's future strategic landscape. One example of this is climate change<sup>1</sup>, which the defence policy statement refers to *twenty-six* times. The document also indicates that, in combination with major shifts in global power balances, such complex disrupters will increase the likelihood of 'strategic shocks' occurring in the future – noting that these are likely to affect New Zealand over the coming decades in ways that are difficult to predict.

The policy statement also acknowledges that, in accordance with its own principles of combat readiness and flexibility, the New Zealand Defence force will need to be prepared for such sudden shifts in the strategic environment, and be ready in the future to act "in new ways and at new levels" in order to respond to them.

Despite this, the approach to defence described in the 2018 policy statement mostly represents a continuation of New Zealand's previous policies, albeit with a requirement for some significant investments over the coming years.

The 2018 policy statement draws few conclusions, however, about the likely impacts of, or potential interplays between the complex disrupters that it identifies. Neither does it address the vulnerabilities or sustainability of the strategy it advocates.

42 Group believes that it also overlooks a critical contradiction that lies at the heart of New Zealand's defence policy.

All of these matters are discussed in greater detail within this assessment – but to summarise, it is the position of 42 Group that New Zealand's Strategic Defence Policy Statement 2018:

- Does not adequately consider how the various complex disrupters it describes could play out in terms of future global or regional conflicts, or adequately explore how they might change the capabilities or investments required by the New Zealand Defence Force in the future;
- Places what may be, in that context, an excessive emphasis on New Zealand's traditional alliances and on the investments required to maintain 'interoperability' with those allies;
- Does not address the economic sustainability of the approach that it advocates, given the size of New Zealand's economy and the rate of change in military technology;
- Does not fully address the tactical and strategic vulnerabilities inherent in the capabilities and investments that it proposes;
- Places an excessive emphasis on the secondary functions of the Defence Force, at the expense of its primary role: the defence of New Zealand;
- Does not appear to reflect upon, or draw lessons from, recent conflicts, or to consider how these bear on New Zealand's optimal defence posture; and
- Does not address the profound implications of a widening gap between New Zealand's commitment to the norms of an international rules-based order, and a diminishing willingness amongst its traditional allies to be held accountable to that order.

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<sup>1</sup> See *Existential climate-related security risk – a scenario approach*, May 2019, which states that "Climate change now represents a near-to mid-term existential threat to human civilization" [https://www.scribd.com/document/412545082/EXISTENTIAL-CLIMATE-RELATED-SECURITY-RISK#from\\_embed](https://www.scribd.com/document/412545082/EXISTENTIAL-CLIMATE-RELATED-SECURITY-RISK#from_embed)

In order to address these issues, and to better position New Zealand for the challenges of the coming decades, 42 Group makes a number of recommendations, the overarching themes of which are that New Zealand must:

- Clearly recognize and reflect upon the contradictions inherent in its dual commitments to the international rules-based order, and to allies that may not hold themselves accountable to that order; and
- Prepare for further shifts in the strategic environment that might leave New Zealand unable to rely upon the protection previously afforded to it by its geographical isolation, or by its traditional alliances; and
- Recognize the financial unsustainability of trying to maintain technological parity, or high levels of interoperability with its allies; and
- Reprioritize its defence policy to emphasise national defence over the secondary roles of the NZDF; and
- Recognize, in this context, the vulnerabilities inherent in its existing force composition and defence posture; and
- Draw from the lessons of recent conflicts to inform future strategic defence policy and doctrine; and
- Reprioritize its future investments to focus first on capabilities that would allow New Zealand to credibly defend itself without significant assistance and then, secondarily, to enable the NZDF to fulfil its secondary functions, such as emergency relief, border security and search and rescue operations – as well as participation in UN-mandated stabilisation operations as a responsible member of the international community.

### 1.1. A note about the Defence Capability Plan 2019

On 11 June 2019, just as this assessment was undergoing final peer review, New Zealand released its Defence Capability Plan 2019. That plan describes, including by breaking down specific investments, how New Zealand will deliver on the Strategic Defence Policy Statement 2018.

We are pleased to note that the capability plan indicates that a decision has been made, ‘supported by independent analysis’, to extend the service life the ANZAC frigates Te Kaha and Te Mana beyond their previously planned retirement date, this is one of the main recommendations of [this](#) assessment.

We believe, however, that the wider criticisms of New Zealand’s defence policy that we make in this assessment remain valid.

The vast majority of the investments described within the Defence Capability Plan 2019 remain focused on assets that primarily support the secondary purposes of the NZDF. Little consideration is given in the plan to investment in assets or capabilities with real value for conducting an effective and sustained defence of New Zealand against external aggression. Given the global, environmental, social and security implications of climate change (as outlined in the MOD/NZDF’s 2018 paper *The Climate Crisis: Defence Readiness and Responsibilities*), along with the other strategic disrupters at work, 42 Group still believes that this represents a significant and dangerous oversight.

## 2. Introduction

In general, New Zealanders can be justifiably proud of their armed forces and the way those forces have conducted themselves when on deployment, whether as combatants, or when performing secondary roles such as peacekeeping, disaster relief, reconstruction, or search and rescue operations.

Few armed forces have enjoyed the same level of goodwill, both from allies and the general populations of the theatres to which they have been deployed.

This goodwill reflects a reputation for professionalism that is generally well deserved - but that remains vulnerable should the Defence Force lose sight of the values and disciplines that gave rise to it. This vulnerability, along with one of the key threats of it, are discussed later in this assessment.

New Zealand's Defence Policy Statement 2018 identifies three forces that, by applying increasing pressure on the 'international rules-based order', will affect New Zealand's strategic environment over the years ahead. These forces are:

- The increasing importance of 'spheres of influence';
- Challenges to 'open societies'; and
- A collection of eight 'complex disrupters' - which include climate change

It briefly explores these influences on the future strategic environment and goes on to outline what they mean for the Defence Force's future role, priorities, capabilities and investments.

Respectfully, however, it is the position of 42 Group that the 2018 policy statement fails to reflect the lessons of recent international conflicts, or to adequately consider the possible interplays between the complex disrupters that it describes, or the possible shifts in global economic and military power that may be likely to occur.

As a result of this, we believe that it misses an opportunity to better position New Zealand for the challenges the nation may face over the coming decades.

This assessment therefore makes a number of recommendations that we believe should be considered as part of current and future reviews of New Zealand Defence policy and the NZDF's associated capabilities.

By necessity, this assessment touches on areas that intersect with foreign policy. 42 Group acknowledges that diplomacy requires a degree of nuance and delicacy that is not so applicable - and may indeed be counterproductive - in a purely military assessment.

Nothing in this assessment should be taken as criticism of the rank and file personnel who serve within the New Zealand Defence Force.

### 3. Strategic disrupters

New Zealand's Strategic Defence Policy Statement 2018 identifies eight 'complex disrupters' that it asserts are likely in the future, alone or through their interactions, to contribute to significant shifts or 'shocks' in New Zealand's strategic environment. These disrupters are:

- Climate change
- Cyber warfare
- Space-based technologies
- Advanced military technologies
- Transnational organised crime
- International terrorism
- Nuclear proliferation
- Mass population migration

42 Group acknowledges that these disrupters and the interplays between them are all critical factors, the ability of which to impact New Zealand or its allies in difficult to predict ways cannot be easily overstated.

#### 3.1. Unacknowledged strategic disrupters

We also note three strategic disrupters that are not acknowledged as such within the 2018 policy statement.

It is the position of 42 Group that a strategic assessment that ignores these cannot be anything other than flawed.

These disrupters are:

- An undermining of the international rules-based order by New Zealand's own allies;
- Active information warfare (as distinct from cyber warfare); and
- Constraints on New Zealand's foreign policy independence.

These disrupters are briefly described below in order to properly contextualize the analysis contained later in this paper.

##### 3.1.1. An undermining of the international rules-based order by New Zealand's allies

Following the events of September 11 2001, the United States and, to a lesser degree, the United Kingdom began to distance themselves from certain foundational elements of the international rules-based order. One manifestation of this was an increasing disregard for the norms and laws governing the use of force.

This trend has been largely unaffected by changes in administration, and has continued until the present day. It has been characterized, for example, by the United States' withdrawal from, or rejection of the authority of, various arms control, justice and climate related treaties, agreements and bodies (such as the International Criminal Court, the Intermediate-Range Nuclear Forces Treaty, the UN Human Rights Council and the Paris climate agreement).

The United States - and to a degree its closest ally the United Kingdom - now routinely practice unilateral use of lethal force that is neither authorized by UN resolution, nor justifiable as self-defence under any widely accepted definition of the term. The US has, in recent times, covertly funded and armed insurgent groups within the territories of other sovereign nations (such as Syria), and has both openly and covertly incited revolutions and coups as mechanisms for regime change



(most recently in Venezuela) - all while holding itself unaccountable under any international legal framework.

None of which is to say that the United States' strategic adversaries have not done similar things.

What makes these actions by the US and its allies a strategic disrupter, however, is that such an open rejection of foundational norms of the international rules-based order by the most powerful nation on earth:

- Has resulted in New Zealand's other key allies; Australia and the United Kingdom joining the United States in military adventures of dubious legality;
- Has undermined the international rules-based order's legal authority;
- Has encouraged other powers to emulate such behaviours; and
- Has undermined the international community's moral authority to censure any other state for such activities.

In short, the credibility and effectiveness of the international rules-based order upon which New Zealand depends has been steadily and seriously eroded by the actions of its closest allies.

While uncomfortable to acknowledge, it is important to note this for one key reason; the Strategic Defence Policy Statement 2018 refers *thirty-six times* to New Zealand's fundamental commitment to the international rules-based order – highlighting it as a core principle underpinning the nation's defence policy.

Almost every one of those references, however, sit's alongside - *sometimes within the same sentence* - a similar commitment to New Zealand's closest military alliances.

This internal contradiction reflects a significant degree of cognitive dissonance within New Zealand's defence policy. This bears emphasis, because failing to acknowledge it ignores the fact that two of the primary planks of that policy are increasingly in **direct conflict** with each other.

A continuing erosion of the international rules-based order by New Zealand's allies is, therefore, highlighted as a complex disrupter within this analysis for the following reasons:

- Failing to acknowledge it distorts New Zealand's view of the strategic environment, leading to a misalignment of perception versus reality amongst decision-makers and the general public;
- This collective misperception precludes serious consideration of, or debate over, the full range of policy options available to New Zealand; and
- Should this trend continue, New Zealand will increasingly find itself, as it did in 2003<sup>2</sup>, in situations where its conflicting commitments become unsustainable in practice and it will again be forced to choose between its commitment to the rules-based order, or to its traditional alliances.

**Recommendation #1:** That New Zealand recognize and reflect upon the contradiction inherent in its commitment to the international rules-based order, and its active support for allies that increasingly hold themselves unaccountable to that order.

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<sup>2</sup> When the Clark government declined to commit combat forces to the invasion of Iraq alongside its allies, at least partly due to the dubious legality of that invasion under accepted international law.

### 3.1.2. The impact of active information warfare

The Strategic Defence Policy Statement 2018 refers to information and perception management operations by both China and Russia, implying that such activities constitute a significant threat to international stability.

**42 Group** concurs that the exercise of ‘soft power’ through active measures of this type constitutes a threat to the stability of all nations.

We note, however, that the policy statement fails to acknowledge the size, scale and sophistication of New Zealand’s allies’ own ‘soft power’ operations.

**42 Group** believes such active information warfare must be acknowledged as a strategic disrupter for the following reasons:

- It is clear that New Zealand is subject to continuous active perception management by external powers, including close allies;
- This means that global affairs are framed by international news sources and media in ways that tend to favour the interests of external powers – which may, or may not, align with the interests of New Zealand;
- It is also clear that such measures can be, have been, and continue to be used to try to influence New Zealand’s foreign, public, defence and economic policy; and
- These same measures can be, and indeed are elsewhere, used to destabilise nations.

**Recommendation #2:** That New Zealand, as a nation, recognize the mechanisms by which it is made subject to perception management operations, as well as the full range of protagonists and agendas involved in such activities.

### 3.1.3. Constraints on New Zealand’s foreign policy independence

In spite of its close military and signals intelligence alliances with Australia, the United States, the United Kingdom and Canada, New Zealand has, on occasion, exercised some degree of foreign policy independence. Examples include its imposition of a nuclear free zone in defiance of the United States in 1984 and the Clark government’s decision not to commit combat troops to the invasion of Iraq in 2003.

At no time, however, has New Zealand strayed far in its general support for the western powers, in its participation in the Five Eyes intelligence alliance, or in terms of providing logistic support for the United States’ activities at its McMurdo Station base in the Ross Dependency, an Antarctic territory nominally administered by New Zealand.

In **42 Group’s** analysis New Zealand could expect to be made to pay a price for any significant shift in its loyalties or strategic commitments.

New Zealand’s leaders are already aware that:

- Certain of New Zealand’s allies actively promote regime change and destabilisation operations throughout the world; and
- These operations generally target nations of strategic significance that have defied New Zealand’s allies; and
- Those allies appear increasingly willing to pursue policies that defy and erode the international rules-based order; and
- Those allies run international perception management operations on a scale that dwarf those of Russia or China.

This places New Zealand's leadership in a difficult position with regard to the pursuit of any significant degree of foreign policy independence – which might include the implementation of many of the recommendations made in this assessment.

It is 42 Group's position that this constraint needs to be acknowledged as a strategic disrupter because of its influence on New Zealand's ability to respond to future shifts in global strategic power, and on the nation's ability to develop comprehensive defence policy to address such shifts.

**Recommendation #3:** That, in the years ahead, as it did in 2003, New Zealand exercise courage, integrity and discretion when faced with conflicting commitments to the international rules-based order, and to its alliances.

## 4. Future Strategic Landscape

### 4.1. Defence capabilities for the future

In terms of the scale of planned investments, the 2018 policy statement focuses mainly on what 42 Group consider to be the *secondary* purposes of the NZDF. It places great emphasis, for example, on future investments in maritime vessels and aircraft needed to allow the NZDF to undertake disaster relief and search and rescue operations over a vast area, to enforce New Zealand's Antarctic territorial claims, or to participate in peacekeeping and other UN-mandated interventions across the globe.

We concur that these are important functions that contribute to regional, or even global security and stability. We note with some dismay, however, that a much lower emphasis is placed in the 2018 policy statement on what 42 Group considers to be the *primary* purpose of the NZDF: the defence of New Zealand against external aggression.

We do accept that an emphasis on secondary peacetime functions may well have made sense up until recent times, especially given New Zealand's relative isolation and the perceived protection afforded to it both by its alliances, and by its belief in the international rules-based order.

42 Group asserts, however, that in light of both the continuing erosion of that order and the other complex disrupters in play, most especially climate change, it no longer makes sense for defence planners to assume that the New Zealand will not, in the coming decades, come under external threat – or that if it does, it will automatically be able to rely on significant or timely assistance from its allies.

Instead, we suggest that New Zealand must now place a much greater emphasis on investing in, developing and maintaining capabilities that would allow it to put up a credible defence against external aggression, unaided if need be.

Full analysis of the potential interactions between the 2018 policy statement's eight complex disrupters and the three additional disrupters asserted by 42 Group above would require many pages. The 2018 Defence Policy Statement, however, makes it clear that complex interplays between the various disrupters at work can be *expected to coincide with significant power shifts or strategic 'shocks'* in the near to medium term.

The policy statement is moderately reticent, however, on how these shifts and shocks might be expected to play out – or on how they might change the types of defence capabilities that New Zealand will need in the future.

### 4.2. Possible future strategic scenarios

42 Group believes that the interplay between disrupters such as climate change, mass population migration, nuclear proliferation, terrorism and an erosion of the international rules based order, as well as shifts in the economic and military balances of global power, all mean that in the coming decades New Zealand could find itself isolated from allies, or needing to defend itself from aggression with no, or only limited assistance.

Below are some examples of the sorts of scenarios we believe should be considered by strategic planners, and reflected in the capabilities and doctrine of the New Zealand Defence Force. Each of these hypothetical scenarios assumes that the interplay of strategic disrupters has nullified New Zealand's ability to rely on extensive protection from traditional alliances.

- A) Events unfold in such a way that New Zealand finds itself isolated from its traditional allies. Other than very limited clandestine resupply from Australia, no other significant military assistance can be relied upon when:
- i. **The full spectrum dominator** – New Zealand is attacked by a moderate sized force deploying state-of-the-art military technology, including air superiority and resupply, as well as advanced mechanized, drone-supported ground forces and naval, cyber and orbital surveillance assets; or
  - ii. **The capable adversary** – New Zealand is attacked by a larger force deploying second tier military technology, including air superiority, drone supported mechanized infantry and light artillery, as well as naval assets and resupply; or
  - iii. **Sheer weight of numbers** – New Zealand is attacked by successive waves of hostile irregular forces deploying a mix of technology, including significant numbers of marine, light motorized and drone-supported infantry assets.

In all three scenarios New Zealand is denied access to its exclusive economic zone by foreign maritime forces and loses secure access to some (A(ii) and A(iii)) or all (A(i)) space-based or terrestrial digital data, telecommunication and navigation services; or

- B) **Active measures** - Events unfold in such a way that New Zealand finds itself alienated from its primary allies and subject to sustained cyber and information warfare attack from a foreign power, along with an orchestrated campaign of internal violence intended to promote instability;
- C) **The nuclear option** - Events unfold in such a way that New Zealand finds itself subject to covert attack by an external power. This entity deploys several large radiological weapons (dirty bombs), concealing them in key locations around the country. It then issues a number of demands.
- D) **Here comes the new boss** - Events unfold in such a way that New Zealand and Australia find themselves confronted by a major power that has invested economically to achieve significant regional influence in the pacific. That power, backed by overwhelming military force, now challenges Australia and New Zealand's regional influence, as well as their maritime and Antarctic territorial claims. Space-based and terrestrial digital data, telecommunication and navigation services are compromised and are now unreliable. New Zealand seeks to negotiate a peaceful solution but Australia initiates hostilities in the belief that this this will bring assistance from its more powerful allies. New Zealand is obliged under longstanding treaty to come to Australia's aid. Other traditional allies are distracted by other conflicts and are unable, or are unwilling to provide significant or timely assistance to either nation.

Or there's the status quo scenario, for which the NZDF is funded and configured to respond:

- E) **Status Quo** - Despite the various complex disrupters, power shifts and strategic shocks that could impact it over the coming decades, New Zealand remains shielded from significant conflict by its isolation and its existing alliances. At the behest of its allies New Zealand is regularly requested to commit limited resources to coalition operations in other regions, some of which may lack a UN mandate. New Zealand is not required to operate independently outside of the pacific however, where it only needs to deploy small forces in response to local conflicts and emergencies, sometimes in co-operation with Australia – but where it faces only relatively weak adversaries without modern military technology.

## 5. Outcomes of future strategic scenarios

42 Group believes it is useful to consider how each of these scenarios might play out given the NZDF's current and planned capabilities. The following outcomes reflect our assessment of scenarios A – D, noting that we are, quite rightly, not privy to NZDF's contingency plans.

### 5.1. Scenario A(i) - The full spectrum dominator

Following unexpected attack by a technologically advanced adversary and with limited time to prepare, most of New Zealand's modest maritime and air force assets are overwhelmed and neutralized within minutes of hostilities commencing.

Surveillance by the attacker has resulted in the locations of New Zealand's key military supply depots and munitions storage sites being known, so these are also targeted leading to the destruction of much of New Zealand's defence materiel.

New Zealand has mobilized its ground and reserve forces – but any concentrations of artillery, mechanized or motorized forces are quickly targeted and destroyed.

Within twenty-four hours the majority of New Zealand's defensive capacity is neutralized.

A significant segment of the civilian population self-mobilise as loosely organized irregular forces, but their usefulness is negated by a lack of training, arms, or effective command, control, or secure communications systems, not to mention by the attacker's extensive drone and orbital surveillance capabilities.

New Zealand is occupied by the attacker's forces. Several insurgent groups coalesce around isolated remnants of New Zealand special, regular and reserve forces, these making good use of the very limited number of man-portable anti-armour and anti-aircraft weapons systems that escaped destruction in the initial attack. Unfortunately, these weapons are quickly depleted and, with very limited resupply possible, resistance gradually degrades into a long, bloody insurgency / counterinsurgency conflict. Modest resistance continues for years but New Zealand is militarily defeated and, in the absence of a functioning international rules-based order, has been effectively annexed within a few days of hostilities commencing.

### 5.2. Scenario A(ii) – The capable adversary

Under this scenario the attacker enjoys numerical superiority but their technological advantage is less pronounced. This gives New Zealand more time to mobilise its regular forces and reserves, and to respond in other ways, for example by pre-positioning special forces and relocating weapons and equipment to dispersed and concealed staging locations.

New Zealand maritime and aircraft assets hold out a little longer than in scenario A(i) but are soon overwhelmed due to their modest numbers and limited anti-aircraft and missile defence capabilities.

The attacker now has air superiority and proceeds to attack all concentrations infantry, artillery or armour from the air, using both rotary and fixed wing aircraft.

The attacker then deploys amphibious ground forces to take control of strategically significant locations. While these forces land largely unopposed, they soon encounter resistance from New Zealand's capable special forces and regular army units, who make use of the country's modest stocks of man portable anti-armour and anti-aircraft weapon systems to slow the attackers' advances.

New Zealand's civilian population is again the source of significant numbers of irregular volunteers but the NZDF does not have adequate resources to effectively arm or equip them.

The defenders, faced with a well-equipped adversary and quickly running out of munitions capable of engaging mechanized forces or aircraft, are forced into hiding, from where they continue to conduct harassing operations. The effectiveness of this resistance is constrained more than anything by the degree of assistance that defenders are able to obtain from New Zealand's Australian ally, and by the degree to which this includes resupply of man portable anti-armour and anti-aircraft weapons systems.

Although it takes a little longer, and extracts a heavier cost on the attacker in terms of casualties and materiel, the eventual outcome of this scenario is similar to scenario A(i). Annexation of New Zealand by a foreign power, accompanied by a long and bloody insurgency.

### 5.3. Scenario A(iii) – Sheer weight of numbers

Under this scenario New Zealand's defences are far more effective - but nowhere near numerous or well supplied enough to mount a sustained defence. Its maritime and air assets are initially successful but soon run out of ammunition, or are neutralized through the attacker's numerical advantage.

New Zealand's special, regular, reserve and significant numbers of volunteer irregular ground forces are fully mobilized and, for the most part, are effective, but ammunition for the defenders' most effective weapons systems is quickly depleted - and New Zealand does not have the equipment on hand to fully arm its volunteer forces.

Over several weeks the attacker secures strategic footholds and begins to take significant amounts of territory, forcing the defender into asymmetric insurgency type operations, the effectiveness of which is, again, highly dependent on the degree of covert resupply that New Zealand's forces can obtain through Australia.

While defenders continue to hold enclaves of territory, most strategic locations are held by the attacker within six months – after which they begin a program of depopulation, and the replacement of New Zealand's population with their own.

### 5.4. Scenario B – Active measures

Perception Management attacks against New Zealand's population, supported by cyber warfare against its infrastructure and information systems both polarise and paralyse the country.

New Zealand's government and civil authorities initially maintain some degree of control, but a succession of violent drone attacks and bombings by provocateurs eventually leads to a break down in civil order.

New Zealand's government is forced to mobilize the military to assist in locating and defeating the groups behind the attacks – and to confront how it might counter the information and cyber warfare attacks being deployed to destabilise the nation.

The NZDF's training in counter terrorism operations means that its special forces are reasonably well prepared – but their exposure to their allies' heavy-handed counter insurgency tactics in other theatres has degraded their ability to confront an insurgency without alienating the population.

New Zealand is eventually able to reduce the impact of cyber-attacks on infrastructure - but finds itself unable to respond effectively to the divisive impacts of sustained information warfare, or to wage an effective counter insurgency without inciting further violence.

Over the following months New Zealand slowly spirals into a state of chaos and civil war.

### 5.5. Scenario C – The nuclear option

The deployment of multiple radiological weapons against New Zealand is not detected until one such weapon is detonated within a secondary population centre; this being followed by the issuing of demands by an attacker.

New Zealand immediately commences negotiations with the attacker, whilst simultaneously mobilizing its military to locate and neutralize the remaining radiological weapons.

New Zealand's emergency services are swamped and the population is in a state of panic, with many fleeing the cities.

The NZDF's search for the remaining bombs is hampered by the amount of area to be covered and by its limited radiological warfare capabilities.

A minority of the radiological weapons are located through the application of human intelligence and / or the detection of radiation signatures by the NZDF. These are successfully secured by special forces and disabled by NZDF bomb disposal personnel.

The attacker, however, begins targeting critical infrastructure, detonating the remaining weapons one by one. Within two weeks of the initial attack New Zealand's economy has been crippled, or it is forced to make major concessions to the attacker in order to stop the attacks.

### 5.6. Scenario D – Here comes the new boss

Initiation of hostilities between Australia and an intruding power activates New Zealand's treaty obligation to come to Australia's assistance. Assuming that New Zealand does not abrogate this obligation altogether, however, it has few realistic options.

New Zealand covertly dispatches some special forces to assist Australia, mobilises its remaining forces in a defensive posture and dispatches a single ice hardened vessel to protect New Zealand's Antarctic territorial claims.

New Zealand's active maritime forces quickly find themselves outgunned and outnumbered and are forced to surrender, or be destroyed.

While the intruding power progressively neutralizes Australia's defensive capabilities, New Zealand tries to delay further attack through negotiation. This buys adequate time to fully mobilise its regular and remaining special forces, as well as a volunteer irregular force, although the latter is poorly equipped and untrained. Nonetheless, New Zealand is able to optimally position its modest forces to mount an asymmetric defence.

Assuming that New Zealand does not reach an agreement with the intruding power, three to four weeks after hostilities are initiated Australia's military capabilities are degraded to the point where the intruding power enjoys complete freedom of operation around Australia's coastline. It then turns its attention to New Zealand, launching wave after wave of precision cruise missiles, and completely destroying all remaining unconcealed maritime, air and ground based military assets.



At this point New Zealand's ability to enforce its territorial claims is nullified and the intruding power effectively takes possession of New Zealand's exclusive economic zone, as well as the Ross Dependency in Antarctica, before offering terms for New Zealand's effective surrender.

While both nations know that the intruder could defeat New Zealand's remaining concealed special, regular and volunteer ground forces, both also understand that this would require an invasion, followed by a protracted, bloody counter insurgency against defenders who have had some limited time to prepare.

Isolated and without any effective means of resupply, New Zealand uses this very limited leverage to negotiate the best terms that it can.

## 5.7. Implications of possible future strategic scenarios

Why have we described these scenarios and what do they tell us? As should be clear by now, New Zealand's defence strategy and policy focus on secondary uses of the defence force, on very limited independent operations against weak adversaries, and on New Zealand's participation in overseas operations as part of a wider coalition.

New Zealand is, in short, utterly dependent upon its isolation and upon the assistance of its allies to defend it against attack.

Very little consideration is given in New Zealand's defence policy to independent defensive operations in the event of an attack against the country. While this may have made sense in the past, the number of complex disrupters now at work (including climate change, mass population migration, nuclear proliferation, terrorism and a breakdown in the international rules-based order) mean that the assumptions underlying New Zealand's defence posture have become increasingly questionable.

42 Group argues that a re-positioning of defence policy and a re-prioritisation of investments in several areas could position New Zealand to respond credibly to most or all of the scenarios described above, *without an increase in New Zealand's planned levels of defence investment*.

## 6. Lessons of recent conflicts

42 Group believes it is useful to consider the lessons of recent conflicts and how these might bear on New Zealand's future defence capability requirements. Some of the lessons outlined below reflect how innovations in military tactics or technology have played out on modern battlefields. Others simply reconfirm in a modern context military doctrine that may have been widely accepted for decades, or centuries.

### 6.1. Syria

Setting aside the causes and geopolitical context of the Syrian civil war, along with the relative moral defensibility of the tactics employed by the various parties to the conflict, it is possible to draw the following lessons from the war, as it has unfolded so far:

- **Air superiority isn't everything – but it provides a huge advantage** – U.S. and Russian air superiority didn't stop ISIS from launching surprise attacks during sandstorms (for example), but it put them at a huge disadvantage once modern airpower operating above the ceiling of their limited anti-aircraft capabilities was deployed against the caliphate.
- **When faced with overwhelming air superiority, holding fixed positions is extremely difficult** – ISIS' efforts to hold onto or expand its caliphate were doomed once US and Russian air power were brought to bear against their fixed positions and assets.

- **Beating highly mobile irregular forces can be challenging without effective co-ordination between ground forces and air support** – Air superiority alone was not enough to beat ISIS' and other groups' more mobile irregular forces. The combination of US air and Kurdish ground forces was required to achieve this against ISIS in the east of Syria, while Russian air and Syrian and Iranian ground forces demonstrated this same lesson against both ISIS and other jihadi (rebel) militias in the west.
- **ATGMs<sup>3</sup> fired from cover are devastating against mechanised and motorised forces, unless these are backed by effective aerial surveillance and close air support** – The effectiveness of ATGMs against both vehicles and infantry was amply demonstrated in Syria. Only when armour and mechanized or motorized infantry were adequately supported by drone surveillance and effective close air support was this defensive advantage partially negated.
- **Tactical innovations and improvised weapons can be highly effective** – ISIS' used of VBIEDs<sup>4</sup> is one example of a tactical innovation that proved to be highly effective, until their opponents adjusted tactics to account for it.
- **Traditional artillery is cheaper than high tech weapons – but remains devastating when complemented by good ground forces** – When ground forces were there to direct fire, artillery proved to be highly effective, especially when combined with encirclement and manoeuvre warfare.
- **Know when to fight and when to negotiate** – This isn't new wisdom, but its value was proven once again when the Syrian regime followed Russian advice and began to negotiate with less extreme rebel factions, buying time and allowing it to divide and ultimately defeat or neutralise most of the active rebel forces.

## 6.2. Yemen

Many of the lessons from Syria apply just as well to the ongoing conflict in Yemen, although the following are worthy of further emphasis:

- **Dispersal of low-tech forces is an effective countermeasure against higher-tech weapons** – Poorly equipped Houthi forces in Yemen have fared extremely well against a Saudi led coalition armed with the most modern weapon systems and aircraft available – in part because they disperse their forces well between engagements. Using a million-dollar missile, fired from an eighty million-dollar jet to kill a tribesman armed with an eighty-dollar AK47 is a slow and ultimately unsustainable way to degrade an enemy's forces.
- **Better tactics, leadership and soldiers are worth more than better weapons** – The Houthi's resilience, along with their ability to innovate tactically, to appropriately utilize the terrain, and to effectively co-ordinate the rapid concentration and dispersal of their forces has allowed them to hold off a coalition of well-armed mercenaries and the modern Saudi air force for more than four years (so far).
- **Adversity is the mother of invention** – If ISIS showed a chilling ability to innovate in Syria the Houthi have further mastered this approach in Yemen. From home-made missiles and IEDs, to their more recent deployment of offensive anti-personnel and anti-infrastructure drones, the Houthi have been demonstrating how innovation can even the odds against a much better armed adversary.

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<sup>3</sup> Anti-Tank Guided Missiles such as the Russian Kornet, British MBT LAW, or American Javelin. New Zealand's Cabinet approved purchase by the NZDF of 24 American made Javelin ATGM launchers and an undisclosed number of missiles for NZ\$26.8m in December of 2003. ATGMs have a typical shelf life of 20+ years, although the Javelin has a somewhat shorter life, meaning that the missiles purchased in the 2000s may already be nearing end of life (two were successfully used by NZDF to destroy vehicles in an exercise in 2018).

<sup>4</sup> Vehicle Born Improved Explosive Devices (remotely controlled or 'suicide' truck or car bombs)

- **Flexibility is critical** – Contrasting with ISIS’ ill-fated attempts to defend its caliphate in Syria, the Houthi have demonstrated that a willingness to concede territory – and then to strike again later on their own terms is a vital tactic when facing a better armed force.

### 6.3. Afghanistan

Many books have been written about the eighteen-year Afghan conflict. We will, however, limit ourselves to pointing out two lessons that we believe are germane to our analysis:

- **Have a credible and clear picture of your objectives before engaging in hostilities** – The fact that operations have continued to Afghanistan for 18 years so far – at vast cost and with no sign of an end in sight - should make clear the folly of engaging in hostilities without clear, well-defined and achievable goals – that you have adequately prepared for.
- **Counter insurgency operations degrade the combat effectiveness and erode the moral integrity of forces** – <sup>42</sup> Group will not comment specifically on Operation Burnham. We note, however, that counter insurgency operations, including as practiced by New Zealand’s coalition partners and allies, almost by definition involve the violent suppression of forces hidden within a civilian population. It is our view that it is uncommon for special or regular forces that are involved in prolonged counter insurgency operations not to be compromised operationally, psychologically and morally, as a result.

### 6.4. Ukraine

The 2014 Maidan revolution in Ukraine is worth mentioning for one very important reason – it is a case study in the use of manufactured violence and information warfare to achieve regime change:

- **Manufacturing public acceptance of, or support for, war or regime change operations can most easily be achieved by arranging for innocents to be killed - and then blaming a target group through a controlled media narrative** – Although the Ukrainian regime of Viktor Yanukovich was hardly saintly, it is now abundantly clear that the shooting of protesters used to spark regime change in 2014 *was orchestrated by far-right anti-government protest leaders* - and packaged for public consumption by an oblivious, cynical, or complicit global media.

## 7. New Zealand’s strategic advantages

Should New Zealand come under attack from an external power, we believe that it has three significant advantages (over and above any faith it might place in its alliances).

**Isolation** - New Zealand’s relative isolation complicates logistics for an attacker, who must not only bring an effective force to bear in a remote location – but sustain that force through resupply and reinforcement. This will most likely mean that an attacker will have some constraints on the numbers of ground-based heavy weapons – mechanized forces and artillery – that they can bring to bear

**Terrain that favours asymmetric warfare** - The geography of New Zealand is typified by urban centres interspersed with rural areas further interspersed with forested mountain ranges. Despite sometimes harsh weather, the terrain is suitable for asymmetric defence by a well-prepared defender.

**Culture** - The people of New Zealand are resilient, independent and outdoors oriented, with an ability to innovate their way around most problems. New Zealanders would be likely to volunteer in significant numbers were their nation to come under attack. Although such volunteers would be

untrained, they would be motivated - and many would have reasonable fitness, 'bush-craft', their own field equipment and good terrain knowledge.

## 8. New Zealand's strategic challenges

New Zealand faces a number of strategic challenges that we believe to be worthy of note.

### 8.1. Impacts of New Zealand's historical dependence on allies

#### 8.1.1. Assumption of its allies' protection

All discussion of New Zealand strategic defence policy typically hinges upon an assumption that New Zealand's allies would protect or assist it in the unlikely event that it should come under any military threat. Many commentators assume that, combined with its geographical isolation, the mere possibility of intervention on New Zealand's behalf by its allies would be enough to discourage a potential attacker.

As is noted above, 42 Group asserts that, moving forward into the coming decades, shifting global power balances and the strategic disrupters in play make this assumption increasingly questionable.

Unfortunately, this assumption of protection has for many decades coloured every aspect of New Zealand's defence policy, strategy and related investments so that, should it prove to be incorrect, New Zealand would now find itself seriously unprepared to defend itself from any credible military threat.

**Recommendation #4** That New Zealand amend its defence policy, strategy and doctrine to remove any explicit or implicit assumption of timely assistance by its allies, or any assumption that New Zealand's geographical isolation will protect it from future attack.

#### 8.1.2. Reliance on allies for resupply

Although New Zealand's geographical isolation offers some degree of strategic advantage, it also represents a vulnerability. New Zealand would be highly dependent upon external resupply should it come under attack.

In the event that such resupply was not forthcoming, or was very limited in nature, and lacking an ability to resupply itself militarily, New Zealand would quickly run out of the materiel required to mount any sort of sustained defence.

**Recommendation #5** That New Zealand Incorporate into its military doctrine the need to retain, secure, store and deploy in time of need, adequate materiel to mount a sustained national defence and, where practical, take steps to reduce its strategic dependence on external resupply.

#### 8.1.3. An overemphasis on interoperability

Many of the more significant investments New Zealand has made, or plans to make in the future, are driven by a prioritisation of a need to deploy its forces overseas as part of a coalition – and further justified by a perceived need to maintain interoperability with the likely members of any such coalition.

While 42 Group does not fundamentally disagree with the idea that interoperability with allies is desirable, we do take issue with the prioritisation of the expenditure required to achieve that interoperability over investments that would enable New Zealand to defend itself from attack.

By allowing itself to prioritise interoperability over its own defence, New Zealand:

- Perpetuates capture of its investment priorities by the arms manufacturing industries of its allies;
- Ends up paying considerably more for capabilities from such sources than it would for equivalent capabilities sourced from elsewhere;
- Cuts itself off from more effective and less costly military technologies that are available from other sources;
- Is unable to afford a full spectrum of interoperable military capabilities; and as a result
- Perpetuates its dependence on the protection of its allies.

**Recommendation #6:** That New Zealand reduce its emphasis on purchasing technology to maintain interoperability with its allies, and instead focus on investing in assets that would enhance its defensive capabilities; prioritizing value for money, survivability and shelf life in all related procurement activities, while being ready to source such capabilities from non-traditional suppliers if necessary.

#### 8.1.4. An overemphasis on force projection

As is described above, a main focus of New Zealand's defence investments has tended to be on obtaining the assets necessary to enable it to participate in operations as part of a coalition.

Regardless of whether this is a legally mandated UN operation, or some sort of unilateral intervention by New Zealand's allies, one effect of this focus is that New Zealand tends to invest in assets that support a military doctrine that focuses on force projection.

Such doctrine tends to be favoured by larger nations with strong military industrial sectors and a tradition of investing heavily in their militaries – such as New Zealand's key allies – but is fundamentally flawed when applied in isolation to small nations with very limited budgets and competing social priorities, like New Zealand.

Such nations, unless they can have **absolute** confidence in protection from external sources, are much better served by adopting alternative doctrines that emphasise defence over the projection of force.

**Recommendation #7:** That New Zealand recognize the vulnerabilities inherent in overinvestment in small numbers of expensive, vulnerable force projection and / or surveillance assets (like warships or maritime surveillance aircraft), at the expense of less costly defensive systems - and that it reprioritizes its future defence expenditure accordingly.

**Recommendation #8:** That, while seeking to maintain its existing alliances as much as circumstances allow, New Zealand accept the impact on its ability to participate in coalition operations that our recommended shift in the focus of its military investments might entail.

#### 8.1.5. A sheltered existence

Ironically, one of the things that is most admirable about New Zealand represents a potential strategic challenge.

New Zealand as a nation is not warlike. Many New Zealanders struggle to see the value of having a military at all, considering it an anachronism in a world where they see themselves as isolated, secure, protected by powerful allies and unlikely to ever be involved in a conflict unless through choice – for example by choosing to participate in peacekeeping, reconstruction or humanitarian interventions overseas.

Although most New Zealanders are concerned about climate change and other strategic disrupters like migration, nuclear proliferation and terrorism, most still see these as abstract threats, not particularly relevant to New Zealand's immediate security or defence.

It is 42 Group's belief that, as the impacts of strategic disrupters like climate change become more pronounced over the coming decades, the majority of New Zealanders will again begin to see a need for effective defensive capabilities.

**Recommendation #9** That, although many New Zealanders may not perceive their nation as likely to be threatened in the foreseeable future, New Zealand's government should prepare to counter 'over the horizon' military threats.

## 8.2. Balancing the Defence Force's primary and secondary roles

It is 42 Group's position that the composition of New Zealand's forces confuses the nature of the capabilities and assets required to fulfil the NZDF's primary and secondary roles.

Secondary roles include regional disaster relief, participation in international peacekeeping operations, enforcement of New Zealand's economic zone and similar primarily non-combat functions. The assets required to perform these roles, however, can differ significantly from those required for defensive combat operations.

42 Group notes that New Zealand's defence policy reveals an intention to acquire and maintain certain high cost assets that it believes are neither especially well-suited for the NZDF's secondary roles, nor likely to survive defensive combat operations against any moderately well-equipped adversary.

One example of this is the NZDF's planned investment to replace the navy's ANZAC frigates.

42 Group believes that New Zealand would be wiser to defer planning to replace these vessels for *at least* ten years beyond the current planning horizon, and to instead use funds earmarked for this to:

- Extend the service life of its existing vessels, accepting the implied limitations of their age on their theoretical combat effectiveness, or on the New Zealand navy's ability to participate in joint naval operations with its allies; and
- Invest instead in one or more smaller, lower cost offshore patrol vessels (OPVs) which are still effective for most secondary roles and which would allow New Zealand to achieve equivalent or greater overall patrol coverage; and
- Invest in ground-based A2/AD (Anti Access/Area Denial) defensive capabilities that would enable New Zealand to threaten, erode or neutralise a more powerful or numerous adversary's maritime and air assets.

We believe that such a shift in emphasis would greatly enhance New Zealand's defensive capabilities, whilst retaining its ability to perform secondary patrol and border security functions, *without any additional investment being required over what New Zealand already plans to spend.*

In fact, we believe such an approach could be considerably cheaper, freeing up significant funds for other non-defence-related government programmes.

The main drawback of this approach is that it would reduce the ability of New Zealand's navy to make what are already mostly symbolic contributions to combined military operations with their allies, or to seamlessly interoperate with those allies' maritime forces. We consider this to be an acceptable cost.

In a similar vein, we note that New Zealand has decided to purchase, at a cost of approximately \$2.3 billion dollars, replacements for its aging P-3 Orion maritime surveillance aircraft. This purchase has been justified on the basis that these aircraft are nearing the end of their useful service lives, and that other allies are replacing P-3 Orion's with the newer U.S. manufactured P-8a Poseidon aircraft, which has additional anti-submarine capabilities.

42 Group questions the wisdom of this decision for several reasons – some of which are expanded upon later in this assessment.

For now, however, we note that not even the United States, with its vast (US\$600 billion plus) annual defence budget, has yet to replace its fleet of P-3 Orion's, which means New Zealand's (relatively recently upgraded) aircraft can hardly yet be considered to be completely obsolete.

We believe that instead of replacing them, New Zealand should instead have opted to extend the service life of its Orion aircraft by at least ten years. In line with this, and as New Zealand's allies replaced their own Orion aircraft, New Zealand should have sought to purchase two to four of the best examples of these aircraft to augment its own fleet. This would have had the following advantages:

- New Zealand's ally's' retiring P-3 Orion's should be available for a fraction of the cost of their P-8a Poseidon replacements, meaning that New Zealand could purchase aircraft to enhance its existing fleet, or to provide spare parts to keep its own aircraft operational;
- New Zealand already has the capabilities, processes and skills needed to maintain and operate the P-3 Orion aircraft;
- The current and planned upgrades to New Zealand's P-3 Orion's mean that they would remain capable surface and subsurface surveillance platforms in any case; and
- Such an approach could have freed up in the region of \$1.5 billion dollars (or more) to fund social and economic programmes *or more valuable defence capabilities*.

We acknowledge that New Zealand's allies would take a dim view of a decision by New Zealand to back out of any such deal – they might also refuse to sell New Zealand their retiring Orion's. We note, however, that:

- Australia's decision to purchase both P-8 Poseidon aircraft AND high tech American-manufactured Triton drones for anti-submarine and surveillance roles in the Pacific, Indian Ocean and South China Sea mean that there is already a degree of regional redundancy in this capability area; and
- A refusal by New Zealand's allies to sell it their retiring Orion aircraft could be seen as betraying an underlying motive that has nothing to do with regional security – specifically an intent to extract more than \$2 billion from New Zealand's economy for the benefit of the United States' defence industry.

**Recommendation #10:** That New Zealand should, if possible, cancel the purchase of P-8A Poseidon aircraft and negotiate the purchase (at a fraction of the cost) of a small number of the best P-3 Orion aircraft being retired by its allies, and that it should invest the money saved in more valuable defensive capabilities.

### 8.3. Sustainability of current defence investment approaches

42 Group notes that, while the shift in emphasis it advocates would, almost certainly, draw criticism from New Zealand's allies, it also reflects a degree of inevitability. New Zealand's allies continue to invest significant sums in ever more complex and expensive maritime surface vessels and associated



defensive systems – equivalence and interoperability with which New Zealand will *never* be able to maintain over the medium to long term – *even as it becomes increasingly clear that advances in Anti Access / Aerial Denial (A2/AD) weapons systems make expensive surface vessels of this kind extremely vulnerable in actual combat.*

In short, trying to maintain a modern and effective maritime combat capability based upon surface vessels that are interoperable with its allies is becoming increasingly unsustainable for New Zealand and would most likely result in such vessels being almost immediately lost, should they ever be used in combat operations against a capable adversary.

#### 8.4. Risk of excessive reliance on vulnerable technology

New Zealand's reliance on vulnerable assets isn't limited to its Frigates. The 2018 Policy Statement acknowledges that nearly all Defence Force deployments rely on space based or terrestrial digital data, navigation and communications services. It is relatively silent, however, on how the investments it describes would remain effective in the absence of such services – other than by acknowledging that New Zealand needs to be prepared to respond to cyber threats and to operate in 'space and cyber denied' environments.

It is the position of 42 Group that, given the types of possible future conflict scenarios implied by the complex disrupters at work, the investment approach and priorities described in the 2018 Policy Statement may leave New Zealand and its defence force excessively dependent on space and cyber based infrastructure and, therefore, overly vulnerable to an inability to operate effectively in the absence of that infrastructure.

We are encouraged to see that the NZDF is investing in cyber defence capabilities for its forces and assets. We have some concern, however, that the scope of these capabilities stops short of the protection of New Zealand's critical civilian infrastructure. We acknowledge that this falls instead within the purview of the Government Communications Security Bureau (GCSB), however, so we will limit our comments to saying that we hope that the GCSB are appropriately focused and resourced to execute this responsibility effectively.

This is especially the case given the degree to which certain nation states (and not only China) have demonstrated a willingness to embed malware and 'back doors' within, or otherwise compromise for their own purposes, the security of telecommunications technology and infrastructure manufactured within their zones of influence.

With regard to NZDFs dependence on space-based infrastructure we have three main concerns:

- Space-based infrastructure is extremely fragile and easily rendered inoperable by accident or by deliberate action;
- Defensive military systems that depend upon such infrastructure are, therefore, also vulnerable to such events; and
- That every critical element of New Zealand's defence capability must therefore be able to operate in the absence of such services – or appropriate combat and cost-effective contingencies must be in place to cope with the non-availability of such infrastructure.

**Recommendation #11:** That given a choice between investing in simple but effective defence assets with no dependency on space-based infrastructure, or of investing in more expensive assets that do have such dependencies *and* also having to invest in lower tech contingency assets, New Zealand should *generally* prefer the former approach.



## 9. Analysis of the Strategic Environment

### 9.1. Importance of Air Superiority on the Modern Battlefield

Air superiority clearly offers a massive advantage in modern warfare. New Zealand, however, has no modern air combat fighter capability - and the cost of establishing and maintaining such a capability is currently considered to be – and 42 Group concurs with this – too high for New Zealand's economy to bear.

While New Zealand employs helicopters in several marine, air transport and ground support roles, and while these are useful in many ways, neither they, nor the NZDFs Hercules or Orion aircraft (or indeed, the aircraft New Zealand plans to purchase to replace these) would provide New Zealand with air superiority against any capable adversary in time of conflict.

**Recommendation #12:** That New Zealand should accept that, given the prevailing constraints on its ability to invest in air combat capabilities, it is unlikely to enjoy air superiority in any future defensive conflict.

### 9.2. New Zealand's lack of air defences

In scenarios where a future attacker implicitly enjoys air superiority over New Zealand's forces, or manages to achieve it through attrition of the NZDF's extremely modest air assets, that adversary will have a significant advantage - unless the NZDF is able to neutralise that advantage through effective air defences.

Unfortunately, New Zealand has very few air defences, these mainly consisting of small numbers of British manufactured CAMM / Sea Ceptor missiles and a Phalanx CIWS close-in weapon system aboard each of the Navy's Frigates Te Kaha and Te Mana, along with the army's twelve man-portable short-range surface to air missile<sup>5</sup> launchers.

The practical impact of this is that an attacker is very likely to achieve air superiority and, thereafter, to dominate the battlefield. Depending on the size and capabilities of the attacker's forces it could take minutes, or it could take days - but in such a situation it is likely that ALL of New Zealand's exposed maritime, air, and fixed / unconcealed ground-based assets will soon be destroyed.

42 Group believes that it is vital that New Zealand invest in credible air defence capabilities.

**Recommendation #13:** That, in order to compensate for its lack of an effective air combat capability – and the likelihood that a capable attacker would otherwise soon neutralise all New Zealand's maritime, air, and fixed / unconcealed ground-based defence assets, New Zealand bolster its air defence capabilities, with any related procurement activities prioritizing tactical versatility, concealment / survivability and shelf life.

### 9.3. Force Survivability

Once an attacker achieves air superiority and New Zealand's exposed maritime and air assets had been neutralised, they would be very likely to begin targeting exposed concentrations of NZDF mechanized, motorized, artillery and any other ground-based assets. The survivability of New Zealand's remaining forces would therefore depend upon the NZDFs preparedness to disperse and conceal these forces, along with the materiel required to sustain them. An attacking force can be expected to deploy high and / or low altitude drones as surveillance platforms to locate and identify

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<sup>5</sup> French made Mistral MANPADS - man-portable anti-aircraft missile launchers.

concealed NZDF assets, so that these can be targeted and destroyed. They may also use high or low altitude attack drones to target such assets.

**Recommendation #14:** That New Zealand defence force doctrine be amended to emphasise the rapid dispersal and concealment of special, regular, reserve and irregular infantry forces at short notice, along with the avoidance, where-ever possible, of the concentration of forces between engagements, or of their unnecessary exposure to aerial surveillance, or attack.

**Recommendation #15:** That New Zealand establish several secure and concealed staging locations within each region for the storage of military materiel, and that it establish processes for the continuous rotation of materiel between such locations, so that an attacker, even given extensive surveillance and intelligence capabilities, would have difficulty locating and destroying New Zealand's supplies of defensive weapons and munitions.

**Recommendation #16:** That, as part of its defensive strategy, New Zealand consider investing in low cost decoys (simulated military structures, air defences, vehicles, radar sources etc.) that can be deployed to confuse an attacker, or to cause them to waste expensive munitions destroying tactically valueless targets.

**Recommendation #17:** That New Zealand make an attacker's job of locating and destroying its forces harder by establishing, through local innovation or procurement, effective **countermeasures** against drones – as well as its own drone capabilities.

#### 9.4. Proven Effectiveness of ATGMs

Because New Zealand's geography favours an asymmetric defence, dispersed and concealed ground forces will be difficult for an attacker to neutralise without deploying their own mechanized / motorized and / or infantry forces.

Such attacking forces, as has been amply demonstrated in both Syria and Yemen, are extremely vulnerable to modern Anti-Tank Guided Missile (ATGM) systems, especially if they are lacking in effective aerial surveillance, or close air support.

Once provided with air defence capabilities, equipped with drone countermeasures, and dispersed in concealed, defensible locations (as are recommended above) New Zealand's ground forces would be very well positioned to employ ATGM type systems against an attacker.

**Recommendation #18:** That New Zealand invest to significantly enhance its meagre stocks of modern ATGM systems, placing a high priority in related procurement activities on the cost effectiveness, resistance to countermeasures and the shelf life of the system/s purchased.

#### 9.5. Coastal Defence

An attacker with either a significant technological, or an adequate numerical advantage, would soon achieve air superiority, or command of the seas around New Zealand, or most likely both. New Zealand's Frigates Te Kaha and Te Mana (or their replacements) can be assumed to be either destroyed by anti-ship missiles, or neutralized following the expenditure of all of their munitions. Any anti-ship capability of New Zealand's P-3 Orion (or P-8 Poseidon) aircraft can also be expected to be quickly destroyed, or expended.

At this point, if New Zealand has no effective coastal defences, an attacker would be able to freely approach any part of its coastline. The attacker would have extended supply lines, however, and would be dependent on resupply via air, by sea, or most likely through a combination of the two. An

ability for New Zealand's forces to engage an attacker's combat or resupply surface vessels would, therefore, be a useful way to cause them tactical and / or logistical difficulties.

**42 Group** believes that New Zealand should invest in a credible coastal defence system.

**Recommendation #19:** That New Zealand invest in mobile and concealable coastal defence assets consisting of a number of modern medium range anti-ship missile batteries - and that it disperse and rotate these between a number of coastal staging locations.

**Recommendation #20** That New Zealand develop contingency plans for the disruption of an attacker's supply lines via air or sea.

#### 9.6. Harnessing innovation

The skills and ingenuity of New Zealand's population could be leveraged for defence in a number of ways, either in peacetime, or in time of conflict.

The NZDF should immediately begin to work more closely with New Zealand's academic institutions and with local businesses – including New Zealand's burgeoning space industry - to find innovative ways of overcoming tactical and strategic defence challenges.

To be clear, **42 Group** is NOT advocating that New Zealand establish itself as an arms manufacturer, or exporter. Instead, New Zealand should seek to reduce its *dependency* on such suppliers – and stretch its defence dollar – by working with local business and academia to enhance and develop New Zealand's *defensive* capabilities in innovative ways.

Examples might include relatively modest investment to sponsor design competitions that focus on specific defensive challenges, or working with manufacturers to develop a range of decoy or force protection capabilities, or working with New Zealand's space and technology industries to enhance the NZDF's secure communications capabilities.

**Recommendation #21:** That New Zealand establish a defence partnership with local business and academic institutions (including as design schools), to develop innovative solutions for defence challenges.

**Recommendation #22:** That New Zealand explore the potential for defence innovation programmes to influence the disposal or treatment of obsolete Military (or other Government owned) equipment – either to provide materiel for the development of innovative defence solutions, or to support the rapid scaling of forces.

#### 9.7. Rapid Scaling of Forces

New Zealand's army is small. It currently<sup>6</sup> consists of around 4,500 regular, less than 2,000 reserve forces, and a modest number of special forces active personnel. One of the NZDF's key responsibilities is preparedness to expand its force in time of need. Should New Zealand ever be attacked, however, the challenge won't be sourcing volunteers, it will be screening, selecting, equipping, training, deploying, commanding and controlling them, so that they are a battlefield asset, rather than a liability.

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<sup>6</sup> The 2019 Defence Capability Plan outlines an intention to increase the size of New Zealand's standing army in line with the Government's Pacific Reset strategy. Unless this increase also corresponds with a shift in emphasis to include greater preparedness for rapid force expansion, however, **42 Group** do not believe that it will significantly improve New Zealand's defensive posture.

Even assuming that most bring suitable outdoor field equipment (good boots, sleeping bags, packs, outdoor clothing etc.), arming, equipping, commanding and controlling these forces will be extremely challenging.

It is assumed that the NZDF has contingencies in place to allow for this. One matter that we wish to comment on, however, is the process of semi-automatic firearms confiscation currently underway throughout New Zealand. **42 Group has no view** on the merits of this confiscation – but does have a view on the fate of the firearms to be confiscated.

It is our understanding that, while the majority of the firearms being confiscated will be of negligible military value, they will also include hundreds, or perhaps thousands of medium to high quality AR-15 and AR-10 style – or similar – firearms and associated ammunition. While we are aware of potential compatibility issues between these firearms and military ammunition, we believe these issues may not be insurmountable barriers to these firearms being pressed into service in the light infantry weapon or designated marksman rifle roles within specific units – if this proved necessary in an emergency.

**Recommendation #23:** That New Zealand conduct regional emergency muster exercises on an annual basis, that it uses such exercises to practice the techniques and logistics of rapid force expansion and that it involves the public in them.

**Recommendation #24:** That all items confiscated under the Arms (Prohibited Firearms, Magazines, and Parts) Amendment Act 2019 be handed over to the NZDF for the purpose of salvaging useful firearms, firearm parts and ammunition - with the remainder being destroyed. The NZDF should be charged with the secure storage of all such salvaged firearms, firearm parts and ammunition for use, if necessary, in future rapid force expansions.

**Recommendation #25:** That New Zealand maintain stockpiles of the materiel and supplies needed to enable and sustain rapid force expansion - and that it stores these securely in dispersed staging locations.

## 10. A new defence policy for New Zealand

New Zealand's current defence policy assumes that the NZDF will operate (in order of relative emphasis) either:

- As part of a coalition that is projecting force overseas (even peacekeeping is a form of force projection); or
- Within the Pacific in secondary, generally low intensity roles, such as disaster relief, border security, search and rescue, or small-scale police actions.

These assumptions leave serious gaps in New Zealand's defence policy and in the nation's associated defensive capabilities. As noted above, this reflects a prevailing belief that New Zealand will face no direct threats in the immediate future – *or within the lifespan of current and planned defence investments* – a belief that, in light of increasingly alarming reports on the anticipated effects of climate change<sup>7</sup>, 42 Group believes to be both misguided and dangerous.

Instead we argue that the NZDF needs to be better prepared for a future where it may need to operate (in order of relative emphasis):

- Alone, or with minimal assistance from allies, for prolonged periods while New Zealand is under sustained attack from;
  - Small to medium-sized forces prosecuting state-of-the-art full spectrum warfare;
  - Larger forces prosecuting conventional warfare;
  - Large forces prosecuting irregular warfare;
  - Cyber, radiological, chemical, information, or asymmetric destabilisation warfare operations; or
- Within the Pacific in secondary, low-intensity roles, such as disaster relief, border security, search and rescue, or small-scale police actions; or
- In defence of, or co-ordination with, Australia and / or New Zealand's Pacific Island neighbours; or
- As part of a coalition conducting UN-mandated operations to which New Zealand contributes capabilities and expertise.

In terms of its future military doctrine, New Zealand's emphasis should now shift to sustaining resistance to attack for as long as possible, at a minimum cost in lives and materiel to itself, while inflicting a maximum of cost to an attacker.

New Zealand's strategic objective in such situations should therefore be clear:

***To sustain a credible defence until an attacker gives up and goes home – or help eventually arrives.***

This objective needs to be better reflected within New Zealand defence policy and in the capabilities and doctrine of the NZDF.

42 Group proposes in this assessment a shift in New Zealand's defence policy to reflect the following four strategic elements:

- A shift towards an A2/AD-oriented defence posture;
- Layered defence, emphasising *sustained* resistance to attack;

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<sup>7</sup> See *Existential climate-related security risk – a scenario approach*, May 2019, which states that "Climate change now represents a near- to mid-term existential threat to human civilization"  
[https://www.scribd.com/document/412545082/EXISTENTIAL-CLIMATE-RELATED-SECURITY-RISK#from\\_embed](https://www.scribd.com/document/412545082/EXISTENTIAL-CLIMATE-RELATED-SECURITY-RISK#from_embed)

- Preparedness for rapid force expansion; and
- An emphasis on innovation.

These elements are described further below.

### 10.1. An A2/AD-oriented defence posture

42 Group notes that in modern warfare, force projection assets like warships, aircraft and armoured vehicles are expensive – yet increasingly vulnerable to cheaper Anti Access / Area Denial (A2/AD) weapons systems, such as modern anti-ship, anti-aircraft and anti-armour missiles.

We believe that, for a potentially isolated defender that may be outgunned and / or outnumbered in time of conflict, an Anti-Access / Area Denial (A2/AD) strategy is the logical choice.

Whether it's creating and sustaining an air combat fighter capability that could take on a modern air force, or deploying and maintaining warships that could go toe to toe with even a moderately sized modern marine force, neither are practical for a nation of New Zealand's size. Even if New Zealand doubled its planned investments over the coming decades, its current defence policy emphasis on force projection, marine surveillance and airlift capabilities would see it investing in small numbers of air and / or marine assets that would still most likely be outgunned and / or outnumbered (and rapidly overcome), in any serious conflict where New Zealand stood alone, even for a short period of time.

42 Group therefore believe that New Zealand should no longer focus on the procurement of force projection assets (such as frigates), or vulnerable long range surveillance assets (like the P8 Poseidon aircraft) - and should instead switch to an A2/AD strategy, in which it focuses on coastal defence, air defence and preparedness for asymmetric ground-based defence.

To avoid confusion, we acknowledge that New Zealand still needs marine and air assets for patrolling its territory, border protection, emergency relief, transport, search and rescue and similar functions, and we believe that New Zealand should invest modestly in enhancing and maximizing the service lives of those marine and air assets that it already has to fulfil these roles. New Zealand should **not**, however, proceed with plans to replace the frigates Te Kaha and Te Mana, or its P3 Orion or Hercules aircraft, at least until effective A2/AD and rapid force expansion capabilities (such as those described below) are in place.

By 42 Group's rough estimate, replacement of the Te Kaha and Te Mana with modern vessels (for example) would be likely to cost in the region of four billion New Zealand dollars *per vessel*<sup>8</sup> – and this would only buy New Zealand two surface vessels with *low survivability* against a capable foe.

By contrast, more modest investments in such marine assets would require a fraction of that, and allow the remainder to be used to establish layered and scalable A2/AD capabilities. Capabilities that would allow New Zealand to mount a credible defence against either a technologically advanced, or a sizeable attacking force.

The diagram below contrasts what four billion dollars (just half the estimated cost of replacing the frigates Te Kaha and Te Mana) could buy under, on the left, a doctrine that focuses on defensive

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<sup>8</sup> Our initial estimate, based on international data, was initially lower. Given that Australia has now announced that it will be buying nine Frigates for US\$26b (about NZ\$4.5b per frigate) we have adjusted our estimate up to NZ\$4b – although we still consider this to be an inflated cost.

‘Anti-Access / Area Denial’ (A2/AD) and, on the right, the existing doctrine of ‘Force Projection’<sup>9</sup>. Note the unspent contingency.

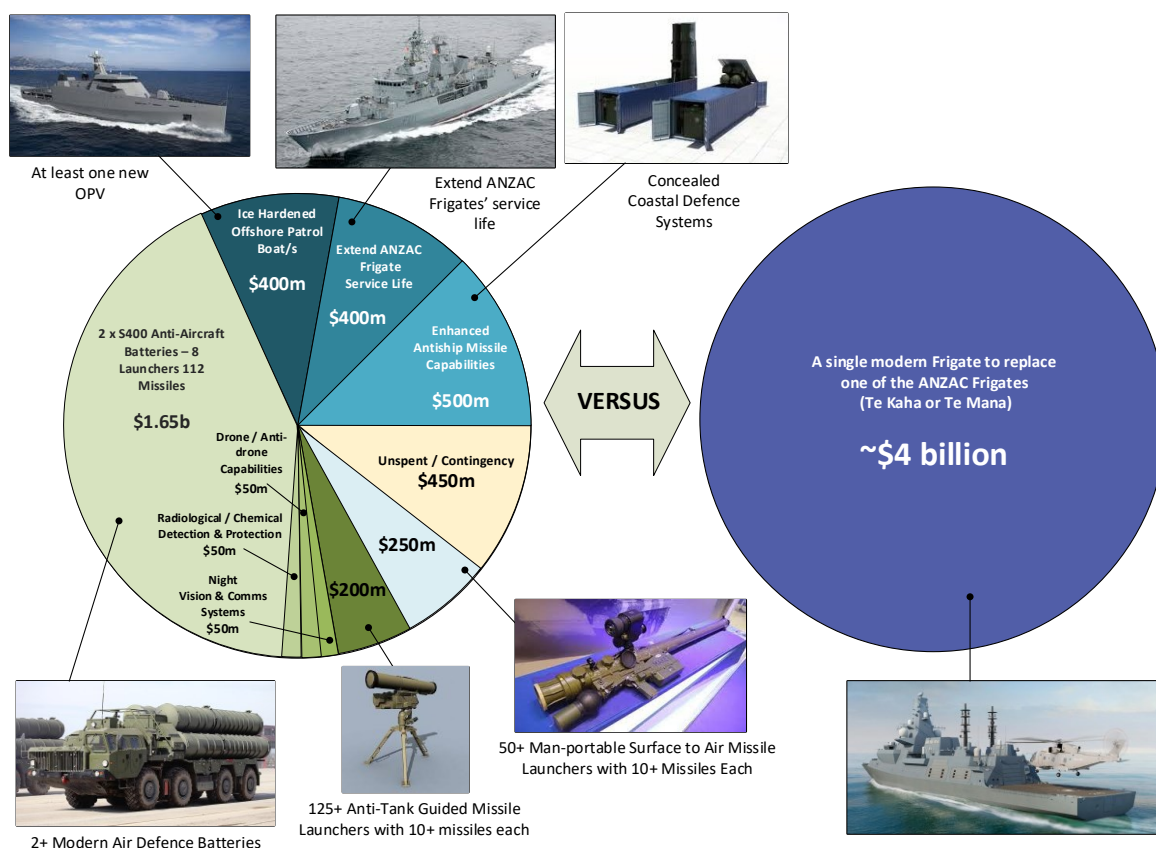


Figure 1 - Force projection-oriented vs a A2/AD-oriented defence investment approach

The specific investments depicted on the left-hand side of the diagram above are illustrative, and should be taken as being representative of *broad categories of capability*, rather than specific defensive systems that New Zealand should procure.

The illustrative breakdown shown above includes investments in:

- Man-portable Anti-Tank Guided Missile systems (ATGMs);
- Man-portable Anti-Aircraft missile systems (MANPADS);
- Mobile Surface to Air Missile systems (SAMs)
- Mobile, medium range Anti-Ship missile / coastal defence capabilities;
- An ice hardened offshore patrol vessel;
- Extending the service-life of the existing ANZAC frigates;
- Drone / anti drone capabilities;
- Enhanced radiological / chemical detection and protection capabilities; and
- Additional investment in night vision and command and control / communications equipment.

<sup>9</sup> In some cases, 42 Group's estimates differ significantly from those of New Zealand's Ministry of Defence. For example, we initially estimated the cost of an additional offshore patrol vessel at approximately NZ\$150-200m, while the Defence Capability Plan 2019 estimates project costs for a single such vessel at between \$300m and \$600m (in 2027). We cannot comment on the basis of the Defence Capability Plan's estimates but note that in cases such as this one, and based on the information that we have, we find some of the Defence Capability Plan's estimates to be excessively high.



42 Group has no interest in debating the likely cost of specific defence assets or systems. The point of our illustrative example is simply to make clear that defensive A2/AD systems are significantly less costly than force projection assets, especially surface combat vessels. In fact, even if some of the investments we show were halved (in air defence batteries and coastal defence systems for example), the systems purchased would *still* constitute a reasonable deterrent to attack.

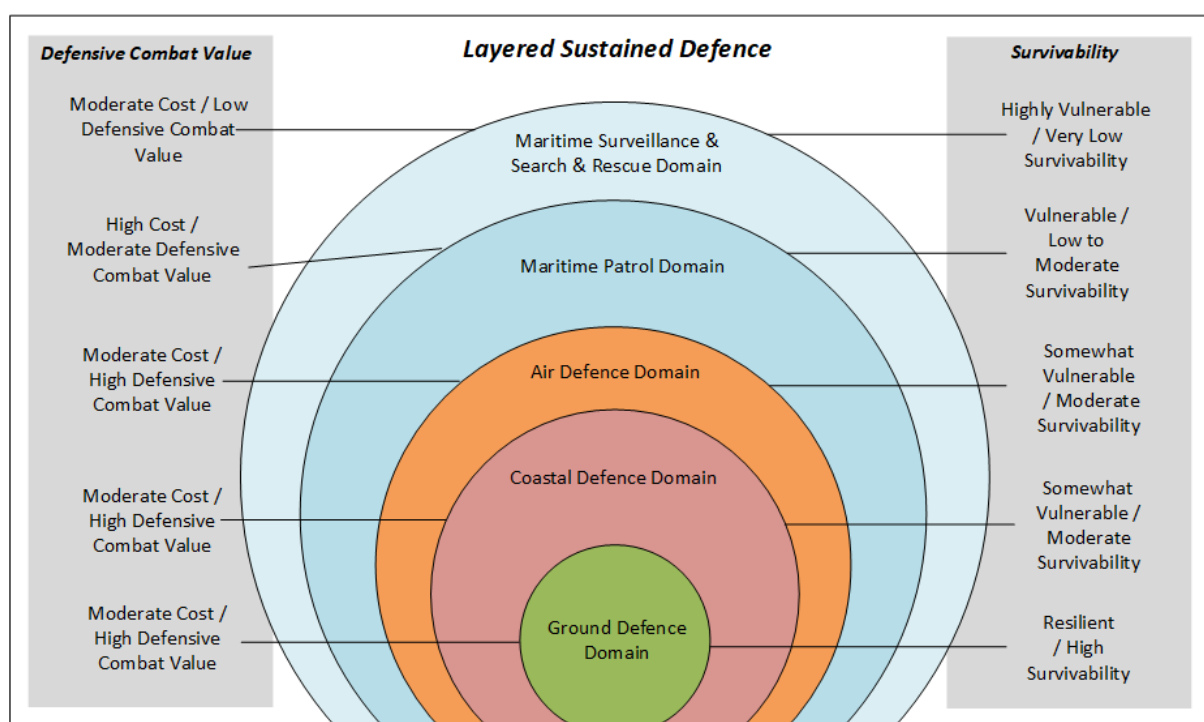
In summary, 42 Group asserts that moderate investment in A2/AD oriented capabilities would vastly improve New Zealand's *defensive* capability against a wide range of potential threats, and would better position it to mount a *sustained* defence until such a time as an attacker gave up and went home, or until assistance eventually arrived.

Conversely, we assert that investment of a similar or greater sum in the replacement of a frigate would only deliver a single force projection asset with limited survivability in any serious defensive conflict.

## 10.2. Layered and sustained defence

42 Group advocates a layered defence strategy that places more vulnerable assets, with low defensive combat value at its outer perimeter.

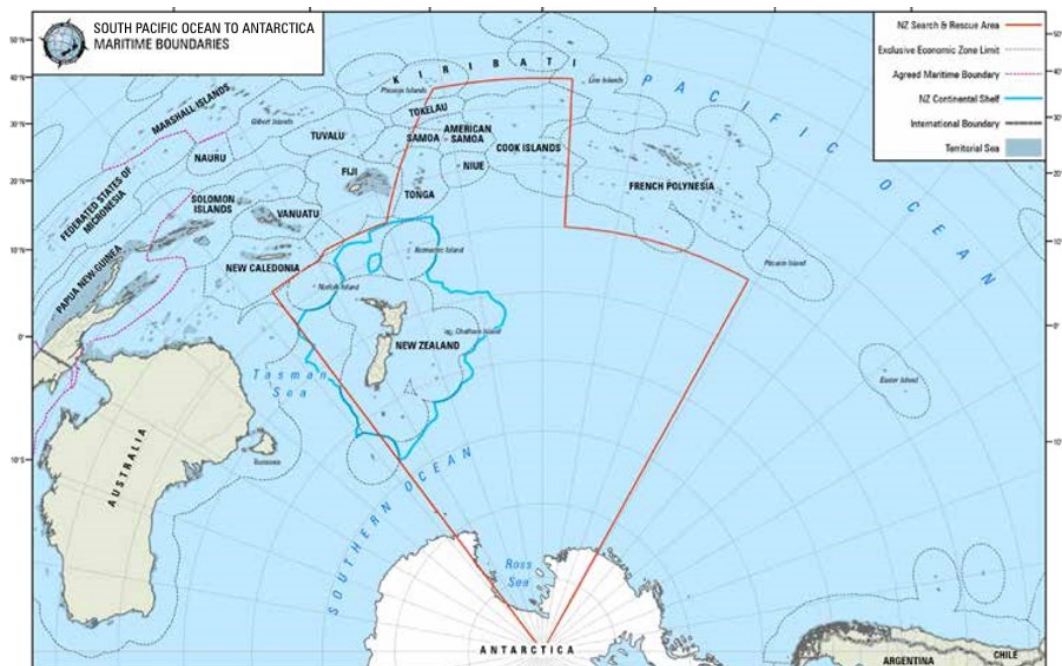
Less vulnerable assets with higher defensive combat value form the next layer of defence, followed by still less vulnerable assets with higher combat value until the final layer, which has both high survivability, and high combat value for sustained defence.



### 10.2.1. Surveillance and search and rescue domain

New Zealand must retain the capability to perform search and rescue, disaster relief, and long-range maritime surveillance operations – but should not make defence investments in this area one of its highest priorities. With regard to the vulnerable assets that are active at these extended ranges (such as P-3 Orion aircraft, or surface vessels involved in disaster relief etc.) New Zealand should seek to extend their service lives and defer replacement for as long as possible – or at least until viable A2/AD and force expansion and materiel dispersal capabilities are in place. Basically, New Zealand should ‘sweat’ these assets.





#### 10.2.2. Maritime patrol domain

Patrolling New Zealand's exclusive economic zone and asserting its Antarctic territorial claims are also functions of the NZDF – but again, the vulnerability of the assets New Zealand uses to perform these functions means that it should not focus its principle investments in this area. The assets currently fulfilling these roles (such as HMNZS Te Kaha, HMNZS Te Mana, HMNZS Wellington, HMNZS Otago etc.) should be modestly augmented with limited additional capabilities (such as a new ice hardened Offshore Patrol Vessel, or OPV) but again, New Zealand should seek to maximise the service lives and defer the replacement of its existing assets until viable A2/AD, force expansion and materiel dispersal capabilities are in place. i.e. New Zealand should also 'sweat' these assets.

#### 10.2.3. Air defence domain

Air defence provides the next layer of protection, with modern air defence systems being able to provide defensive coverage over most or all of New Zealand's exclusive economic zone. Such systems can be a serious deterrent to attack, as they are able to threaten or destroy an attacker's (very expensive) offensive air power. Modern air defence systems are effective but can ultimately be vulnerable to a capable and determined attacker. Because of their high deterrent and combat value, however, we believe New Zealand should seriously consider investment in such capabilities.

#### 10.2.4. Coastal defence domain

The next layer, which has significant overlap with the air defence domain, consists of coastal defence systems - mainly anti-ship missile batteries. These constitute a serious threat to an attacker's surface vessels out to the low hundreds of kilometres – i.e. most of New Zealand's exclusive economic zone. Again, such systems have high defensive combat value and moderate survivability, meaning that they are valuable deterrents - but may still eventually be neutralized by a determined and capable attacker. Nonetheless, we believe New Zealand should seriously consider investing in such capabilities as part of a comprehensive layered defence.

#### 10.2.5. Asymmetric ground defence domain

The final domain is the asymmetric ground defence layer. Once engaged, this layer assumes that all other defensive systems have been, or soon will be, neutralised and that an attacker has, or soon will have, both air superiority and full command of New Zealand's maritime territory. At this point all

that matters militarily is New Zealand's preparedness to sustain a long-term asymmetric ground defence. We believe New Zealand must treat investment in this area as a high priority.

#### 10.2.6. Overseas deployments

New Zealand's participation in UN mandated interventions at the request of the international community would generally utilize assets drawn from the maritime patrol and asymmetric ground defence domains, such as HMNZS Canterbury and special, or regular forces army units.

42 Group are unconvinced by arguments that New Zealand needs to retain state-of-the-art maritime combat, or long-range surveillance capabilities in order to participate meaningfully in such operations. We note that many nations contribute to such missions in other ways, and see no reason why New Zealand's participation in such operations – or complete interoperability with its allies' forces - should become the overarching drivers that shape its defence investments.

#### 10.2.7. Establishing a fully layered defence

As has been described above, in the absence of support from its allies, a determined and capable adversary would have to degrade New Zealand's air and coastal defences in order to achieve air superiority and / or marine dominance – and it can be hoped that, to do so, it would have to seriously degrade its own force's combat effectiveness and supplies of munitions and materiel.

Once an attacker had achieved this, however, effective ground-based defence becomes New Zealand's final defensive strategy until an attacker can be forced to retire, or until further assistance arrives.

The diagram below contrasts what eight billion dollars (our estimated cost of replacing the frigates Te Kaha and Te Mana) would buy under, on the left, a doctrine that focuses on 'Force Projection' and, on the right, one that focuses on layered defence, A2/AD and sustained asymmetric ground defence. Note the unspent savings / contingency.

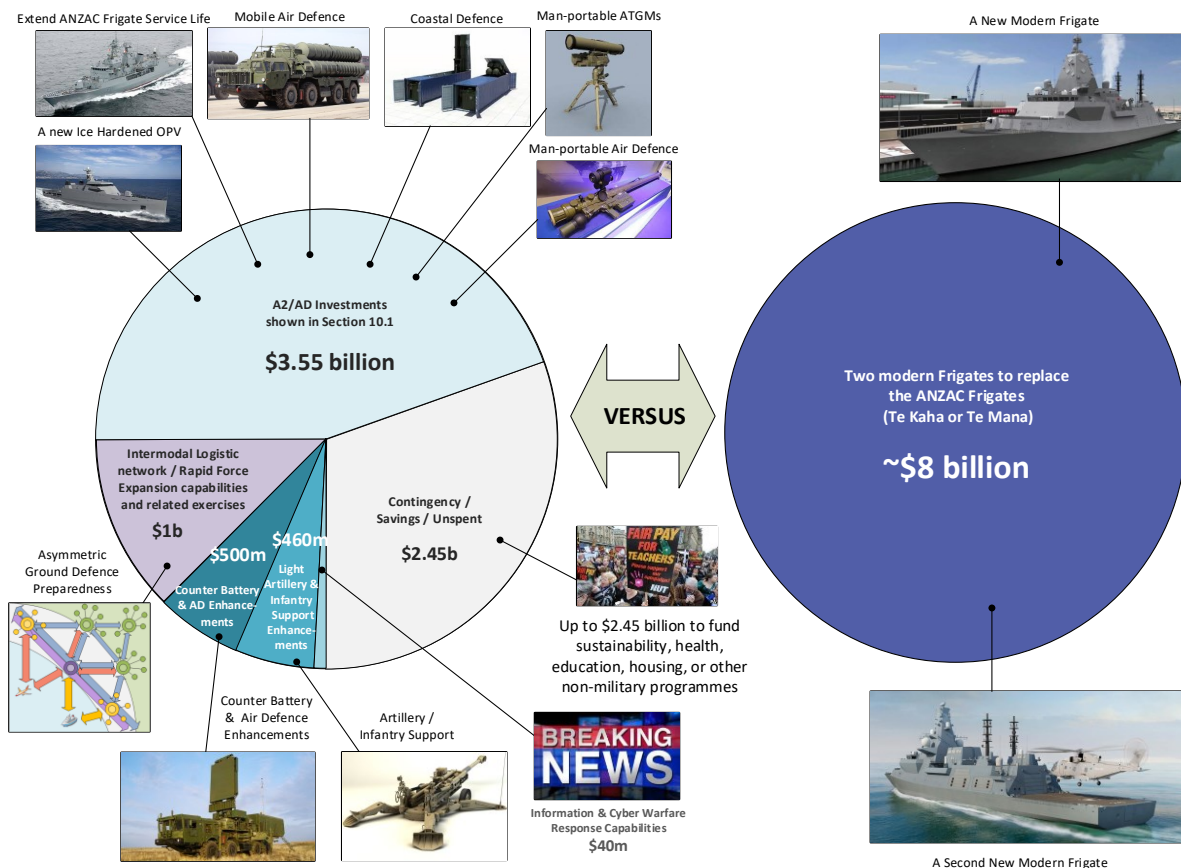


Figure 2 - Force projection-oriented vs a Force dispersal-oriented investment approach

The diagram above builds upon the investments identified in section 10.1, adding the following:

- An intermodal logistic (i.e. freight / transport) and force expansion network;
- Funding for force expansion and preparedness exercises;
- Additional counter battery and air defence capabilities;
- Additional light artillery and infantry support capabilities;
- Additional investment in information and cyber warfare countermeasures; and
- A significant saving, or contingency.

These types of investments would enable New Zealand to adopt a far more comprehensive defence posture with much greater sustained survivability than could ever be achieved through a similar volume of investment in surface combat vessels, surveillance aircraft - or similar assets.

It must also be emphasised that the diagrams above - and in section 10.1 – are only intended to be indicative of the *types* of capabilities New Zealand would need to invest in in order to establish a credible defensive posture. They are **not** intended to represent, on their own, a complete defence capability plan for the decades ahead.

### 10.3. Asymmetric ground defence and rapid force expansion

While it can be hoped that an attacker that achieves air superiority and marine dominance will have had to degrade their offensive capabilities to do so, it has to be assumed that they would then proceed to launch attacks against New Zealand's remaining ground-based military assets, civilian infrastructure, or its population. Such attacks would be likely to include some form of ground invasion.

By this time New Zealand will need to have:

- Mobilised its ground forces;
- Mustered, armed and formed volunteer forces into functioning units;
- Dispersed its forces and materiel to strategic locations;
- Positioned and supplied these forces optimally to enable them to conduct a sustained asymmetric defence;
- Done all this in such a manner that an adversary with advanced high altitude or orbital surveillance capabilities would NOT have clear or complete knowledge of the New Zealand's force dispositions.

Achieving this would require careful preparation – and New Zealand should have no illusions that such a defence can be brought together organically on the spur of the moment.

Instead, New Zealand needs to:

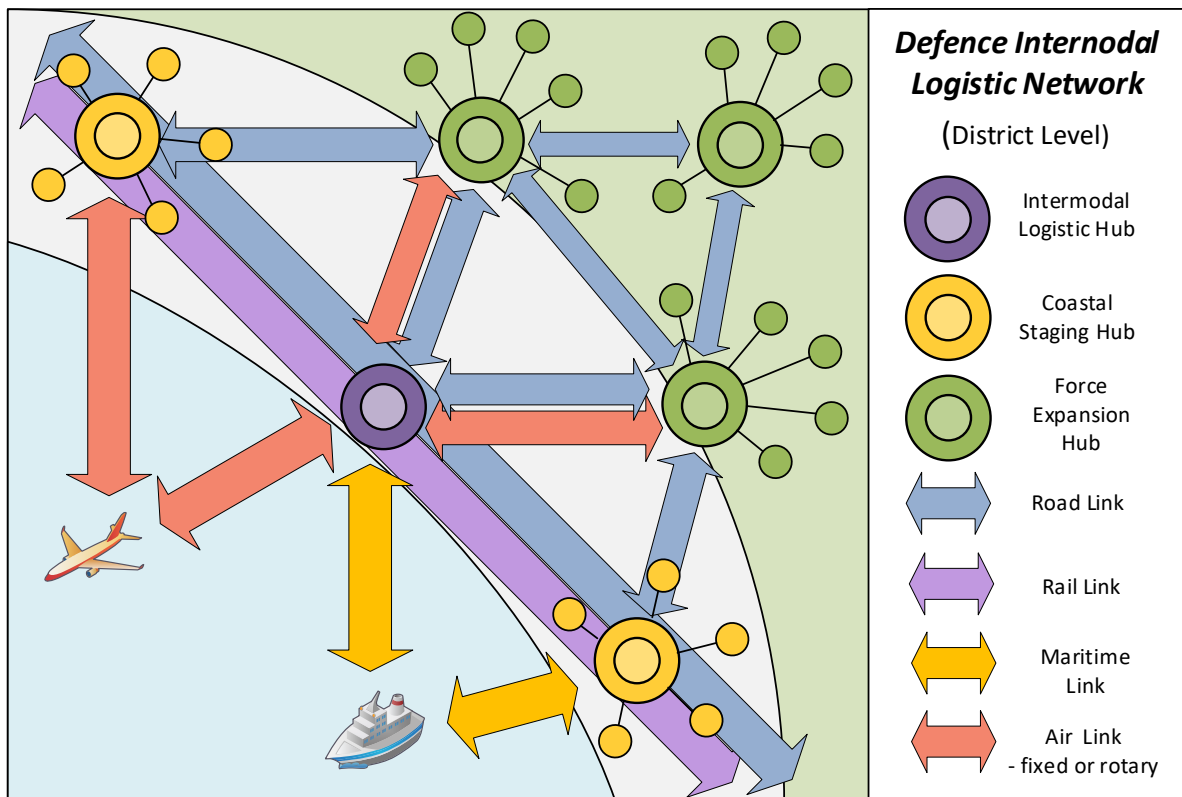
- Prepare and practice plans for mustering and dispersing its forces, especially volunteer forces;
- Prepare and position the materiel required to undertake a sustained asymmetric defence;
- Establish the logistic mechanisms required to so position munitions and other materiel; and
- Establish protocols, mechanisms and countermeasures to prevent an attacker from easily determining the locations of, and destroying, its vital defence assets and materiel.

Not being privy to the NZDF's contingency plans for force expansion, 42 Group must assume that such plans are in place. We do not expect, however, that the NZDF enjoys the necessary mandate, or funding, to make what we would consider to be the minimum necessary preparations.

42 Group advocates that defence expenditure be prioritized to enable the establishment of:

- A defence-specific intermodal logistics network for the secure movement, rotation and concealment of key defensive munitions and materiel;
- Eight or more defence 'districts', each served by:
  - a single intermodal logistic hub (typically near both a deep-water port and an airport);
  - two or more coastal staging hubs; and
  - a varying number of force expansion staging hubs;
- Aerial or orbital surveillance resistant (i.e. roofed) facilities at each **logistic hub** to enable the secure transfer, rotation and deployment of significant quantities of munitions, personnel and materiel via existing road, rail, air or shipping transportation systems;
- Aerial or orbital surveillance resistant (i.e. roofed) facilities at each **coastal hub** to enable the secure storage, transfer, rotation and deployment of munitions, personnel and materiel between available transportation systems - and the rotation of mobile coastal defence assets between a number of concealed locations via those same systems;
- Aerial or orbital surveillance resistant (i.e. concealed and / or obscured) facilities at each force expansion hub to enable the secure storage, transfer, rotation and deployment of munitions, personnel and materiel via available transportation systems – as well as the efficient relocation of ground forces and materiel to dispersed defensible locations across the surrounding area.

- Various protocols and countermeasures to misdirect or mislead an adversary's attempts to monitor and track key defensive assets, or to establish a clear picture of New Zealand's force dispositions.



By leveraging its existing transportation networks and by utilising generic modular freight management systems, New Zealand should expand the NZDF's logistic capabilities, ideally by establishing hub facilities on land already owned or administered by the crown, or by local or central government agencies.

Similarly, force expansion hubs established in defensible (typically mountainous) locations should include minimal fixed and / or unconcealed assets (which would only be likely to attract attack) and should focus instead on the identification and preparation of terrain suitable for the concealment of ground forces and materiel - and for the prosecution of a sustained asymmetric defence.

As noted above, we further recommend regular exercises in force expansion and a continuous rotation of defensive munitions and materiel across the intermodal logistic network and between the various coastal and force expansion hubs.

#### 10.4. An emphasis on innovation

We reiterate that 42 Group does not advocate that New Zealand become an arms exporter. We do, however, believe that the nation is a significant source of creative and innovative thinking. We therefore advocate that New Zealand tap into this resource to assist in the development of processes, products and technologies to assist, for example, in concealing, obfuscating or protecting its defence assets, confusing an attacker, or robbing them of the initiative.

This would require new approaches to the incubation, nurturing and funding of defence innovation, working with both the academic and business sectors.

Similarly, New Zealand needs to be willing to take new approaches to procurement of defensive systems, including a willingness to source them from non-traditional suppliers. Russia, is the elephant in the room in this case. Russia currently supplies the most effective / best value for money A2/AD coastal defence and air defence systems available. We believe that New Zealand should be willing to consider sourcing such systems from any credible supplier, *regardless of economically motivated threats of sanction by other states, including New Zealand's largest allies.*

**Recommendation #26:** That New Zealand adopt a defence policy that emphasises i) Anti-Access / Area Denial (A2/AD), ii) a layered defensive posture, iii) rapid force expansion to enable a sustained asymmetric ground defence and iv) defence capability and sourcing innovation.

**Recommendation #27:** That, in line with 42 Group's recommended shift in policy, New Zealand adjust its planned defence investments to ensure that establishment of the appropriate defensive capabilities and assets is prioritised.

## 11. Summary

The purpose of this assessment is to highlight the assumptions underlying New Zealand defence policy and to promote debate over the implications of those assumptions.

42 Group asserts that New Zealand's small size and limited ability to invest in its military will increasingly constrain its ability to keep pace with its allies, including in terms of the types of military assets they deploy, the technology required to protect such assets, and the investment required in order to maintain interoperability between them.

We further assert that It is time that New Zealand recognized this and, in line with a growing global awareness of the looming future impacts of climate change and similar strategic disrupters, adjust its defence policy to focus on the primary purpose of the NZDF - the defence of New Zealand.

As part of this, 42 Group advocates steps that would not only discomfort its allies, but involve a much greater level of visibility of, and public involvement in, defence matters.

We acknowledge that many New Zealanders would be uncomfortable what they might perceive as a militarisation of their society and we believe that such discomfort reflects an awareness of the horrors of war and a rejection of military aggression that we find admirable in the New Zealand character.

It is our unanimous belief, however, that a rejection of wars of aggression, whether to accomplish regime change, or to gain control of another nation's resources, *must* be differentiated from a preparedness to protect and defend one's own society and its people from such forms of attack.

We believe that by acknowledging this difference, and by choosing to adopt a truly defensive 'defence' policy, New Zealand will not only be able to better secure the future of its diverse peoples, but will also bring those peoples together in a manner that transcends race, class, gender, culture, or religion, for the good of all.

Kia pai, kia whakapehapeha, kia rite.

42 Group

16 June 2019



## 12. List of Recommendations

**Recommendation #1:** That New Zealand recognize and reflect upon the contradiction inherent in its commitment to the international rules-based order, and its active support for allies that increasingly hold themselves unaccountable to that order.

**Recommendation #2:** That New Zealand, as a nation, recognize the mechanisms by which it is made subject to perception management operations, as well as the full range of protagonists and agendas involved in such activities.

**Recommendation #3:** That, in the years ahead, as it did in 2003, New Zealand exercise courage, integrity and discretion when faced with conflicting commitments to the international rules-based order, and to its alliances.

**Recommendation #4** That New Zealand amend its defence policy, strategy and doctrine to remove any explicit or implicit assumption of timely assistance by its allies, or any assumption that New Zealand's geographical isolation will protect it from future attack.

**Recommendation #5** That New Zealand Incorporate into its military doctrine the need to retain, secure, store and deploy in time of need, adequate materiel to mount a sustained national defence and, where practical, take steps to reduce its strategic dependence on external resupply.

**Recommendation #6:** That New Zealand reduce its emphasis on purchasing technology to maintain interoperability with its allies, and instead focus on investing in assets that would enhance its defensive capabilities; prioritizing value for money, survivability and shelf life in all related procurement activities, while being ready to source such capabilities from non-traditional suppliers if necessary.

**Recommendation #7:** That New Zealand recognize the vulnerabilities inherent in overinvestment in small numbers of expensive, vulnerable force projection and / or surveillance assets (like warships or maritime surveillance aircraft), at the expense of less costly defensive systems - and that it reprioritise its future defence expenditure accordingly.

**Recommendation #8:** That, while seeking to maintain its existing alliances as much as circumstances allow, New Zealand accept the impact on its ability to participate in coalition operations that our recommended shift in the focus of its military investments might entail.

**Recommendation #9** That, although many New Zealanders may not perceive their nation as likely to be threatened in the foreseeable future, New Zealand's government should prepare to counter 'over the horizon' military threats.

**Recommendation #10:** That New Zealand should, if possible, cancel the purchase of P-8A Poseidon aircraft and negotiate the purchase (at a fraction of the cost) of a small number of the best P-3 Orion aircraft being retired by its allies, and that it should invest the money saved in more valuable defensive capabilities.

**Recommendation #11:** That given a choice between investing in simple but effective defence assets with no dependency on space-based infrastructure, or of investing in more expensive assets that do have such dependencies *and* also having to invest in lower tech contingency assets, New Zealand should *generally* prefer the former approach.

**Recommendation #12:** That New Zealand should accept that, given the prevailing constraints on its ability to invest in air combat capabilities, it is unlikely to enjoy air superiority in any future defensive conflict.

**Recommendation #13:** That, in order to compensate for its lack of an effective air combat capability – and the likelihood that a capable attacker would otherwise soon neutralise all New Zealand's maritime, air, and fixed / unconcealed ground-based defence assets, New Zealand bolster its air defence capabilities, with any related procurement activities prioritizing tactical versatility, concealment / survivability and shelf life.

**Recommendation #14:** That New Zealand defence force doctrine be amended to emphasise the rapid dispersal and concealment of special, regular, reserve and irregular infantry forces at short notice, along with the avoidance, where-ever possible, of the concentration of forces between engagements, or of their unnecessary exposure to aerial surveillance, or attack.

**Recommendation #15:** That New Zealand establish several secure and concealed staging locations within each region for the storage of military materiel, and that it establish processes for the continuous rotation of materiel between such locations, so that an attacker, even given extensive surveillance and intelligence capabilities, would have difficulty locating and destroying New Zealand's supplies of defensive weapons and munitions.

**Recommendation #16:** That, as part of its defensive strategy, New Zealand consider investing in low cost decoys (simulated military structures, air defences, vehicles, radar sources etc.) that can be deployed to confuse an attacker, or to cause them to waste expensive munitions destroying tactically valueless targets.

**Recommendation #17:** That New Zealand make an attacker's job of locating and destroying its forces harder by establishing, through local innovation or procurement, effective **countermeasures** against drones – as well as its own drone capabilities.

**Recommendation #18:** That New Zealand invest to significantly enhance its meagre stocks of modern ATGM systems, placing a high priority in related procurement activities on the cost effectiveness, resistance to countermeasures and the shelf life of the system/s purchased.

**Recommendation #19:** That New Zealand invest in mobile and concealable coastal defence assets consisting of a number of modern medium range anti-ship missile batteries - and that it disperse and rotate these between a number of coastal staging locations.

**Recommendation #20** That New Zealand develop contingency plans for the disruption of an attacker's supply lines via air or sea.

**Recommendation #21:** That New Zealand establish a defence partnership with local business and academic institutions (including as design schools), to develop innovative solutions for defence challenges.

**Recommendation #22:** That New Zealand explore the potential for defence innovation programmes to influence the disposal or treatment of obsolete Military (or other Government owned) equipment – either to provide materiel for the development of innovative defence solutions, or to support the rapid scaling of forces.

**Recommendation #23:** That New Zealand conduct regional emergency muster exercises on an annual basis, that it use such exercises to practice the techniques and logistics of rapid force expansion and that it involve the public in them.

**Recommendation #24:** That all items confiscated under the Arms (Prohibited Firearms, Magazines, and Parts) Amendment Act 2019 be handed over to the NZDF for the purpose of salvaging useful firearms, firearm parts and ammunition - with the remainder being destroyed. The NZDF should be charged with the secure storage of all such salvaged firearms, firearm parts and ammunition for use, if necessary, in future rapid force expansions.

**Recommendation #25:** That New Zealand maintain stockpiles of the materiel and supplies needed to enable and sustain rapid force expansion - and that it store these securely in dispersed staging locations.

**Recommendation #26:** That New Zealand adopt a defence policy that emphasises i) Anti-Access / Area Denial (A2/AD), ii) a layered defensive posture, iii) rapid force expansion to enable a sustained asymmetric ground defence and iv) defence capability and sourcing innovation.

**Recommendation #27:** That, in line with 42 Group's recommended shift in policy, New Zealand adjust its planned defence investments to ensure that establishment of the appropriate defensive capabilities and assets is prioritised.



## 13. Acknowledgements

42 Group wish to acknowledge:

- The Men and women who serve – or have served - in New Zealand’s armed forces;
- REDACTED
- ZAFT-1 – The tactical masters - you know who you are.

## 14. Bibliography

[Defence Policy Statement 2019](http://www.nzdf.mil.nz/downloads/pdf/public-docs/2018/strategic-defence-policy-statement-2018.pdf) <http://www.nzdf.mil.nz/downloads/pdf/public-docs/2018/strategic-defence-policy-statement-2018.pdf>

[State Services Commission review of the New Zealand Defence Force 2015](https://www.ssc.govt.nz/sites/all/files/pif-nzdf-review-sep15_0.pdf) [https://www.ssc.govt.nz/sites/all/files/pif-nzdf-review-sep15\\_0.pdf](https://www.ssc.govt.nz/sites/all/files/pif-nzdf-review-sep15_0.pdf)

[New Zealand Defence Doctrine](http://www.nzdf.mil.nz/downloads/pdf/public-docs/2017/NZDDP-D-4th-ed.pdf) <http://www.nzdf.mil.nz/downloads/pdf/public-docs/2017/NZDDP-D-4th-ed.pdf>

[RNZN Plan 2017 – 2025](http://navy.mil.nz/downloads/pdf/public-docs/rnzn-plan-2017-2025.pdf) <http://navy.mil.nz/downloads/pdf/public-docs/rnzn-plan-2017-2025.pdf>

[Implications of ice class for an offshore patrol vessel](https://www.tandfonline.com/doi/abs/10.1080/20464177.2014.11658118?needAccess=true#aHR0cHM6Ly93d3cudGFuZGZvbmxpbmUuY29tL2RvaS9wZGYvMTAuMTA4MC8yMDQ2NDE3Ny4yMDE0LjExNjU4MTE4P25lZWRYBY2Nlc3M9dHJ1ZUBAQDA=)

<https://www.tandfonline.com/doi/abs/10.1080/20464177.2014.11658118?needAccess=true#aHR0cHM6Ly93d3cudGFuZGZvbmxpbmUuY29tL2RvaS9wZGYvMTAuMTA4MC8yMDQ2NDE3Ny4yMDE0LjExNjU4MTE4P25lZWRYBY2Nlc3M9dHJ1ZUBAQDA=>

[Defence Long Term Development Plan 2003](http://www.nzdf.mil.nz/downloads/pdf/public-docs/deflongtermdevplan.pdf) <http://www.nzdf.mil.nz/downloads/pdf/public-docs/deflongtermdevplan.pdf>

[Defence White Paper 2016](https://www.defence.govt.nz/assets/Uploads/defence-white-paper-2016.pdf) <https://www.defence.govt.nz/assets/Uploads/defence-white-paper-2016.pdf>

[Defence Capability Plan 2019](https://www.defence.govt.nz/what-we-do/delivering-defence-capability/defence-capability-plan/) <https://www.defence.govt.nz/what-we-do/delivering-defence-capability/defence-capability-plan/>

[Defence Capability Plan 2016](http://www.nzdf.mil.nz/downloads/pdf/public-docs/2016/defence-capability-plan-2016.pdf) <http://www.nzdf.mil.nz/downloads/pdf/public-docs/2016/defence-capability-plan-2016.pdf>

[Climate Change and Security 2018](https://www.defence.govt.nz/assets/Uploads/Climate-Change-and-Security-2018.pdf) <https://www.defence.govt.nz/assets/Uploads/Climate-Change-and-Security-2018.pdf>

[Existential climate-related security risk](https://www.scribd.com/document/412545082/EXISTENTIAL-CLIMATE-RELATED-SECURITY-RISK#from_embed) [https://www.scribd.com/document/412545082/EXISTENTIAL-CLIMATE-RELATED-SECURITY-RISK#from\\_embed](https://www.scribd.com/document/412545082/EXISTENTIAL-CLIMATE-RELATED-SECURITY-RISK#from_embed)

[Intermodal Freight Network Model for New Zealand and the Potential for Mode Shifting](https://ir.canterbury.ac.nz/bitstream/handle/10092/8825/12642890_Final%20-%20%20Intermodal%20Freight%20Network%20Model%20for%20New%20Zealand%20and%20the%20Potential%20for%20Mode%20Shifting.pdf?sequence=2)

[https://ir.canterbury.ac.nz/bitstream/handle/10092/8825/12642890\\_Final%20-%20%20Intermodal%20Freight%20Network%20Model%20for%20New%20Zealand%20and%20the%20Potential%20for%20Mode%20Shifting.pdf?sequence=2](https://ir.canterbury.ac.nz/bitstream/handle/10092/8825/12642890_Final%20-%20%20Intermodal%20Freight%20Network%20Model%20for%20New%20Zealand%20and%20the%20Potential%20for%20Mode%20Shifting.pdf?sequence=2)

[Thinking Behind NZ defence strategy revealed](http://www.massey.ac.nz/massey/about-massey/news/article.cfm?mnarticle_uuid=5EC1E7DD-A625-40FC-8FD7-57E9FDC8524E) [http://www.massey.ac.nz/massey/about-massey/news/article.cfm?mnarticle\\_uuid=5EC1E7DD-A625-40FC-8FD7-57E9FDC8524E](http://www.massey.ac.nz/massey/about-massey/news/article.cfm?mnarticle_uuid=5EC1E7DD-A625-40FC-8FD7-57E9FDC8524E)

[Deadly new Russian weapon hides in shipping container](https://www.reuters.com/article/us-russia-weapon/deadly-new-russian-weapon-hides-in-shipping-container-idUSTRE63P2XB20100426) <https://www.reuters.com/article/us-russia-weapon/deadly-new-russian-weapon-hides-in-shipping-container-idUSTRE63P2XB20100426>

[New medium SAM displayed at Moscow air show](http://aviationweek.com/awin/new-medium-sam-displayed-moscow-air-show) <http://aviationweek.com/awin/new-medium-sam-displayed-moscow-air-show>

[MAKS Notebook](https://aviationweek.com/blog/maks-notebook) <https://aviationweek.com/blog/maks-notebook>

[96L6E “Cheeseboard”](http://www.radartutorial.eu/19.kartei/02.surv/karte044.en.html) <http://www.radartutorial.eu/19.kartei/02.surv/karte044.en.html>

[91N6E Tombstone / Big Bird](https://www.globalsecurity.org/military/world/russia/tombstone.htm) <https://www.globalsecurity.org/military/world/russia/tombstone.htm>

[Maritime boundary definitions](https://www.linz.govt.nz/sea/nautical-information/maritime-boundaries/maritime-boundary-definitions) <https://www.linz.govt.nz/sea/nautical-information/maritime-boundaries/maritime-boundary-definitions>

[Sea Ports of New Zealand](https://www.searates.com/maritime/new_zealand.htm) [https://www.searates.com/maritime/new\\_zealand.htm](https://www.searates.com/maritime/new_zealand.htm)

[Gordon Campbell on the cost of nurse pay in perspective](http://www.scoop.co.nz/stories/HL1806/S00122/gordon-campbell-on-the-cost-of-nurse-pay-in-perspective.htm) <http://www.scoop.co.nz/stories/HL1806/S00122/gordon-campbell-on-the-cost-of-nurse-pay-in-perspective.htm>

[Why does New Zealand Need a Military? For more reasons than you might think](https://www.stuff.co.nz/national/politics/113389596/why-does-nz-need-a-military-for-more-reasons-than-you-might-think) <https://www.stuff.co.nz/national/politics/113389596/why-does-nz-need-a-military-for-more-reasons-than-you-might-think>

[NZDF - About Us](http://www.nzdf.mil.nz/about-us/) <http://www.nzdf.mil.nz/about-us/>

[Govt. continues to invest in Defence Force | Scoop News](http://www.scoop.co.nz/stories/PA0312/S00209.htm) <http://www.scoop.co.nz/stories/PA0312/S00209.htm>

[MBT LAW - Wikipedia](https://en.wikipedia.org/wiki/MBT_LAW) [https://en.wikipedia.org/wiki/MBT\\_LAW](https://en.wikipedia.org/wiki/MBT_LAW)

[Weaponry of the New Zealand Army - Wikipedia](https://en.wikipedia.org/wiki/Weaponry_of_the_New_Zealand_Army#Missile/rocket_systems) [https://en.wikipedia.org/wiki/Weaponry\\_of\\_the\\_New\\_Zealand\\_Army#Missile/rocket\\_systems](https://en.wikipedia.org/wiki/Weaponry_of_the_New_Zealand_Army#Missile/rocket_systems)

[New Zealand's New NH90 & A109E Helicopter Fleets](https://www.defenseindustrydaily.com/new-zealand-selects-nh90-helicopter-0466/) <https://www.defenseindustrydaily.com/new-zealand-selects-nh90-helicopter-0466/>

[NHIndustries NH90 - Wikipedia](https://en.wikipedia.org/wiki/NHIndustries_NH90) [https://en.wikipedia.org/wiki/NHIndustries\\_NH90](https://en.wikipedia.org/wiki/NHIndustries_NH90)

[NZ Army - Network Enabled Army](http://www.army.mil.nz/our-capability/network-enabled-army/default.htm) <http://www.army.mil.nz/our-capability/network-enabled-army/default.htm>

[Friend or foe? Our \\$20m missile system can't tell - NZ Herald](https://www.nzherald.co.nz/news/article.cfm?c_id=1&objectid=383722) [https://www.nzherald.co.nz/news/article.cfm?c\\_id=1&objectid=383722](https://www.nzherald.co.nz/news/article.cfm?c_id=1&objectid=383722)

[NZDF to test out new missile | Newshub](https://www.newshub.co.nz/home/new-zealand/2016/06/nzdf-to-test-out-new-missile.html) <https://www.newshub.co.nz/home/new-zealand/2016/06/nzdf-to-test-out-new-missile.html>

[ANZAC ships upgrade frigate systems upgrade \(FSU\) | Ministry of Defence Website](https://www.defence.govt.nz/what-we-do/delivering-defence-capability/defence-capability-projects/anzac-ships-upgrade-frigate-systems-upgrade-fsu/) <https://www.defence.govt.nz/what-we-do/delivering-defence-capability/defence-capability-projects/anzac-ships-upgrade-frigate-systems-upgrade-fsu/>

[HMNZS Wellington \(P55\) - Wikipedia](https://en.wikipedia.org/wiki/HMNZS_Wellington_(P55)) [https://en.wikipedia.org/wiki/HMNZS\\_Wellington\\_\(P55\)](https://en.wikipedia.org/wiki/HMNZS_Wellington_(P55))

[RNZN - Meet The Fleet](http://navy.mil.nz/mtf/) <http://navy.mil.nz/mtf/>

[Penguin \(missile\) - Wikipedia](https://en.wikipedia.org/wiki/Penguin_(missile)) [https://en.wikipedia.org/wiki/Penguin\\_\(missile\)](https://en.wikipedia.org/wiki/Penguin_(missile))

[Phalanx CIWS - Wikipedia](https://en.wikipedia.org/wiki/Phalanx_CIWS) [https://en.wikipedia.org/wiki/Phalanx\\_CIWS](https://en.wikipedia.org/wiki/Phalanx_CIWS)

[CAMM \(missile family\) - Wikipedia](https://en.wikipedia.org/wiki/CAMM_(missile_family)#Maritime_variant) [https://en.wikipedia.org/wiki/CAMM\\_\(missile\\_family\)#Maritime\\_variant](https://en.wikipedia.org/wiki/CAMM_(missile_family)#Maritime_variant)

[Implications of ice class for an offshore patrol vessel: Journal of Marine Engineering & Technology: Vol 13, No 3](https://www.tandfonline.com/doi/abs/10.1080/20464177.2014.11658118) <https://www.tandfonline.com/doi/abs/10.1080/20464177.2014.11658118>

[Offshore patrol boat arrives in home port | RNZ News](https://www.rnz.co.nz/news/national/54394/offshore-patrol-boat-arrives-in-home-port) <https://www.rnz.co.nz/news/national/54394/offshore-patrol-boat-arrives-in-home-port>

[RNZN - New Capability](http://navy.mil.nz/mtf/fsac/default.htm) <http://navy.mil.nz/mtf/fsac/default.htm>

[Russia lures buyers as S-400 missile system costs less than US models](https://www.cnbc.com/2018/11/19/russia-lures-buyers-as-s-400-missile-system-costs-less-than-us-models.html) <https://www.cnbc.com/2018/11/19/russia-lures-buyers-as-s-400-missile-system-costs-less-than-us-models.html>

[Deadly new Russian weapon hides in shipping container - Reuters](https://www.reuters.com/article/us-russia-weapon/deadly-new-russian-weapon-hides-in-shipping-container-idUSTRE63P2XB20100426) <https://www.reuters.com/article/us-russia-weapon/deadly-new-russian-weapon-hides-in-shipping-container-idUSTRE63P2XB20100426>

[The world's deadliest anti-tank missiles](https://www.army-technology.com/features/featurethe-worlds-deadliest-anti-tank-missiles-4159253/) <https://www.army-technology.com/features/featurethe-worlds-deadliest-anti-tank-missiles-4159253/>

[Top 10 anti tank guided missiles](https://topyaps.com/top-10-anti-tank-guided-missiles/) <https://topyaps.com/top-10-anti-tank-guided-missiles/>

[Damen Stan 5009 patrol vessel - Wikipedia](https://en.wikipedia.org/wiki/Damen_Stan_5009_patrol_vessel) [https://en.wikipedia.org/wiki/Damen\\_Stan\\_5009\\_patrol\\_vessel](https://en.wikipedia.org/wiki/Damen_Stan_5009_patrol_vessel)

[Is A Batch Of Russia's Most Advanced Surface To Air Missiles Sitting On The Sea Floor? - The Drive](https://www.thedrive.com/the-war-zone/26540/is-a-batch-of-russias-most-advanced-surface-to-air-missiles-sitting-on-the-sea-floor) <https://www.thedrive.com/the-war-zone/26540/is-a-batch-of-russias-most-advanced-surface-to-air-missiles-sitting-on-the-sea-floor>

[18 kts speed Offshore Patrol Vessel 1000 for 45 crew persons](https://products.damen.com/en/ranges/offshore-patrol-vessel/offshore-patrol-vessel-1000) <https://products.damen.com/en/ranges/offshore-patrol-vessel/offshore-patrol-vessel-1000>

[Russia Offers Verba MANPADS to India - Defense Update](https://defense-update.com/20160326_verba_defexpo.html) [https://defense-update.com/20160326\\_verba\\_defexpo.html](https://defense-update.com/20160326_verba_defexpo.html)

[Rosoboronexport to sell its new 9K333 Verba man-portable air defense to international arms market TASS 32203165 | March 2016 Global Defense Security news industry | Defense Security global news industry army 2016 | Archive News year](https://www.armyrecognition.com/march_2016_global_defense_security_news_industry/rosoboronexport_to_sell_its_new_9k333_verba_man-portable_air_defense_to_international_arms_market_tass_32203165.html) [https://www.armyrecognition.com/march\\_2016\\_global\\_defense\\_security\\_news\\_industry/rosoboronexport\\_to\\_sell\\_its\\_new\\_9k333\\_verba\\_man-portable\\_air\\_defense\\_to\\_international\\_arms\\_market\\_tass\\_32203165.html](https://www.armyrecognition.com/march_2016_global_defense_security_news_industry/rosoboronexport_to_sell_its_new_9k333_verba_man-portable_air_defense_to_international_arms_market_tass_32203165.html)

[SA-25 VERBA 9K333 MANPADS man-portable air defense missile 9M336 | Russia Russian army light heavy weapons UK | Russia Russian army military equipment vehicles UK](https://www.armyrecognition.com/russia_russian_army_light_heavy_weapons_uk/verba_9k333_manpads_man-portable_air_defense_missile_system_9m336_technical_data_sheet_pictures_video_12410155.html) [https://www.armyrecognition.com/russia\\_russian\\_army\\_light\\_heavy\\_weapons\\_uk/verba\\_9k333\\_manpads\\_man-portable\\_air\\_defense\\_missile\\_system\\_9m336\\_technical\\_data\\_sheet\\_pictures\\_video\\_12410155.html](https://www.armyrecognition.com/russia_russian_army_light_heavy_weapons_uk/verba_9k333_manpads_man-portable_air_defense_missile_system_9m336_technical_data_sheet_pictures_video_12410155.html)

[3M-54 Kalibr - Wikipedia](https://en.wikipedia.org/wiki/3M-54_Kalibr) [https://en.wikipedia.org/wiki/3M-54\\_Kalibr](https://en.wikipedia.org/wiki/3M-54_Kalibr)

[List of global manpower fit for military service - Wikipedia](https://en.wikipedia.org/wiki/List_of_global_manpower_fit_for_military_service) [https://en.wikipedia.org/wiki/List\\_of\\_global\\_manpower\\_fit\\_for\\_military\\_service](https://en.wikipedia.org/wiki/List_of_global_manpower_fit_for_military_service)

[Fact Sheet: New Zealand Special Air Service NZSAS | Scoop News](http://www.scoop.co.nz/stories/PA0707/S00016.htm) <http://www.scoop.co.nz/stories/PA0707/S00016.htm>

[Australia officially announces 26b frigate contract](https://www.defensenews.com/naval/2018/06/29/australia-officially-announces-26b-frigate-contract-here-are-the-build-details/) <https://www.defensenews.com/naval/2018/06/29/australia-officially-announces-26b-frigate-contract-here-are-the-build-details/>