



ROYAL AUSTRALIAN AIR FORCE 2025:

A new organizational structure to optimize combat effectiveness in an era of great power competition



GRADUATE FROM THE USAF SCHOOL
OF ADVANCED AIR AND SPACE STUDIES

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ROYAL AUSTRALIAN AIR FORCE 2025:

A new organizational structure
to optimize combat effectiveness in
an era of great power competition

By

David Earl Borg, OAM

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POWER CENTRE**

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FOREWORD

It is my pleasure to present this monograph for publication in our Beyond the Future Force series. Wing Commander Borg wrote this paper as part of his studies at the School of Advanced Air and Space Studies (SAASS), Air University (Alabama, US) and we are delighted to make it publicly available. The Beyond the Future Force series is intended to engage our readers and to challenge current models of contributing to the joint force. WGCDR Borg has applied a substantial amount of academic rigour to understand how our organisational structure can be optimised to be fit-for-purpose in the future.

I commend WGCDR Borg for pursuing a challenging year at SAASS and for his compelling thesis. This work challenges us to continue to evolve both our thinking and our behaviours as an essential part of an integrated ADF. WGCDR Borg provides an objective and blunt assessment of contemporary organisational structure, which is necessary to enable us to shape an efficient structure that is fit for meeting the challenges of a continually changing geostrategic landscape. This thesis has shown that there is no universal guiding principle that must be adhered to when shaping a complex organisation (such as the RAAF). By analysing historical cases and difficulties, WGCDR Borg provides some near- and long-term recommendations on how to optimise RAAF's organisational structure for future challenges.

This paper significantly influenced senior level decision making on the future shape of the Air Force prior to publication. The Air and Space Power Centre is proud to present it now to a wider audience. I congratulate WGCDR Borg on his work and commend it all who share his passion for advancing our Service.

Group Captain Jason Baldock
Director Air and Space Power Centre

Note to the Australian edition – 2023

This manuscript was written in 2021 in a US environment. It has been re-edited in 2023 for the Australian environment, although US spelling has been retained.

ABOUT THE AUTHOR

Wing Commander David Earl Borg, OAM was born in Sydney, and joined the Royal Australian Air Force in February 1992 as an Airfield Defence Guard trainee. Wing Commander Borg spent his first 10 years in the Air Force as an enlisted Aviator where he reached the rank of Sergeant.

During his time as an enlisted Aviator Wing Commander Borg was posted to several locations including No 1 Airfield Defence Squadron (1AFDS), multiple tours of 2AFDS, as an instructor at the RAAF Security and Fire School, and as an instructor at the School of Postgraduate Studies. As an enlisted aviator, Wing Commander Borg served on operational duty in East Timor as part of Operation Warden during 1999-2000.

In 2002, he was commissioned as an officer in the Royal Australian Air Force; he graduated from No 137 Air Traffic Control Course in 2003 and has also completed multiple line-ATC and staff officer postings. Promoted to SQNLDR in 2012, he served as the Senior Air Traffic Control Officer at RAAF Richmond, followed by the Base Aviation Safety Officer in the Middle East Area of Operations, and finally as Plans Air Traffic Control at HQAC.

Wing Commander Borg was promoted to WGCDR (temp rank) in 2018 while at HQAC, where he served as Deputy Director Exercises and International Engagement, and Deputy Director Air Mobility and Battlespace Management. In April 2019, he was promoted substantively and posted to the United States where he was a Distinguished Graduate of the USAF Air Command and Staff College, and a graduate of the prestigious School of Advanced Air and Space Studies (SAASS). Since returning from the US, he has filled the role of Deputy Director Air Force Strategy.

Wing Commander Borg is currently the Commanding Officer of Number 1 Recruit Training Unit.

As an Air Traffic Controller, Wing Commander Borg has served on operational duty in Banda Aceh in 2004-2005 (Operation Sumatra Assist); in Afghanistan in 2010 (Operation Slipper); as part of the ADF support to the G20 Summit in 2014 (Operation Parapet); and in 2016-2017 in the Middle East Area of Operations (Operation Accordion).

Wing Commander Borg holds a Master of Military Art and Science and a Master of Philosophy in Military Strategy, and is currently a PhD candidate with the USAF (through SAASS). In 2017, he was awarded a Commander Joint Task Force 633 Silver Commendation, and in 2018, was awarded the Medal of the Order of Australia (OAM).

Wing Commander Borg loves all sports, has completed several marathons, and loves golf more than it loves him. He lives with his wife Natasha, their son Oliver, and their dogs 'Clancy' and 'Weston', whilst their other son Alex, is currently serving in the Australian Army.

ACKNOWLEDGMENTS

The academic year at SAASS provides an adequate opportunity to read many acknowledgments pages! Most choose to leave the most significant thanks at the end of their acknowledgments. However, this work simply would not have been possible without the love, care and support of my immediate family. Between ACSC and SAASS, I have written somewhere close to 100,000 words. My wife has read every single word, and – in the case of this work – every word, several times. My wife has been responsible for much more than pointing out spelling errors and incorrect punctuation. Indeed, during hundreds of hours spent on our daily walks, she has played both patient sounding board and fierce critic of errors in my logic. During the editing process, my wife has not been afraid to use her pink ‘editor’ pen to write ‘Why do you say this is so?’, and ‘So what, what are you trying to say?’. My two sons have also been a source of inspiration and an incredible help around the house. They have smiled at, hugged and played front-yard sports during periods of high workload stress.

I would also like to acknowledge several people who provided very thoughtful, thorough and extremely helpful feedback on draft versions of this thesis, including AIRCDRE Anthony Grady, AIRCDRE (Retd.) Bill Kourelakos, GPCAPT Nicholas Pratt, GPCAPT (Retd.) Patrick Cooper, GPCAPT Craig Stallard and GPCAPT Travis Hallen.

I especially want to thank my thesis advisor, Colonel Sean Klimek, for his many insights and discussions during this eight-month journey. His experience and acumen have been invaluable in helping to eliminate inconsistencies and redundancy in my study. I would also like to thank Dr Svedin for her support and for reviewing the draft. When I thought I was ‘done’, Dr Svedin encouraged me to go further. Despite the assistance received from others during this process, I alone remain responsible for any errors contained herein.

Most importantly, I return to my immediate and extended family, particularly my mum, dad and mother- and father-in-law, without whose support I would never have been able to attend the SAASS.

ABSTRACT

This work investigates whether the Royal Australian Air Force (RAAF) organizational structure is fit-for-purpose to raise, train and sustain a modern, world-class small air force capable of networked and integrated, joint and combined operations in 2021 and beyond. The author uses a combination of quantitative data analysis and case studies to conclude that the current RAAF organizational structure is top-heavy, unbalanced and too compartmentalized. This results in stovepiped training, which inhibits high-end, networked and integrated joint collective training.

The author compares contemporary strategic guidance to how the RAAF currently conducts force generation (FORGEN) training and concludes that among other sources of friction and tension, the current RAAF organizational structure is the single biggest inhibitor to the RAAF producing combat effectiveness. Then, using five case studies of four air force and one army organizational structure, the author demonstrates that, despite hundreds of years of cumulative service experience, there is no single panacea or silver-bullet to organizational change. Next, the author addresses some of the difficulties associated with organizational inertia and other inhibitors to organizational change. Finally, the author provides some near-term and longer-term recommendations for organizational change.

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CHAPTER 1

INTRODUCTION

1.1: The puzzle

The Royal Australian Air Force (RAAF) turned 100 years old on 31 March 2021.¹ Despite the profound changes in technology during this period, the RAAF of today is mostly organizationally structured as it was when first formed in 1921. Throughout the years, there have been several attempts at reorganization and optimization. However, these changes have predominantly been driven by one of three factors: (1) requirements for demobilization following major conflict – World War Two (WWII), the Korean War and the Vietnam War; (2) the result of budget allocation cuts to the RAAF; or (3) to re-balance the amount of personnel and materiel across the various units, wings and groups. In short, reorganization within the RAAF has occurred because of some other government initiated forcing function, or so the RAAF appeared balanced from a ‘span-of-control’ or management perspective. Seldom has organizational change been initiated within the RAAF so that the RAAF’s organization was optimized to raise, train and sustain (RTS), fight and win.² Indeed, the most recent enterprise-level organizational change within the RAAF was initiated by Air Marshal John Newham in 1986 and completed under the stewardship of Air Marshal Ray Funnell in 1988 (Air Force Organisation Directive [AFOD], 1988). The current RAAF organizational structure is depicted in Figure 1.

In direct contrast to the rate at which the RAAF undertakes organizational change, since the turn of the 21st century, the RAAF has undertaken a process of technological modernization (Editor’s Introduction, 2020). By 2023, the RAAF will have no aircraft in its order of battle that entered service prior to 1999. By 2025, after the MQ-4C Triton and MC-55A Peregrine enter service, the RAAF will be one of the most modern, capable and potentially lethal small air forces in the world (Editor’s Introduction, 2020).³

-
1. Throughout this paper the terms ‘RAAF’ and ‘Air Force’ are interchangeable. At all times, unless otherwise specified, the term ‘Air Force’ means the Royal Australian Air Force (RAAF).
 2. The RAAF uses the term ‘raise, train and sustain’ (RTS) to explain the process of preparing forces in the air domain for employment by the joint force commander. It is synonymous with the US term ‘organize, train and equip’.
 3. For the purpose of this paper, a ‘small air force’ is any air force with fewer than 500 total aircraft.

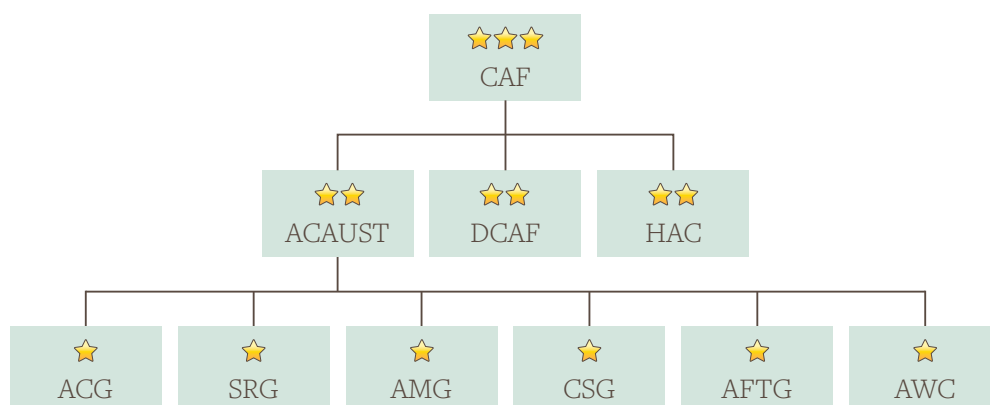


FIGURE 1: The current RAAF organizational structure

Source: Author's original work. Displays only the chain of command between the Chief of Air Force (CAF) and operational-level of the RAAF; it does not show the subordinate levels below the other two-star leaders, Air Commander Australia (ACAUST), Deputy Chief of Air Force (DCAF) and Head of Air Force Capability (HAC).

Further, regarding the likelihood of high-intensity conflict in the Indo-Pacific region, a recent Australian Government Defence Strategic Update warned the Indo-Pacific region ‘is at the centre of greater strategic competition, making the region more contested and apprehensive’ (Department of Defence [DOD], 2020a, p. 3). Even more worryingly, the 2020 strategic update noted the strategic environment described in the 2016 version of the same document remains relevant; however, some drivers ‘have accelerated in ways that were not anticipated in 2016’ (DOD, 2020a, pp. 11–14). Moreover, competition between the United States (US) and China makes ‘the prospect of high-intensity conflict less remote’ (DOD, 2020a, p. 5).

Since the year 2000, while the RAAF has undertaken a period of intense acquisition and modernization, and while the geostrategic outlook in the Indo-Pacific has degraded, the RAAF has been engaged permanently in virtually unopposed air operations in the Pacific and the Middle East Area of Operations (MEAO). The RAAF of 2021 is currently organized like it was when it had 1950s–1980s aircraft; these third-generation aircraft required little integration and interoperability to perform their assigned roles. However, the RAAF is now equipped with some of the most modern, networked and capable aircraft in the world. To operate most effectively, these modern aircraft need to train and operate together. Indeed, modern aircraft need to operate with other platforms, services and coalition partners seamlessly – they need to be ‘fully joined up’ (Editor’s Introduction, 2020, pp. 230–231).

The RAAF is currently led by officers who have gained much of their operational experience during virtually unopposed operations during the 21st century. Moreover,

its performance has been effective when faced with the low-intensity challenges the RAAF has encountered since 1999. Accordingly, there is no apparent imperative for organizational change among many RAAF leaders who have known nothing other than the current organizational structure throughout their careers. Further, this work posits that no single factor is sufficient to drive change alone. Rather, there are multiple contributing factors that cumulatively indicate a need for change (see Chapters 2–4). Much of the data contained in Chapters 2–4 are not normally viewed by leaders within the same aggregated dataset; rather, leaders are often exposed to only portions of information with which to make organizational decisions.

1.2: The roadmap

By way of a roadmap, this work is divided into seven chapters. Chapter 1, ‘Introduction’, looks first at the specific research question before explaining the background and significance of the problem. It then details the scope and limitations of this investigation, previews the main arguments, and seeks to dispel some myths.

Chapter 2 is titled ‘1987 to today, how we got to where we are’. Accordingly, it takes a deep dive into how the RAAF is structured today and how the RAAF got to where it is today. Chapter 2 uses a combination of primary and secondary sources, including interviews with current and former leaders and some statistical analysis of the workforce between 2003 and today. It highlights some areas of the RAAF organizational structure that may have left the RAAF organizationally exposed in 2021.

Chapter 3, ‘The Readiness Cycle – What is the ADF trying to achieve?’, looks in detail at the training and readiness cycle by describing what the *strategic centre* and the joint force want the RAAF to achieve as part of the RTS cycle. It also describes some of the friction created by the current RAAF organizational structure.

Chapter 4, ‘The Readiness Cycle – Where does the RAAF fit in?’ highlights many of the inefficiencies that result from ‘bottom-up’ planning processes and seeks to elucidate a ‘top-down’ fix to the RAAF RTS problems.

Chapter 5, ‘How other military forces are organized’, looks at four exemplar air forces from around the world. By looking at other air forces with similar capabilities, tactics, personnel, values, size and geography, this chapter highlights that there is currently no single perfect organizational structure. Moreover, Chapter 5 investigates the non-air force organizational structure of the Australian Army. It seeks to slowly break down the organizational inertia and increase the desire to embrace organizational change.

Chapter 6, ‘How the RAAF could be better organized’, makes some preliminary recommendations about how the RAAF could be organizationally restructured to be optimized for the delivery of airpower in support of Australia and its national interests

beyond 2021. Importantly, the chapter proposes a model for a feasible, low-cost, near-term organizational change that addresses many of the problems identified in this work. Chapter 6 also details several ‘anticipated impediments to change’. These include, but are not limited to, general organizational inertia, small fleet dynamics, problems associated with ‘low-density, high-demand’ assets, the potential impact on officer aviation (and other category) promotion prospects, the impact on system program offices (SPO), and the prioritization of personnel and materiel.

Finally, Chapter 7 provides a wrap-up of the most important details, arguments and recommendations of the previous six chapters.

1.3: Is the RAAF structure fit-for-purpose?

Is the current RAAF organizational structure fit-for-purpose and optimized to raise, train and sustain (or Force Generate [FORGEN]) a modern, world-class, small air force capable of networked and integrated, joint and combined operations in 2021 and beyond?⁴

Since 1988, the RAAF has become organizationally unbalanced due to a series of ad hoc organizational measures applied over time to offset the requirement for a wide-ranging organizational solution. Further, the current RAAF organizational structure is too compartmentalized, resulting in stovepiped training, which inhibits high-end, networked and integrated, joint collective training.

1.4: Background

Change is hard; maintaining the status quo is easier. The RAAF is the second-oldest air force in the world, second only to the United Kingdom’s Royal Air Force (RAF) (Hupfeld, 2020a, p. 8). The RAAF was formed in 1921, and it has not conducted any meaningful, enterprise-level organizational change since the creation of the Force Element Group (FEG) structure in 1987–1988 (Hallen, 2019). Prior to 1987, despite several iterative changes to the organizational structure, the RAAF was predominantly organized geographically. Further detail about the organization of the RAAF between 1921 and today can be found in Hallen’s (2019) Air Power Development Centre (APDC) Working Paper No. 46. Because the most recent enterprise-level organizational change in the RAAF occurred in 1988, for the purposes of this work, 1988 provides an excellent stepping-off point.

4. The terms ‘raise, train and sustain’ (RTS) and ‘force generate’ (FORGEN) have been used interchangeably during the recent past. The term FORGEN is now seen as the best word to describe the process of RTS. Both RTS and FORGEN will be used throughout this paper.

The adoption of the FEG structure in 1988 led to the creation of five FEGs: Air Lift Group (ALG), Maritime Patrol Group (MPG), Strike Reconnaissance Group (SRG), Tactical Fighter Group (TFG) and Tactical Transport Group (TTG). As the names of these five (initial) FEGs suggest, in 1988, the RAAF adopted an organizational structure that grouped like capabilities together by function. Since 1988, there has been some adjustment to the FEG structure; however, overall, the RAAF's organizational structure has remained stable and constant. Instead of wide-ranging organizational change, the RAAF has chosen smaller incremental organizational changes. Over 30 years, these incremental changes, combined with the introduction of a fifth-generation fleet of aircraft, mean that incremental change is no longer effective. Indeed, senior RAAF leaders have identified wide-ranging, enterprise-level organizational change as necessary for at least six years. Transcripts of a wide range of speeches, documents and minutes of meetings demonstrate that RAAF leaders have been acutely aware of the need for enterprise-level organizational change for several years.

In February 2015, while announcing the launch of *Plan Jericho*, then Chief of Air Force (CAF), Air Marshal (AIRMSHL) Brown (2015), stated that the arrival of the F-35A was about more than just aircraft and platforms, 'it is about root and branch *transformation*. It will affect the way we train and fight'. AIRMSHL Brown (2015) went on to assert that:

Modernization is not transformation. And, unless we transform, we will not only fail to exploit the maximum advantages conferred on us by our modern weapon systems, but we will risk operational failure in the complex, dynamic and fluid environment of the information age ... We will train as we fight – together, as an integrated force ... operate as an integrated team. That must be our goal.

During his speech, Brown (2015) announced the formation of a *Plan Jericho Team*, declaring the team would be charged with developing a detailed transformation plan. Specifically, the team would:

Look at both short-term changes to Air Force that can achieve a more integrated and networked Air Force within the next two years; and begin the groundwork for more complex medium and long-term projects that require more comprehensive organizational transformation. This is a big agenda and a broad canvas.

In November 2016, during a Chief of Air Force Advisory Committee (CAFAC) meeting, Commander Surveillance and Control Group (CDR SRG) tabled a proposal for 'group-level' organizational change.⁵ The then-new CAF (AIRMSHL Davies) acknowledged the SRG proposal and made some general comments (CAFAC, 2016, p. 8). However, a review

5. In the RAAF a Group (FEG) commander is senior to a Wing (WG) commander and commands more personnel and equipment. The group commander is the senior level of tactical command in the RAAF.

of all subsequent meetings of this forum provided little evidence to suggest the initial desire for wide-ranging group-level (SRG) organizational change was pursued further. Research for this work was unable to identify the reason this proposal was not pursued. The available evidence suggests only two changes (to the SRG organizational structure) were ever tabled. The proposed changes were to move two aircraft internally within SRG, and to change the name of a unit and raise the rank level of the commander of the newly named unit from O-4 to O-5 (CAFAC, 2017b, pp. 10–13).

In November 2017, AIRMSHL Davies issued his clearest direction about the requirement for wide-ranging organizational change within Air Force since his elevation to Chief in July 2015. During the November CAFAC (2017c) meeting, AIRMSHL Davies directed Air Commander Australia (ACAUST) to ‘review the FEG structure for the early 2020s order of battle’ (p. 19) and report back to the CAFAC in June 2018 with a proposal. CAFAC indicated that a final decision would be made at the November 2018 meeting (CAFAC, 2017c). CAFAC gave clear guidance that the review was to advise on where incoming systems and capabilities would fit into the Air Force structure and outline the expected ‘knock-on effects’. Further, AIRMSHL Davies directed that the review should determine how the RAAF could be best managed and grouped, including C2 considerations and how the new structure would link into the SPOs. AIRMSHL Davies concluded by stating that ‘the issue of politics’ is to be considered secondary to determining the best organizational structure for the Air Force to deliver airpower for Australia (CAFAC, 2017c, p. 19).

At the May 2018 CAFAC (2018a) meeting, Director General Personnel-Air Force (DGPERS-AF) asserted that Air Force capability changes would necessitate changes to the future Air Force workforce and these changes would ‘entail that decisions be made which are outside the comfort zone’ (p. 6). Building on the DGPERS-AF statement, AIRMSHL Davies warned that a failure to conduct the required planning for the future workforce ‘is a strategic risk for Air Force’ (CAFAC, 2018a, p. 6).

ACAUST was scheduled to provide a proposal to ‘review the FEG structure for the early 2020s order of battle’ in June 2018 (CAFAC, 2017c, p. 19). However, at that meeting, ACAUST only provided an interim update. ACAUST detailed some fundamentals prioritizing which FEG structures would be further investigated in 2021, 2024 and 2028 (CAFAC, 2018b, pp. 3–4).

An extraordinary CAFAC meeting was convened in November 2018, during which the requirement (or otherwise) for the RAAF to consider enterprise-level organizational change was discussed. DGFORGEN-AF asserted that the introduction of a Tactical Air Wing should be ‘the initial step of a larger task to completely review the current FEG structure of Air Force’ (CAFAC, 2018c, p. 2). AIRMSHL Davies stated that the conversation needed to:

Chapter 1

Determine what a future Air Force structure looks like. This asks whether the current FEG structure is valid, and whether there is a different way to generate airpower in a future force ... Future options on what that [new Air Force structure] would look like have not been discussed in Air Force as yet. (CAFAC, 2018c, p. 4)

Unfortunately for proponents of the imminent requirement to carefully examine the organizational structure of the Air Force, at the following CAFAC meeting in April 2019, the requirement for organizational change was deferred. When CAFAC (2019a) Agenda Item 4, 'Force Element Group (FEG) Structural Review Update', was introduced, the secretariat informed meeting attendees that 'at the direction of ACAUST, this item has been deferred to a later CAFAC. It is still to be confirmed at which future CAFAC the update will be presented' (p. 6). A review of the remaining CAFAC Meetings in 2019 and the new Air Force Capability Committee (AFCC) meeting in 2020 did not show that the topic of organizational reform returned to the agenda. Director General Workforce Design and Reserves-Air Force have a standing agenda item on the AFCC agenda to continue highlighting how the current Air Force structure is not sustainable. On 12 February 2021, current CAF AIRMSHL Hupfeld agreed to a review into the RAAF organizational structure being conducted (Champion, 2021).

1.5: The time for delay is over, the time for change is now

In recent years, the Australian Government has steadily increased the level of funding to the Australian Defence Force (ADF) (DOD, 2020b). The RAAF has been the most significant beneficiary of this growth in ADF funding. The *Australian Defence White Paper 2016* 'committed around \$195 billion to new defence investments, of which almost \$100 billion will directly support airpower' (Davies, 2018, p. 3). In a later announcement, the (then) Australian Minister for Defence (MINDEF), Minister Reynolds, announced the launch of a new framework designed to 'evolve Defence's strategic purpose, performance and accountability' (Kuper, 2020). During the announcement, MINDEF stated that:

Australia faces an increasingly contested, and challenging Indo-Pacific ... and great power competition is causing the most consequential strategic realignment since the end of World War Two (WWII) ... [Moreover], in our region, the Indo-Pacific countries are modernizing their militaries and accelerating their preparedness for conflict. (Kuper, 2020)

MINDEF challenged the ADF to continue to adapt and evolve, proclaiming that as part of her new framework, the pillar of 'reform' must 'keep Defence organizationally fit to implement its strategic and capability priorities' (Kuper, 2020).

In an interview with the Sir Richard Williams Foundation (2020b, 24:25), CAF AIRMSHL Hupfeld acknowledged that it is incumbent upon the RAAF to deliver (to government)

‘responsibly with the resources it is given, to be efficient with those resources, and be good stewards of the resources’.

1.6: Limitations

This work examines the organizational structure of the RAAF at the operational level; that is, the levels below Headquarters Air Command (HQAC), primarily at the group (FEG) and wing levels. Aside from some passing analysis of the general disequilibrium throughout the officer rank levels across the entire Air Force, this work does not focus on the organizational structure of the air staff within HQAC, nor does it look at the organizational structure of Air Force Headquarters (AFHQ).

Further, this work confines its analysis to the platforms and capabilities that have already entered RAAF service or have already received final government approval for acquisition and are due to achieve initial operating capability prior to the year 2030. Moreover, this work does not consider any additional capability modifications to existing platforms that have not yet been approved and formally announced (to the public) by MINDEF or CAF. Finally, when it comes to personnel and infrastructure, this work confines itself to the current funded average strength numbers for RAAF out to 2030. Further, any recommendations put forward in this work seek to utilize existing facilities for unit, headquarters, housing and maintenance facilities. Importantly, a low-cost recommendation for organizational change is offered in Chapter 6.

1.7: Preview of the argument

The starting hypothesis is that if the current CAF was given a blank canvas and told he had access to all the personnel, materiel and infrastructure of the current RAAF force-in-being – and he could use the blank canvas to design any organizational structure he desired – there is a low likelihood the new structure would be the same as the organizational structure CAF currently presides over.

This work uses statistical analysis, the doctrinal RTS structure and methodology, and a review of other exemplar forces around the world before making some recommendations for organizational change. A failure to conduct organizational change could lead to two negative outcomes. The first and most dangerous outcome is that the RAAF finds itself involved in a high-intensity conflict while still structured for operations in the 1980s. The second and most likely outcome is that the RAAF continues to vacillate about organizational change until it is forced by government or ADFHQ to conduct organizational change for which it is not prepared.

CHAPTER 2

1987 TO TODAY, HOW WE GOT TO WHERE WE ARE

In his book *Making Change Irresistible: Overcoming Resistance to Change in Your Organization*, Ken Hultman (1998) explains the failure of organizational change is not normally due to a lack of people with vision or good ideas; rather, organizational change fails because of ‘resistance from those whose support is necessary to fulfill the vision’ (p. xi). This chapter uses workforce data to demonstrate that the RAAF of 2021 has become organizationally top-heavy and unbalanced. An unbalanced workforce structure alone does not dictate that enterprise-wide organizational change is required. However, this chapter begins the conversation.

2.1: Setting the scene – general workforce data

The overall size of the Permanent Air Force (PAF) has been remarkably stable between 2003 and 2020. On 30 June 2003, the RAAF had 13,787 full-time PAF airmen and officers (members). On 30 June 2020, the RAAF had 14,585 PAF members. This represents a change of 798 PAF members or an increase of just 6% in 17 years.¹

However, during the same period, while the total RAAF workforce remained relatively stable, officers at the rank of Air Vice-Marshal (AVM, O-8) rose from seven to nine, a rise of 29%; at the rank of Air Commodore (AIRCDRE, O-7) the number of officers rose from 27 to 38, a rise of 41%; the number at the rank of Group Captain (O-6) rose from 64 to 114, a rise of 78%; at the rank of Wing Commander (O-5) the number of PAF officers rose from 349 to 544, a rise of 56%; and at the rank of Squadron Leader (O-4) the number PAF officers rose from 891 to 1283, a rise of 44%.² At the same time, the total number of enlisted airmen was reduced by 474, a reduction of 5% (see Table 1).

-
1. Directorate of Workforce Design and Reserve Branch-Air Force, SQNLDR Mark Powell, Spreadsheet-Total Head Count 2003–2020.
 2. This data was drawn from a workforce spreadsheet provided by the Directorate of Workforce Plans and Reserves-Air Force (DWP&R-AF), email from SQNLDR Mark Powell to WGCDR Borg, dated 07 December 2020.

TABLE 1: Total numbers by rank PAF

Rank	2003	2020	% change
Total number of enlisted airmen	9600	9126	-5%
SQNLDR (O-4)	891	1283	+44%
WGCDR (O-5)	349	544	+56%
GPCAPT (O-6)	64	114	+78%
AIRCDRE (O-7)	27	38	+41%
AVM (O-8)	7	9	+29%

Source: Author's original work based on data received from AFHQ

When newly created strategic-level and joint positions are disaggregated from the data to show only the PAF members who work at the operational level, workforce data remains similar. Since 2003, the ADF has formed new joint positions, such as those required to staff the Headquarters Joint Operations Command (HQJOC) opening in 2004. Additionally, other non-RAAF organizations such as the Australian Defence Force Headquarters (ADFHQ), the Capability Acquisition and Sustainment Group (CASG), the Defence People Group (DPG), and the Vice Chief of Defence Force Group (VCDF Group) have been established. Similarly, with an increased focus on joint operations, the RAAF has sent an increasing number of members to fill a wide variety of positions within Army, Navy and Special Operations Command. By including the entire RAAF PAF population in Table 1, it is possible to argue that this work intentionally includes all the senior officer positions that had to be established with the formation of *joint* and other strategic positions. The next section looks only at the RAAF workforce at the operational level.

2.2: Operational-level workforce data

On 30 June 2003, the RAAF's Air Command had 10,760 full-time (PAF) members at the operational level; 17 years later, on 30 June 2020, Air Command had 10,943 PAF members (M. Powell, personal communication, 07 December 2020). This represents a change of just 183 PAF members or an increase of less than 1%.³ However, during the same period, within Air Command only, officers at the rank of Air Commodore (O-7) rose from seven to eight, a rise of 14%; officers at the rank of Group Captain (O-6) rose from 29 to 47, a rise of 62%; at the rank of Wing Commander (O-5) the number of PAF

3. Air Command is the operational-level headquarters within the RAAF. Air Command contains only the trained workforce, its workforce is almost entirely insulated from the effects of the requirement to fill 'joint' and other non-Air Force positions within the ADF strategic headquarters.

officers rose from 151 to 228, a rise of 51%; and at the rank of Squadron Leader (O-4) the number PAF officers rose from 439 to 643, a rise of 46%. As shown in Table 2, the total number of enlisted airmen (within Air Command only) fell by 6% while the senior officer ranks significantly increased.

TABLE 2: Total numbers by rank—Air Command only

Rank	2003	2020	% change
Total number of enlisted Airmen	8244	7776	-6%
SQNLDR (O-4)	439	643	+46%
WGCDR (O-5)	151	228	+51%
GPCAPT (O-6)	29	47	+62%
AIRCDRE (O-7)	7	8	+14%

Source: Author's original work based on data received from AFHQ

Accordingly, despite having relatively stable total numbers across the whole-of-RAAF enterprise and relatively stable numbers across Air Command, the data above shows a significant rise in officers at the rank of O-4 to O-6 simultaneously within both structures. A plausible counter-narrative would suggest the RAAF leadership intentionally built up the senior officer numbers during this period as an ‘insurance policy’ should the RAAF need to expand in personnel numbers rapidly; however, strategic guidance prior to 2016 does not support this hypothesis.

2.3: The Air Command organizational structure

Since the last RAAF-wide organizational change was conducted in 1988, at the operational level, the RAAF has created 17 new headquarters. This work asserts the creation of these additional headquarters, without changing the basic 1988 organizational structure, means the 2021 organizational structure is not optimized.

The operational portion of the RAAF is made up of squadrons and units, wings, and groups known as FEGs.⁴ There are six FEGs, and together they form Air Command. Air Command is commanded by ACAUST, an Air Vice-Marshal (O-8) who reports directly to the CAF. This chapter looks only at the operational level of the RAAF; that is, the FEGs, wings and squadrons that report to ACAUST.

4. Not all unit-level commands are titled ‘Squadron’, some are called schools, etc. However, for the purpose of this paper, a squadron is the lowest level of independent command within RAAF (nominally O-5 command). RAAF wings are all O-6 commands. RAAF group are all O-7 commands.

In 2003, the RAAF had 62 squadrons (units), 14 wings and six FEGs. In 2020, the RAAF had 76 squadrons, 17 wings and six FEGs.⁵ Accordingly, in the 17 years between 2003 and 2020, 14 new squadrons were established (+23%), and three new wings were established (+21%). Each squadron and wing that is established requires headquarters staff to function effectively. During the period 2003–2020, the number of RAAF members employed in either a wing or FEG headquarters grew from 1165 to 1316. Thus, an additional 151 staff were employed in wing and FEG headquarters – a rise of 13%. Further, each squadron has a small headquarters staff to assist the Commanding Officer (CO) with governance, oversight, discipline, administration and finance support. Due to the varying size of squadrons, there is no standard size for a squadron headquarters. This data is depicted in Table 3.

TABLE 3: Establishment of squadrons, wings, and FEGs—2003 to 2020

	2003	2020	Total number of SQN/WG/FEG +/-	% growth +/- 2020 vs 2003	Total Staff +/-
Squadron	62	76	+14	+23%	+ 140-420 ⁶
Wing	14	17	+3	+21%	+ 151
Group	6	6	0	0%	

Source: Author's original work based on data received from AFHQ

2.4: Air Force organizational directives

The Air Force organizational directive (AFOD) is the mechanism the RAAF uses to adjust its workforce structure. Since the last whole-of-RAAF organizational change in 1988, there have been 294 AFODs approved (DOD, 2020d). Many of the AFODs represent the problem, not the solution. The vast majority of the 294 AFODs approved since 1988 simply tinker in the margin of organizational change. This work asserts that this type of tinkering in the margin ends up hurting organizations rather than helping them. Because the majority of each of the organizational changes normally represent quite small organizational changes, the second- and third-order effects are not always fully considered.

5. Data derived from Directorate of Workforce Design and Reserve Branch-Air Force, email received from SQLNDR Mark Powell, 27 November 2020, Air Force Structure 2003-2010-2020.

6. There is no standard squadron headquarters size. Workforce data showed the actual number of squadron headquarters staff typically varied from 10 to 30. There are some larger squadron headquarters; however, these were excluded.

The development and drafting of each AFOD require significant staff effort; if the organization of the RAAF was optimized, the staff effort currently used to draft AFODs could be reassigned to FORGEN or other RTS activities. The scope and scale of each AFOD differ depending on the amount of structural change that is being recommended. For instance, some AFODs deal with simply renaming a unit, whereas other AFODs direct broader structural change. Regardless of the size and scope of the change requested, each AFOD requires a great deal of staff work during the AFOD drafting, preparation and approval process. For example, historically, the simple task of renaming a unit requires a typical AFOD length of approximately 15–35 pages; moving a unit geographically (without changing the unit structure) requires a typical AFOD of approximately 35 pages; and a more detailed reorganization within a single group in 2007 generated an AFOD of 256 pages (AFOD, 2007).

A desktop review of the 294 AFODs since 1988 suggested a general lack of standardization (even among similar requests) in how AFODs have been developed and approved. Chapter 4 investigates the FEG and wing structures more deeply. It asserts the FEGs and wings with the most staff achieve greater organizational success, whereas those under the most organizational pressure, requiring organizational reform the most, are the ones that do not have the spare time or staff capacity to attempt to initiate such change. In essence, ‘the strong do what they can, and the weak suffer what they must’ (Thucydides et al., 1998, p. 352).

2.5: Exemplars of organization efficiency outside the RAAF structure

Disequilibrium exists between the size of the force that Australian Army officers typically command and typical RAAF commands of the same rank. There is a significant interservice rivalry between the three major arms of the ADF (Navy, Army, Air Force). Accordingly, it is often difficult to use other services as organizational prototypes. Indeed, within the RAAF, initiatives that emanate from within the Army and Navy are regularly dismissed because ‘the RAAF is different’.⁷ However, there is less and less difference between the services when it comes to outputs and expectations, particularly at the senior officer rank levels. Consequently, while this work recognizes the inherent differences between services, it contends there are sufficient similarities in leadership and management, meaning other services’ organizational data cannot be ignored without scrutiny.

From the time Headquarters Australian Theatre (HQAST) was formed in 1996, to the INTERFET operation in East Timor, through to the formation of HQJOC in 2004, Navy,

7. This conversation occurred multiple times during a series of interviews conducted by the author with several current RAAF O-6 and O-7 commanders, including CDR ACG, CDR AMG, CDR SRG, CDR CSG, DGAIR, DGFORGEN.

Army and Air Force personnel have filled a range of rotational positions. At every rank level, these rotational positions regularly rotate between a Navy Seaman Officer, an Army Infantryman and an Air Force Fighter pilot. Indeed, at the O-5 level and above, within the joint staff and Joint Taskforce Headquarters, these rotational positions are completely interchangeable. Accordingly, at some point (this work posits at O-5), officers from the Navy, Army and Air Force transition from ‘being different’ to being completely interchangeable. The remainder of this section investigates the workforce structure of the Australian Army.

The basic building block within the Australian Army organizational structure is the platoon, typically consisting of approximately 30 soldiers. The platoon is commanded by a very junior officer (O-1 or O-2), often directly out of initial training. The next level of organizational building block is the company. A typical Australian Army company consists of approximately 150 soldiers and is commanded by a Major (O-4). The organizational level above the company is the regiment.⁸ Regiments consist of 550–1000 soldiers and are commanded by a Lieutenant Colonel (O-5). For this work, the final level of an Australian Army command of interest is the brigade. The Australian brigade comprises 2500–5000 soldiers and is commanded by a Brigadier (O-7). There are obvious differences in levels of governance requirements between commanding 150 infantry soldiers and commanding 150 pilots and maintainers with up to 24 aircraft. However, Table 4 demonstrates some of the disequilibrium between the size of the force Australian Army officers typically command and typical RAAF commands of the same rank.

TABLE 4: Typical Army and RAAF levels of Command

	01–03 Command	04 Command (or sub-unit Command)		05 Command		06 Command	07 Command
Australian Army	~30 soldiers		~150 officers and soldiers		~550–1000 officers and soldiers	No Equivalent	~2500–5000 officers and soldiers
RAAF	No Equivalent	~up to 75 officers and airmen		~100–300 officers and airmen		~400–1200 officers and airmen	~800–2000 officers and airmen

Source: Author’s original work

8. In the context of the Australian Army, the regiment and the battalion are similarly sized organizations.

Having established that both Army and RAAF officers currently fill a large number of tri-service rotational positions at the O-5, O-6 and O-7 levels, it must follow that RAAF officers at the O-5 level and above, could, if given the opportunity, have a similar span of command to Army officers. There are obvious differences between the makeup of the overall Army and Air Force workforces. Some of these variances can be adequately explained by the differences in the technical nature of many of the ‘officer only’ roles within the RAAF, such as the Officer Aviation categories. Accordingly, the fact that the Army is more than double the size of the Air Force, yet the Army has only 29% more officers of the rank O-4 and below does not raise any immediate concerns (DOD, 2020f, p. 27). However, in the senior officer roles, which are interchangeable, the data demonstrates a continued imbalance.

Once RAAF officers move out of the cockpit into management, oversight and governance roles at the O-5 and O-6 levels, Army has only 28% more senior officers while retaining more than double the RAAF workforce (DOD, 2020f). Moreover, while the Army has more than twice the number of personnel compared to the RAAF, the Army has only 60% more star-ranked officers than star-ranked RAAF officers (DOD, 2020f). The Australian Army currently has a total full-time workforce of 29,923 personnel and 88 officers who hold Brigadier (O-7) rank or higher (DOD, 2020f). Accordingly, the Australian Army has one general officer (officer of the rank O-7 or higher) for every 341 soldiers in the Army. Contrastingly, the RAAF currently has a total full-time workforce of 14,365 personnel and 55 officers who hold the rank of Air Commodore (O-7) or higher. Thus, the RAAF has one general officer for every 262 airmen in the RAAF (DOD, 2020f).

Despite the differences between the RAAF and Australian Army, it is possible for general officers to command much higher numbers of airmen and soldiers. Indeed, a comparison with the United States Air Force (USAF), the US Army and US Marine Corps reveals a larger cleavage. In the US, the number of general officers (O-7 rank or above) is controlled by Congress. The USAF currently has an active-duty strength of 329,839 personnel (USAF’s Personnel Center, 2020). The USAF has an authorized strength of 287 general officers – one general officer for every 1150 USAF airmen (Congressional Research Service, 2019; *United States Code [USC]*¹⁰, *Section 526*). The US Army has a current permanent strength of 472,595 personnel (Williams, 2021) and currently has 231 general officers – one general officer for every 2045 US soldiers (*USC* 10, *S 526*). The US Marine Corps has a current permanent strength of 180,958 personnel (Williams, 2021) and currently has 62 general officers – one general officer for every 2919 Marines (*USC* 10, *S 526*). Table 5 depicts the comparative data.

TABLE 5: Ratio of General Officers to full-time staff, by service

	Total permanent force	Number of general officers	Ratio of general officer to airmen/soldier/marine
RAAF	14,365	55	1:262
Australian Army	29,511	86	1:343
US Air Force	329,839	287	1:1150
US Army	472,595	231	1:2045
US Marine Corps	180,958	62	1:2919

Source: Author's original work

2.6: Pockets of organizational efficiency within the current RAAF structure

Air Force officers desire command opportunities at lower rank levels, and there are several examples within the current RAAF organizational structure where RAAF officers successfully command at the O-4 level. During a conversation about organizational reform at the CAFAC (2019b) meeting in June 2019, Director General Air Combat Capabilities-Air Force stated, 'SQNLDRs [O-4] are consistently talking about not having enough responsibility, and that COs have too much responsibility. Indeed, many forms and applications within Air Force require CO endorsement, unlike other services who empower at the O-4 level' (p. 1). CAF responded that he was happy with the concept of pushing down the level of responsibility and DGPERS-AF stated that a review of Air Force command was due to be presented to CAFAC 02-2020 (CAFAC, 2019b).⁹

Until 2007, the RAAF Airfield Defence Squadrons (AFDS) contained up to 160 personnel and were commanded by squadron leader (SQNLDR [O-4]) COs (J.D. Leo, personal communication, 09 December 2020). More contemporarily, the CO of the Combat Survival Training School (CSTS) is retained at the SQNLDR level. CO CSTS is responsible for training approximately 500 ADF members annually (S. Longley, personal communication, 27 November 2020).¹⁰ CO CSTS is responsible for 25 permanent staff

9. During the research for this paper, there was no evidence that a review into Air Force command was presented at the AFCC 02-2020 (previously named CAFAC).

10. The breakdown of ADF members trained by CSTS each year is approximately 220 personnel on the Aircrew Combat Survival Course, 150 on the Aircrew Initial Survival Course, 120 on the Joint Personnel Recovery Force Preparation Course, 25 on the Unit Combat Survival Officer Course, and six on the CSTS Instructor Course.

and 18 reserve staff and overseeing a budget of approximately AU\$500,000 per year (S. Longley, personal communication, 27 November 2020). Further, currently within the RAAF organizational structure, there are 11 Air Traffic Control detachments spread across Navy, Army and Air Force bases around Australia.¹¹ Each ATC detachment is commanded by a SQNLDR who is geographically isolated from their commanding officer. Each of the ATC detachments varies in size. However, at each of the five largest ATC detachments (Pearce, Darwin, Townsville, Amberley and Williamtown), the SQNLDR Flight Commander has 50–75 subordinates. These subordinates include two other SQNLDRs, up to 35 junior officers and up to 40 enlisted airmen (R. Mitchell, personal communication, 28 November 2020).

2.7: Rising ranks within the Australian Public Service

Since 2004 the number of senior office holders within the Department of Defence Australian Public Service (APS) – the ADF’s civilian staffing component – has risen at rates similar to the ADF’s uniformed members. It is possible the increase in senior ranks of the RAAF might be linked to a similar increase within the ranks of the APS (S. Witheford, personal communication, 26 November 2020). Similarly, it is also possible the increase in personnel holding senior ranks within the APS might be to keep pace with rises within the uniformed service. A review of the APS personnel numbers revealed the following data.

In 2004, the APS had 18,356 permanent civilian staff, which had been reduced to 16,129 by 2020 – a reduction in total full-time staff of 12% (DOD, 2004, 2020f).¹² In 2004, the APS had 115 members in the Senior Executive Service (SES), which is the APS equivalent of a star-ranked or general officer in the ADF (DOD, 2004).¹³ Accordingly, in 2004, the APS had one SES (general officer equivalent) ranked member for every 160 members of the APS. Whereas, in 2020, the APS had 153 members in the SES – that is, one SES ranked member for every 106 members of the APS (DOD, 2020f). Further, in 2004, the APS had 3860 civilian personnel at the senior officer rank (Executive Level 1 and 2), meaning that on top of the SES ranked members noted above, there was a further ‘senior officer’ (equivalent rank) for every five APS members (DOD, 2020f). In 2020, there were

11. The position designation of each of these 11 positions is ‘Flight Commander’; however, while these positions carry many administrative delegations and authorities, they do not have the ‘command authority’ of a CO. Flight Commander Darwin and Williamtown are geographically co-located with their CO.

12. 2004 was the closest data-point available with which to compare the APS with the RAAF numbers from 2003.

13. Within the APS, the SES is designed to achieve rank parity with the ADF general officer ranks. SES Band 1 is equivalent to one-star rank in the ADF, SES Band 2 is equivalent to two-star, SES Band 3 is equivalent to three-star.

5335 APS members who held the ‘rank’ of Executive Level 1 or 2 – a ratio of one APS ‘senior officer’ for every three APS staff (DOD, 2020f).

Tables 1, 2, 5 and 6 demonstrate that since 2003, while the number of full-time staff has reduced within the ADF, the RAAF and the APS, the number of senior officers has swelled significantly.

TABLE 6: ADF Civilian Workforce (APS) Figures

	2004	2020	% difference	Ratio APS to total APS staff 2004	Ratio APS to total APS staff 2020
APS Total Staff	18,356	16,129	-12%		
APS EL 1 and 2	3860	5335	+38%	1:5	1:3
APS SES	115	153	+33%	1:160	1:106

Source: Author’s original work based on data received from AFHQ

2.8: Conclusion

Chapter 2 used quantitative workforce data to begin the task of supporting the first component of the overall thesis of this work – that the RAAF’s current organizational structure is top-heavy, unbalanced and (rank) inefficient. Specifically, Chapter 2 established that since 2003, the workforce size within the RAAF has remained remarkably stable; however, the number of senior officers has risen sharply. Chapter 2 also showed that since 2003, 17 additional headquarters units have been established across Air Command. This work asserts that the disequilibrium between the number of senior officers and headquarters compared to the number of frontline workers has resulted in a significant increase in ‘staff effort’, although there is no corresponding increase in combat effectiveness. This assertion is explored further in Chapters 4 and 6.

Chapter 2 also established that RAAF officers desire responsibility and command at the O-4 level, and several O-4 officers across RAAF currently have large organizational portfolios and responsibilities. The chapter demonstrated that there is no difference between the competences of an Australian Army officer when compared to a RAAF officer within ADF rotational positions. However, Army officers typically have a greater span of command at lower rank levels than RAAF officers.

Further, this chapter elucidated that the organizational structure the RAAF has today is not as it was designed in 1987. Chapter 3 investigates what the Australian Government

Chapter 2

expects of the ADF RTS and FORGEN cycles. Specifically, Chapter 3 looks at how the ADF conducts RTS and FORGEN today and explores how it could be optimized (with a new organizational structure) in the future. This work provides recommended solutions to some of these problems in Chapter 6.

CHAPTER 3

THE READINESS CYCLE: WHAT IS ADF TRYING TO ACHIEVE?

In his timeless treatise *On War*, Carl von Clausewitz (1989) implored military leaders to be clear in their mind *what* they intended to achieve before starting a war, and *how* they intend to conduct it (p. 579, emphasis added). Von Clausewitz's perpetual advice transfers neatly to military leaders who seek to prepare their force – prior to commencing a war. Similarly, Stephen Covey (1990) stressed the importance of 'beginning with the end in mind' (p. 95) – that is, having a clear vision of the desired direction and destination and how to make it happen.

A military force's ability to achieve success in a modern, high-end war fight is directly linked to how well the force is prepared and trained. The focus of this chapter is examining the cycle the ADF uses to RTS, or FORGEN, its operational forces. First, this chapter offers some context and background. Second, it explores what the Australian Government expects of the RAAF RTS cycle. Third, it investigates what ADF doctrine and the various levels of ADF commanders expect of the RTS cycle; fourth, it examines some of the friction associated with interservice rivalry; and finally, it begins the journey to find solutions to some seemingly intractable problems.

3.1: Context and background

Before starting, it is imperative to understand the meaning of some terms used within the remainder of this work. According to *Merriam-Webster's Dictionary* (2019), the terms 'efficient' and 'optimized' are virtually synonymous. However, when it comes to the ADF, after nearly three decades of seemingly constant 'efficiency reviews' and 'reform programs', the term efficient often carries a negative connotation – for many, *efficiency* is bureaucratic code for 'do more work, with less people'. For some, the ultimate way to demonstrate efficiency would be to park all of the ADF's expensive materiel and personnel inside protective hangars – only to be used in case of an emergency. However, no matter how *efficient* such a proposal might be at saving money and prolonging the capability life cycle of expensive equipment, when required for employment by the Australian Government, the personnel and equipment would not be very *effective* at 'producing a decisive, or desired effect' (*Merriam-Webster's*, 2019, p. 397).

Thus, for the remainder of this work, the terms *effective* and *optimized* will be used. The term *effective* is defined above; the term *optimized* means to follow a process to make something as effective or functional as possible. The central thesis of this work is that the current organization of the RAAF is not optimized to force generate and subsequently contribute to joint force operations.

3.2: What the Australian Government expects of the RAAF RTS cycle?

The Australian Government enunciates the Australian people's expectations of the RAAF FORGEN cycle periodically when it releases the Defence White Paper (DWP). The extant DWP was released in 2016 and updated via the 2020 Defence Strategic Update (DSU). Both the DWP and the DSU are clear that the RAAF (as part of the ADF) needs to be 'prepared to respond if the Government decides the pursuit of Australia's interests requires the use of military force' (DOD, 2016, p. 17). Both the DWP and the DSU outline three Strategic Defence Interests: (1) 'a secure, resilient Australia'; (2) 'a secure nearer region, encompassing maritime South East Asia and the South Pacific'; and (3) 'a stable Indo-Pacific region and rules-based global order which supports our [Australia's] interests' (DOD, 2016, p. 17).

The three Strategic Defence Interests are linked to three Defence Strategic Objectives. The objectives are very broad in nature. They cover wide-ranging contingencies, from the ability to 'independently and decisively ... deter, deny and defeat any attempt by a hostile country or non-state actor to attack, threaten or coerce Australia', to less existential threats, such as supporting Australia's near neighbors 'to build and strengthen their security ... [and] provide meaningful contributions to global responses to address threats to the rules-based global order' (DOD, 2016, pp. 17-18).

The 2016 DWP asserted that '[m]ore emphasis will be placed on the joint force, bringing together different capabilities so the ADF can apply more force, more rapidly, and more effectively when required' (p. 18). Moreover, under the subtitle 'Defence Preparedness' in the executive summary, the 2016 DWP stated that 'higher levels of Defence preparedness will be required' and the 'Government has directed an increase in the ADF's preparedness level' (p. 22).

While the 2016 DWP directed an increase in ADF preparedness, the 2020 DSU paints a bleaker picture of Australia's future strategic environment. The 2020 DSU describes Australia's security environment as 'markedly different from the relatively more benign one of even four years ago, with greater potential for military miscalculation' (DOD, 2020a, p. 6). Moreover, it goes on to warn that 'military modernisation in the Indo-Pacific has accelerated faster than envisaged ... [and] major power competition has

intensified and the prospect of high-intensity conflict in the Indo-Pacific, while still unlikely, is less remote than in the past' (DOD, 2020a, p. 5).

Nine of the 14 paragraphs in the 2020 DSU's executive summary directly reference the new 'dynamic strategic environment' of which Australia finds itself a part. To plan for and counter threats, the 2020 DSU directs that the ADF must be:

Agile and adaptive ... better prepared to respond ... better prepared for the prospect of high-intensity conflict ... [and able] to deploy military power to shape our environment, deter actions against our interests and, when required, respond with military force. (DOD, 2020a. pp. 5–6).

The document further warns that previous Defence planning, which assumed a 10-year strategic warning, was 'no longer an appropriate basis for defence planning' and that 'growing regional military capabilities, and the speed at which they can be deployed, mean Australia can no longer rely on a timely warning ahead of conflict occurring' (DOD, 2020a, p. 14). Moreover, the 2020 DSU cautions that 'reduced warning times mean defence plans can no longer assume Australia will have time to gradually adjust military capability and preparedness in response to emerging challenges' (DOD, 2020a, p. 14).

Regarding funding the increased preparedness and capability that both the 2016 DWP and 2020 DSU direct, the Australian Government believes it has aligned strategy, capability and resources via the Federal Budget process. Indeed, the 2020 DSU states that the Australian Government has 'provided Defence with clear direction and [financial] certainty to underpin its planning to support Australia's security' (DOD, 2020a, p. 55). According to the 2019–2020 Mid-Year Economic Forecast Outlook, the total ADF budget increases from AU\$42.151 billion in 2020–21 to AU\$73.687 billion in 2029–30 (DOD, 2020a). Specifically, when it comes to funding levels by service, the RAAF makes up only 24% of the total ADF permanent workforce; yet, the RAAF is budgeted to receive more than 27% of the capability investment between 2020 and 2030 (DOD, 2020a, p. 35). Conversely, the Australian Army, which represents 51% of the total ADF permanent workforce, receives just 20% of the 2020–2030 budgeted capability investment (DOD, 2020a, p. 35). Accordingly, based on Australian Government budget priorities, it could easily be inferred that the government of Australia expects the RAAF to be ready for conflict if required.

In a recent interview conducted by the Williams Foundation, the current CAF demonstrated he clearly understood the tension and challenges presented by the high

1. Defence funding is as at the Mid-Year Economic Forecast Outlook 2019–20 price basis, which is regularly adjusted in line with Commonwealth Budget processes.

levels of government funding the RAAF has received in recent years. In response to a question about the possibility of asking (Government) for more C-17 aircraft, AIRMSHL Hupfeld stated:

My first responsibility is to get the most out of what I already have. I can't go to Government and ask for more until I can demonstrate that I am getting the most out of the people and materiel that I already have – that I am using them to the best effect possible – and I think there is still work to do on that. That's part of the LOE [line of effort] ... make better use of the people and equipment that we already have. (Williams Foundation, 2020a, 9:00)

3.3: Individual and collective training

Within military organizations, individual and collective training forms the foundation upon which a force can be prepared for success in a high-end conflict. The RAAF will be better placed to organize and conduct effective individual and collective training if it is not hampered by its organizational structure. The term 'individual training' differs in meaning across the ADF, and the distinction between individual and collective training is often blurred (Hurley, 2011). For the purposes of this work, the term 'individual training' refers to all training conducted below the threshold of 'collective training'. Individual training is focused on the 'attainment of proficiency, which includes qualifications, competencies, licenses, experiences, expertise in trades or streams, and skills' (Hurley, 2011, pp. 4–11). Although individual training does not specifically refer to pilot/aircrew training, the aviation categories provide clear examples of the delineation between individual and collective training. In the RAAF context, individual training is almost always conducted at the individual unit level and almost always involves only a single aircraft type. Using the F-35 as an example, individual training includes everything from a single F-35 conducting circuit or instrument flying training through to multiple F-35s operating together conducting basic fighter maneuver training. However, if these same F-35 aircraft were operating with an airborne early warning and control aircraft, or an air-to-air refueling aircraft, this would represent a transition from *individual* to *collective* training.

The transition from individual training to collective training represents the point on the training continuum at which friction is introduced between competing training interests. Collective training 'involves the simultaneous and sequential performance of related individual tasks, in a collective training environment, to produce group outputs and outcomes' (Hurley, 2011, pp. 4–9). However, the nature, cost and planning required to conduct collective training means each unit involved in the collective training seeks to maximize the training benefit for their individual unit/platform/aircraft type. Such a maximization for all involved simultaneously is almost always a desire that is impossible to achieve. Accordingly, during the conduct of collective training, there are training

*winner*s and training *loser*s, commonly referred to as the *supported* and *supporting* training organizations, respectively.²

Collective training can be further divided into three categories: single-service collective training, joint collective training, and combined joint collective training. Each of these three sub-categories of collective training represents a progressive increase in complexity during planning, execution and evaluation; and a simultaneous loss of control over the individual training outcomes from the respective units involved. Accordingly, commanders at all levels intuitively understand that the training provided during combined joint collective training represents the training that will best prepare their forces for the type of operations in which they are most likely to be involved. The combination of planning effort and the associated loss of control over the training outcomes means unit commanders tend to focus much of their attention on the training activities that afford them the most control over training outcomes and offer their unit the highest quality training. The increasing tension between the most basic level of training (individual training) and the most complex level of training (combined joint collective training) is depicted in Figure 2.

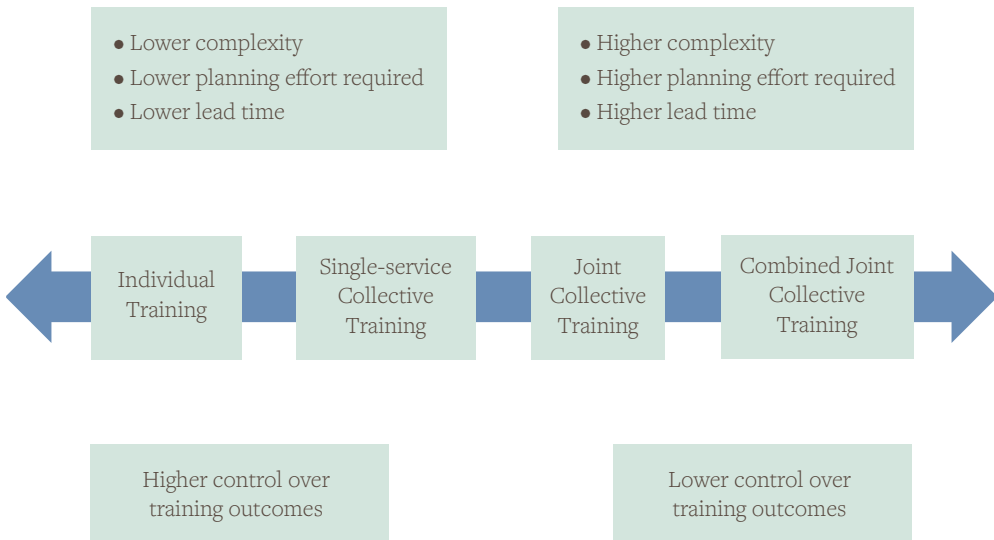


FIGURE 2: The friction between levels of training

Source: Author's original work

2. Supporting units can still achieve valuable FORGEN outcomes.

3.4: The impact of long planning cycles on RAAF planning

Due to their increased complexity, joint collective training and combined joint collective training iterations have long planning cycles. Typically, major joint collective training iterations occur annually and feature a planning cycle of 10–11 months between the concept development conference and the execution of the exercise.³ Moreover, most large-scale combined joint collective training exercises occur biennially. Iterations of biennial exercises have a typical planning cycle of 20–22 months. These long planning cycles work against the two smaller services (RAAF and RAN), as their smaller workforce numbers and more diverse capabilities mean they have to juggle planning staff between exercise planning iterations and the execution of exercises. Indeed, it is quite common for RAAF and RAN exercise planning staff to complain that the Australian Army can *out-plan* anybody.⁴ Mathematically, the Australian Army is more than two times the size of the RAAF in total full-time personnel strength (DOD, 2020f). Further, following a recent enterprise-level organizational restructure in 2011 (Plan Beersheba), the Australian Army is now effectively split into three separate, like, capability bricks.⁵ Following the implementation of Plan Beersheba, only one-third of the Australian Army is ‘online’ at any given time, whereas the other two-thirds are either in the ‘readying’ or ‘resetting’ phase. Thus, on top of the planning staff embedded within the ‘online’ brigade, the remaining 66% of the Australian Army is available to conduct planning – put simply, the Australian Army can, quite literally, out-plan both the RAAF and the RAN.

Due to their size, organizational structure and operational focus, both the RAAF and RAN planning staff are consistently required to balance current operations, future operations, current exercises and future exercises. Moreover, the primary focus of joint collective training and combined joint collective training activities tends to be on the land component, combined with the mathematical planning advantage held by the Australian Army, which results in a planning conundrum for the RAAF and RAN. Both the RAAF and RAN do not have the planning architecture of the Australian Army; thus, they must choose between using their best and brightest planners for *either* current operations, future operations, current exercises *or* future exercises.⁷

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3. The exercise planning cycle includes the concept development conference, the initial planning conference, the mid-planning conference and the final planning conference. Some complex activities feature two final planning conferences.
 4. Author’s own observations and experience as HQAC Deputy Director Exercises and International Engagement.
 5. Lieutenant Colonel Benjamin Watson (Office of the Chief of Army), Australian Army, ‘Plan Beersheba Explained: Media Backgrounder’, 3.
 6. *Ibid.*, 3.
 7. Author’s own observations and experience as an O-4 staff officer within the HQAC Exercise Planning and International Engagement Deputy Directorate, and then an O-5 HQAC Deputy Director Exercises and International Engagement.

The net result of this planning issue is an inefficient cycle where the RAAF (and RAN) desired training outcomes are potentially marginalized by sending junior officers to exercise planning conferences. These junior officers are often outranked and regularly ‘out-planned’ by their more senior and more experienced Army counterparts. The Army leverages its planning, seniority and experience advantage to ensure exercise designs meet Army training objectives, whereas the RAAF and RAN have historically been relegated to a supporting role. By the time more experienced RAAF and RAN planners who better understand the type of exercise objectives required to add value for their respective services have time to consider the exercise – normally later in the planning cycle – it is too late to meaningfully influence the conduct of the exercise.⁸

Consequently, planned exercises have historically lacked meaningful training objectives for the RAAF and RAN. Accordingly, during many exercises, the RAAF and RAN spend weeks ‘flying’ and ‘floating’ around a land-centric activity playing a supporting role to Army. Collectively, the RAAF and RAN decide that joint collective training and combined joint collective training is a waste of time and planning effort, and they should focus their attention on individual training and single-service collective training where they have tighter control over exercise objectives and outcomes. Therefore, the next time RAAF and RAN commanders are required to send planning staff to a joint collective training or combined joint collective training planning conference, the RAAF and RAN send even fewer qualified planners. Thus, the planned exercise affords even less useful training for the RAAF and RAN, and the cycle continues.

3.5: Development of jointness impeded by interservice rivalry

The tension between the levels of training is further exacerbated by the natural tension between individual military services, which has existed since airpower played its first role on the battlefield during World War One (WWI). Intuitively, each of the military services understands the requirement for the other services to exist. However, outcomes of training and, more importantly, the performance of individual services on operations are directly linked to government decisions on budget outcomes – interservice rivalry inflames existing tensions. Since WWI, the development of jointness in the UK, the US and Australia has been impeded by interservice rivalry. In the UK, following the end of WWI, ‘the young RAF faced an immediate fight for its institutional life’ (Biddle, 2002, p. 69). Hugh Trenchard, the first RAF Chief of the Air Staff (CAS), ‘had to articulate an ongoing *raison d’être* as a separate service’ (Biddle, 2002, p. 69). Eventually, ‘aggressive arguments for the continued existence of an independent RAF helped establish a pattern of exaggeration that would ultimately help create a gap between RAF declaratory

8. Based on author’s own experience, as noted above.

policy and its actual capabilities' (Biddle, 2002, p. 69). The US did not establish an independent Air Force until 18 September 1947. However, the US military was dogged by interservice rivalry during the interwar years and throughout WWII. The first significant operational mission for the USAF was the Berlin Airlift (1948–49).

The success of the USAF during the Berlin Airlift is not contested in any quarter. Without firing a shot, the airmen of the USAF 'were able to heal the wounds of a terrible war ... save the world from the advances of a new threat [from the Soviet Union] ... and bring freedom and democracy to a place that had never known them' (Cherny, 2009, p. 7). Nevertheless, the success of US airpower during WWII and the Berlin Airlift would hang like an albatross around the USAF's neck until the Goldwater-Nichols Act was passed in 1986. It took 25 years, between 1950 and 1975, during the wars in Korea and Vietnam, where airpower failed to meet the lofty expectations it set for itself to force the US to re-think the need for jointness (Kitfield, 1997). Indeed, it was not until Operation Desert Storm was brought to a successful conclusion in February 1991 that the USAF could finally overcome doubts about the effectiveness of airpower that persisted since the Korean War (Kitfield, 1997).

The ADF formed its first operational-level joint headquarters in 1996 (Evans, 2008). The Australian move followed the US's successful embrace of jointness in 1986 and its subsequent 'very great victory' during Operation Desert Storm in 1991 (Olsen, 2003, p. xiv). For the first time in Australia, the three services were responsible for RTS; however, these trained forces would then be 'force assigned' to Commander Australian Theatre (COMAST) for the duration of any operational deployments. In a twist eerily similar to the success the US Army Air Corps, US Army Air Forces and USAF achieved during WWII and the Berlin Airlift, the RAAF has performed exceptionally well during continuous operational deployments to East Timor and the MEAO since 1999. However, since 1999, these operations have almost exclusively been conducted in a low (or no) threat environment (Evans, 2008). Accordingly, these RAAF successes may have taught the RAAF leadership the wrong lessons – as with the USAF after WWII and the Berlin Airlift – leading to 25 years of soul-searching (Evans, 2008). Moreover, in 2014 when the RAAF deployed a strike force to the MEAO at short notice to counter a new emerging threat in Syria, it did so without thorough planning – the deployment was successful and conducted without incident (Robertson, 2015). However, the operations since 1999 involving the RAAF and the wider ADF do not accord with the most recent strategic guidance issued by the Australian Government. Accordingly, both the RAAF and the wider ADF may have been lulled into a false sense of security.

The solution. Creating a more effective exercise planning cycle will require a long-view, command-led, top-down approach that may initially appear synonymous to changing a golf swing – initial high cost – measured financially and on the scorecard, combined with a significant lag-time before scoring rewards are realized. Similarly, the significant

time lag between initial planning and execution for major joint collective training and combined joint collective training activities means a significant investment in the type of quality personnel who can design a meaningful training activity from the ground up – the ‘patch wearers’ – will appear, at first, to ‘cost’ commanders.⁹

Initially, because the ‘patches’ will need to be involved in long-term planning events, these high-quality and experienced individuals may not be available for the execution phase of nearer-term individual training and single-service collective training activities. Further, due to the biennial nature of many joint collective training and combined joint collective training iterations, it is probable that after deciding to attempt to break the ‘exercise planning vicious cycle’ by making a significant investment in high-quality personnel in year ‘A’, the training benefit will not be realized until year ‘C’. This time lag will require careful expectation management during year ‘B’ when units have been operating for up to one year without their best and brightest. However, because the year ‘B’ activity was planned prior to the training paradigm shift (during the year before year ‘A’), the training iteration in year ‘B’ will likely still offer little meaningful training.

Consequently, the only real solution to the exercise planning conundrum is to take the long view. Commanders at all levels must accept that the short-term *hurt* of removing high-caliber staff from line-flying roles and assigning them to wing and group planning staff must be embraced and sustained. It is the only way to break the cycle, and, like an improved golf swing, positive results will follow in time.

CAF recently enunciated his plan to help shift the focus of RAAF by ‘resisting platform-centric thought’, and shifting ‘the focus of Force Generation (FORGEN) and preparedness away from simplistic approaches to quantify readiness within a stove-piped force element construct’ (Hupfeld, 2020d, p. 8). Further, CAF has initiated a task to ‘explore the relevance of Air Forces organizational structure to better enable horizontal integration’. (Hupfeld, 2020d, p. 8). Chapter 4 looks more specifically at the RAAF FORGEN system and begins the conversation about how it might become optimized if the RAAF organizational structure is changed. Proposed organizational changes are discussed in Chapter 6.

9. The term ‘patch wearer’ refers to any graduate of the RAAF Air Warfare Instructor Course. The RAAF course is similar in length and intensity to the USAF Weapon Instructor Course. Graduates wear a ‘graduate’ patch to signify successful completion of either of these courses.

CHAPTER 4

THE READINESS CYCLE – WHERE DOES THE RAAF FIT IN?

We are too busy mopping the floor, we don't have the time to turn the tap off.

Anonymous¹

The opening quote accurately depicts the current feeling across many squadrons, wings and groups across the RAAF today. Moreover, the same feeling exists within some areas of the operational-level headquarters, HQAC.² A great deal of work is currently being undertaken to address many of the shortcomings addressed in this chapter. Much of this work has been designed to address weaknesses in the RAAF FORGEN process. For the purposes of this work, FORGEN is defined as the RAAF being ready to provide suitably trained and equipped forces for current and potential future tasks, within required readiness and preparation times (ACAUST, 2020). Many of the long overdue changes have sought to address a misalignment between strategic-level FORGEN requirements and tactical-level FORGEN desires. However, this task is still a long way from complete.

This chapter continues to build on the paper's central thesis – that the current organizational structure of the RAAF, which was designed in 1986, is no longer optimized to raise, train and sustain a modern, world-class small air force capable of networked and integrated, joint and combined operations in 2021 and beyond. The main thrust of this chapter is that the current RAAF organizational structure directly contributes to several inefficiencies within the RAAF FORGEN cycle. Moreover, these *organizational inefficiencies* lead to problems in training for *combat effectiveness*.

First, this chapter asserts there is a dislocation or constant tension between the top-down, HQJOC-led Program of ADF Activities (PADFA), and the bottom-up, unit- and

1. The genesis of this quote was not able to be established.
2. Based on the author's own experience combined with interviews with HQAC members. The author worked as a Staff Officer to the Deputy Director Exercises and International Engagements (DD-E&IE) from May 2017 to May 2018. In May 2018 the author was promoted to the role of DD-E&IE; he performed this role until January 2019.

wing-led Air Command Activity Plan (ACAP).³ Second, this chapter investigates the disparity between the organizational makeup of many of the tactical-level RAAF headquarters. It posits that, over time, the organization of some wings and groups has become optimized, whereas others have not. Third, this chapter begins the conversation about the RAAF international engagement (IE) exercise strategy. It posits that the RAAF IE exercise strategy is currently not sufficiently agile to meet dynamic strategic intent, leading to exercises being planned with little regard for changing technology or changes to strategic IE intent. Further, it asserts the IE component of the exercise schedule continues to expand as new exercises are added, yet in practice, very few exercises are ever removed from the schedule. These additions to the exercise schedule lead to even higher instances of ‘planning churn’, and additional pressure on an already unbalanced force structure.

4.1: Background and context

The problem, and thus the solution, is two-sided. Fortunately, both sides of the problem can be explored, and solutions can be developed concurrently. This chapter looks at both sides of the problem, FORGEN and the RAAF organizational structure. The blame for RTS shortcomings and misalignment with strategic guidance cannot be laid solely at the feet of the RAAF. Indeed, the latest edition of the Chief of Defence Force Preparedness Directive (CPD), signed on 11 December 2020, was still the result of significant ‘bottom-up’ input rather than ‘top-down’ direction (J. Easthope, personal communication, 02 December 2020; A. Grady, personal communication, 02 December 2020). This bottom-up phenomenon has existed within the ADF for many years (B. Kourelakos, personal communication, 01 September 2020; S. Lamarche, personal communication, 01 February 2021). Like the RAAF organizational structure, the entire CPD development process has developed its own life cycle, which will require strong leadership, sustained resolve and tenacity to break. The current Chief of the Australian Defence Force (CDF), General Angus Campbell, addressed the problems associated with the development of the CPD in a speech at the Preparedness Forum in Canberra on 05–06 March 2019. During the forum, CDF asserted that the current defence preparedness management system and CPD did not provide sufficient strategic guidance to enable adaption to changing strategic circumstances. Further, CDF warned that the ADF’s current perspective of preparedness would not serve the ADF well within an evolving strategic context, and the ADF needed to broaden and deepen its conception of preparedness (Campbell, 2019).

3. There was no PADFA released in 2020. HQJOC is endeavoring to make use of the ‘always live’ defence synchronization tool, and the annual collective training guidance. There is currently a HQJOC-led project looking at integrated theatre campaign management.

The RAAF is currently a workforce under pressure, with mid-level commanders doing the best they can to match tactical-level FORGEN to strategic guidance.⁴ A lack of top-down direction results in squadron, wing and group commanders setting and prioritizing FORGEN events from the bottom up.⁵ These commanders exercise their best individual (and collective) judgment to set the FORGEN vector. However, these judgments are often skewed and biased by a cognitive process Robert Jervis (2017) describes as ‘the impact of the evoked set’. Jervis (2017) explains the impact of the evoked set on individual decision-makers – in short, in the absence of clear direction, pre-existing beliefs and perceptions lead to a prevalence of ‘cognitive closure’ (p. 215). Moreover, even when individuals receive new information (such as new or updated strategic direction), ‘people perceive incoming information in the terms of the problems they are [currently] dealing with and what is on their mind when the information is received – to re-orient one’s attention is difficult’ (Jervis, 2017, p. 215).

In practice, the lack of top-down direction, combined with the cognitive effects of the evoked set, has manifested itself in commanders pursuing the type of FORGEN that best suits their ‘deeply rooted expectations’ of what is required (Jervis, 2017, p. 203). For instance, a commander who has worked extensively with the Army might prioritize air-land integration training over other forms of FORGEN. Whereas, a commander who spent their career working with the Navy in the maritime environment might set training priorities around air-maritime integration. Such training priorities, although laudable, in the absence of operational-level direction, often lead to significant vector changes within the tactical environment as various levels of ‘new’ commanders fill the various squadron, wing and group leadership roles. Such RTS priority vector changes create significant ‘planning churn’ and add additional workplace stress within tactical and operational headquarters. Indeed, at least as far back as November 2016, the CAFAC discussed workplace stressors. During CAFAC 05-2016, CAF expressed concern about a spike in mental health issues and people complaining about working long hours and working in stressful environments (CAFAC, 2017a).

4.2: Dislocation between top-down direction and bottom-up desire

Chapter 3 exposed a dislocation between the training priorities of the wider ADF and the RAAF. Despite a number of documents, speeches and interviews demonstrating that

4. Based on interviews with several current RAAF O-6 and O-7 commanders, including CDR ACG, CDR AMG, CDR SRG, CDR CSG, DGAIR, DGFORGEN.

5. The 2019 appointment of a one-star officer as Director General Force Generation (DGFORGEN) and the February 2021 creation of HQAC Preparedness Branch have sought to directly address this issue. An email from HQAC Director FORGEN and Exercise Planning indicates that many positive steps have been taken to address the issue of ‘bottom-up’ prioritization.

CAF guidance and RAAF training priorities are in lockstep with strategic Government and ADFHQ direction, a misalignment remains between strategic guidance and tactical execution (Hupfeld, 2020a, 2020d). Indeed, ‘traditionally, FEG-level [group level] RTS or FORGEN plans – where they existed – were derived organically, often independently of strategic direction, and in the absence of clear direction from HQAC’ (A. Grady, personal communication, 06 September 2020). Further, the RAAF had become wedded to ‘platform-centric methodologies – upon which current Air Force plans had traditionally been based – [which were] unlikely to achieve strategic objectives’ (A. Grady, personal communication, 06 September 2020). To counter this phenomenon, once the position of DGFORGEN was established in 2018, he immediately initiated a process to ‘map’ the tactical-level RTS being conducted against both strategic guidance and (newly created) operational objectives. The results of this ‘mapping’ demonstrated several areas where divergence between strategic direction and tactical execution (of FORGEN) had created peaks of over-training and troughs of under-training (A. Grady, personal communication, 06 September 2020).

CAF enunciated his central vision several times during an interview with the Williams Foundation. When discussing RAAF’s imminent 100th birthday, AIRMSHL Hupfeld stated, ‘it’s all about where to take the RAAF in the next 100 years – it’s all about the joint force’ (Williams Foundation, 2020a, 4:00). In contrast, particularly at the unit and wing level, commanders are under increasing pressure resulting from higher levels of scrutiny due to increased real-time availability of data; reduced time due to faster communications; and increased oversight and governance pressures due in part to the proliferation of additional senior officers described in Chapter 2. Unit and wing commanders are often forced to ‘pursue many ends, often unrelated, and even contradictory, connected, if at all, only in some *de facto* way’ (Gaddis, 2018, p. 4). Indeed, some RAAF leaders experience a feeling of being pushed and pulled simultaneously in multiple directions – using their best judgment while operating in a void of operational direction.⁶ Until as recently as 2019, the absence of coherent top-down direction created a situation where units, wings and groups decided their own (RTS) training priorities (A. Grady, personal communication, 06 September 2020).

Changes are occurring in the FORGEN and preparedness directorates of the RAAF and the wider ADF. ACAUST signed the inaugural HQAC Force Generation Directive on 02 March 2020. Then on 27 November 2020, AFHQ released the inaugural Air Force Preparedness Directive. Finally, when CDF released the CPD on 11 December 2020, for the first time, the ADF had the beginnings of a top-down, strategy-led FORGEN plan. Indeed, the CPD declares that it ‘is the executive document within the Defence

6. Based on interviews with several current RAAF O-6 and O-7 commanders, including CDR ACG, CDR AMG, CDR SRG, CDR CSG, DGAIR, DGFORGEN.

Preparedness Management System (DPMS) that establishes the baseline for Defence's preparedness posture in order to meet government requirements' (Campbell, 2020).

Following the release of the inaugural Air Force Preparedness Directive, DGFORGEN set about developing a more tactical-level focused Air Command Directive tailored to each of the FEGs. The first versions of the individual FEG-level FORGEN Directives will become effective on 01 July 2021. The FEG FORGEN Directives aim to mitigate the lower-level commanders' feelings (as described earlier in this chapter) that they are being pulled in multiple directions, trying to utilize their best judgment about how tactical-level training can meet more opaque strategic guidance. The FEG FORGEN Directives seek to:

Set clear and measurable FORGEN outcomes ... [and represent] a shift from the quantitative to the qualitative aspect of preparedness, less about aircraft numbers and readiness notice, more about defining and articulating what is required from subordinate commanders and those who will conduct the mission. (A. Grady, personal communication, 06 September 2020)

Indeed, the FEG FORGEN Directives aim to 'ensure that ADF priorities are reflected in the plans, and they better allow collective training to be synchronized around key joint priorities', making sure the FEGs are 'better placed to support the equally important subordinate training regimes and processes which ultimately provide the foundations for high-end joint collective training' (A. Grady, personal communication, 06 September 2020).

With all the current changes within the preparedness space, the timing is perfect for enterprise-wide organizational change. Indeed, CAF has acknowledged 'the preparedness management process will not be perfect on initiation, nor the transition without challenges' (Hupfeld, 2020b). The RAAF should seize the opportunity for enterprise-wide organizational change presented by this important step-change. Such organizational change will equally be layered with challenges; however, little meaningful change is ever achieved without struggle.

4.3: Organizational disparity between units, wings and groups

Of the six RAAF FEGs, the primary concern of this section is the four combat-focused FEGs: Air Combat Group (ACG), Air Mobility Group (AMG), Surveillance and Response Group (SRG) and Combat Support Group (CSG). This work does not look in detail at the Air Warfare Centre because its structure is still embryonic. The Air Warfare Centre was established in 2016 and only achieved final operating capability in 2020.⁷ Further,

7. See the RAAF Air Warfare Centre website, <https://www.airforce.gov.au/about-us/structure/air-command-headquarters/air-warfare-centre>

this work does not consider the Air Force Training Group in detail. However, this section contains a great deal of data, which is important to step through because it is aggregated from a variety of sources. Therefore, it is plausible, indeed likely, that many senior leaders have never been exposed to the data in this format.

Since 1988, additional squadrons and wings have been ‘bolted’ onto the side of the original design of the FEG structure. Although well-intentioned, these actions have created second- and third-order unintended consequences – they have resulted in some organizational ‘haves’ and ‘have nots’.⁸ In his book *Out of the Mountains*, David Kilcullen (2015) uses the term ‘networked connectivity’ to describe how increased technology, communications and connectedness have allowed terrorist organizations to move ‘out of the mountains’ and into the cities where they are harder to find, fix, track and target. This work posits that some squadrons, wings and FEGs are better placed to withstand the additional pressure, administrative scrutiny and governance associated with the burden of ever-increasing networked connectivity. Meanwhile, others get trapped in a spiral and bounce from crisis to crisis without the time, or wherewithal, to plot their way out – they are too busy mopping the floor to take the time to turn the tap off. The ‘have nots’ do not have time to draft countless AFODs to improve their organization – they simply suffer what they must. During interviews for this work, overwhelmingly, the FEG that attracted the most ‘pity’ was CSG, as this group was seen as most often pulled from crisis to crisis. Conversely, the FEG seen to have the most ‘optimized’ organizational structure was ACG.⁹

A review of the number of headquarters personnel posted to the four FEGs that are the focus of this work demonstrates quantitatively that the imbalance is borne out in data. In 2020, ACG had positions established for 156 headquarters personnel. The next largest was Headquarters Surveillance and Response Group (HQSRG), with 139 positions established for headquarters staff, followed by the last of the flying FEGs AMG, with 121 positions established for headquarters staff. Finally, in fourth position was the only non-flying FEG, CSG, with positions established for just 72 full-time staff.¹⁰ The net number of headquarters staff may not show the complete picture. Indeed, some argue the FEGs with aircraft require more staff to cope with the additional governance associated with airworthiness (B. Kourelakos, personal communication, 05 March 2021). That said, an equally compelling argument maintains even FEGs without aircraft are exposed to a similar degree of governance and oversight through the Airworthiness Board

8. Based on interviews with several current RAAF O-6 and O-7 commanders, including CDR ACG, CDR AMG, CDR SRG, CDR CSG, DGAIR, DGFORGEN.

9. Based on interviews with several current RAAF O-6 and O-7 commanders, including CDR ACG, CDR AMG, CDR SRG, CDR CSG, DGAIR, DGFORGEN.

10. Data drawn from a workforce spreadsheet provided by the AFHQ, Directorate of Workforce Plans and Reserves-Air Force (DWP&R-AF), 07 December 2020.

process.¹¹ It is certainly plausible that flying wings and groups require higher numbers of headquarters staff to conduct airworthiness governance. However, it is similarly plausible that flying wings and groups have, over time, received preferential staffing treatment within a pilot-led organization.

To continue this line of inquiry, the headquarters staff data was compared against the number of (full-time) personnel for which each of the FEGs was responsible. In 2020, ACG had a total funded strength of 1700 full-time RAAF personnel, and Headquarters ACG (HQACG) had a total funded strength of 156 full-time RAAF personnel;¹² that is, a 1:11 ratio of headquarters staff to total FEG personnel. AMG has a relatively small number of full-time staff (1403). When the total staff number is divided by its number of HQ staff (121), HQAMG has the second-highest ratio of HQ staff to total personnel at 1:12.¹³ SRG has a total of 1935 full-time personnel and HQSRG has a total of 139 full-time personnel, a ratio of 1:14.¹⁴ In fourth place in both total full-time HQ staff and ratio of HQ personnel to total personnel is the only non-flying FEG, CSG. CSG has a total number of full-time personnel of 3100¹⁵ and HQCSG has a total full-time establishment of 72 personnel, which is a ratio of 1:43. The details of the data contained in this section of the paper are displayed in Table 7.

TABLE 7: Ratio of FEG headquarters personnel to total FEG personnel, by FEG, 2020

FEG	Total FEG HQ Personnel ¹⁶	Total FEG Personnel ¹⁷	Ratio of FEG HQ Personnel to Total Personnel
ACG	156	1700	1:11
AMG	121	1403	1:12
SRG	139	1935	1:14
CSG	72	3100	1:43

Source: Author's original work based on data received from AFHQ

11. Despite the name 'Airworthiness Board', all RAAF groups, both flying and non-flying, are exposed to the detailed Airworthiness Board process.
12. Data drawn from a workforce spreadsheet provided by the AFHQ, Directorate of Workforce Plans and Reserves-Air Force (DWP&R-AF), 07 December 2020.
13. Ibid.
14. Ibid.
15. Ibid.
16. This column represents the number of established full-time positions in the FEG HQ only. It does not include the subordinate Wing and Squadron HQs.
17. This column represents the number of established full-time positions in the entire FEG. It includes personnel in all of the subordinate Wings and Squadrons.

RAAF’s ability to generate readiness is directly linked to and impacted by its operational-level and tactical-level headquarters’ ability to plan and conduct effective FORGEN activities. Regarding the ACG’s and CSG’s respective ability to effectively plan and execute FORGEN activities, it is difficult to conclude anything other than that ACG, with almost four times (1:11 versus 1:43) the planning capacity, is in a much stronger position to conduct FORGEN planning. Indeed, the feeling among several FEG CDRs was that CSG simply gets pulled from one crisis to the next is supported by the data.

There is a general belief that within the RAAF, there are some FEGs with a strong FEG HQ and weak Wing HQ; some FEGs with weak FEG HQ but strong Wing HQs; and other FEGs that have a more balanced structure between FEG and Wing HQ. Moreover, because FEG CDRs ‘own’ their subordinate Wings and Squadrons, it was seen as a choice made by FEG CDRs to have either a strong FEG HQ, strong Wing HQs or more balanced HQs across the FEG and Wings.¹⁸

To test this hypothesis, the total number of HQ personnel from across each FEG, including its subordinate Wings, was aggregated to establish the total number of HQ personnel available to each FEG CDR to divide among their FEG and Wing HQ as they saw fit. The total number of FEG personnel was again divided by the new aggregated ‘total HQ personnel available’ number to form a ratio of total HQ staff available to total FEG personnel. The results using this methodology are detailed in Table 8.

TABLE 8: Ratio of all headquarters personnel (both FEG and wing) to total FEG personnel, by FEG, 2020

FEG	Total HQ Personnel ¹⁹	Total FEG Personnel ²⁰	Ratio all HQ Personnel to Total Personnel
ACG	422	1700	1:4
AMG	165	1403	1:9
SRG	387	1935	1:5
CSG	187	3100	1:17

Source: Author’s original work based on data received from AFHQ

18. Based on interviews with several current RAAF O-6 and O-7 commanders, including CDR ACG, CDR AMG, CDR SRG, CDR CSG, DGAIR, DGFORGEN.

19. This column represents the number of established full-time positions in the FEG HQ combined with the number of HQ personnel in all subordinate Wing HQs.

20. This column represents the number of established full-time positions in the entire FEG. It includes personnel in all of the subordinate Wings and Squadrons.

The hypothesis put forward by several senior leaders – that FEG Commanders could choose to have a strong FEG HQ and weaker Wing HQs; a weak FEG HQ but stronger Wing HQs; or a balance of the two – was not borne out in the data. ACG retains over 400% more total HQ personnel (and thus planning capacity) ‘per capita’ than CSG; SRG has 340% more total HQ staff than CSG; and AMG has 190% more total HQ staff than CSG.

Because of the large deviation between staffing levels within various headquarters organizations, prima facie, some of the HQ data warrants further investigation. For instance, just one of ACG’s subordinate wings, 81 Wing, has 193 HQ personnel, meaning a single ACG subordinate wing HQ has more personnel than all five CSG HQs (including CSG HQ) combined. Indeed, ACG’s 81 Wing has 193 HQ personnel to provide governance, oversight and planning for a total of 886 Wing personnel (1:5); whereas, over at CSG, 95 Wing has 26 HQ personnel to provide governance, oversight and planning for a total of 1295 Wing personnel (1:50). A selection of data to demonstrate how disparate the current organization of some Wing HQ compared to the number of personnel under the command of those wings is contained in Table 9 below.

TABLE 9: Ratio of wing headquarters personnel to total wing personnel, 2020

Wing (parent FEG)	Total Wing HQ Personnel ²¹	Total Wing Personnel ²²	Ratio Wing HQ Personnel to Total Personnel
81 Wing (ACG)	193	886	1:5
92 Wing (SRG)	132	500	1:4
95 Wing (CSG)	26	1295	1:50
96 Wing (CSG)	31	1376	1:44

Source: Author’s original work based on data received from AFHQ

In short, there is significant organizational disparity across the FEG and wing organizational structures. This data supports the hypothesis that some FEGs and wings are better organizationally equipped to withstand the rigors of governance, oversight, and planning and executing effective RTS, whereas others are inhibited by the system within which they struggle to survive and prosper.

21. This column represents the number of established full-time positions in the Wing HQ.

22. This column represents the number of established full-time positions in the entire wing. It includes personnel in all of the subordinate Squadrons.

4.4: International engagement exercises – added complexity, low RTS benefit

The Air Force Strategy devotes significant attention to the importance of IE (Hupfeld, 2020d). Indeed, there are many positive aspects that flow from IE exercises and other activities. However, the conduct of IE activities costs significant amounts of money and ties up significant quantities of personnel and materiel that could be engaged in other FORGEN activities. The current Air Force IE Plan ‘is overly ambitious and very difficult to support due to numerous competing interests and limited resources’ (N. Pratt, personal communication, 20 March 2021). Exercises designed for IE add complexity to the ACAP; this complexity is multi-faceted. First, IE exercises add rigidity and complexity to the exercise schedule because IE exercise timing is often linked to the availability of the partner nation and the weather in the exercise area. Moreover, once an exercise is planned – often more than one year ahead of execution – the timing of the exercise becomes almost immovable. Accordingly, because the ADF tries to avoid disappointing partner nations, aircraft unserviceability and other short-notice operations mean that even when the ADF prepares a mature, HQJOC-led PADFA for Combined Joint Collective Training (CJCT), Joint Collective Training (JCT) and Collective Training (CT), the PADFA can become destabilized and the subject of tension due to a need for prioritization between high-benefit exercises and less (RTS) beneficial IE exercises.

Second, it is widely acknowledged across Air Force that many IE exercises provide very little RTS benefit to the RAAF.²³ Third, historically, the RAAF has been reticent to cancel, delay or change the frequency of IE exercises. However, new IE exercises are regularly added to the ACAP.²⁴ The net effect of these two competing phenomena is a busier exercise schedule, resulting in friction between low-value and high-value RTS as described in Chapter 3. Fourth, as the RAAF brings more new platforms, technology and capabilities online, there is another series of exercises that do not technically belong under the title of ‘IE exercises’ because they are specifically designed to produce a high RTS benefit. However, as these involve the planning and execution of exercises with partner nations, they are addressed in this chapter. In the short time since 2018, a significant number of new ‘international’ exercises have been added to the ACAP.²⁵ Due to the ‘international’ nature of these exercises, the additional travel required means the exercise planning cycle becomes longer and even more complex.²⁶

23. Based on author’s own experience as HQAC DD-E&IE and interviews with several current RAAF O-6 and O-7 commanders, including CDR ACG, CDR AMG, CDR SRG, CDR CSG, DGAIR, DGFORGEN.

24. Author’s own experience as HQAC DD-E&IE.

25. Detail drawn from data contained in the HQAC, A7 Directorate, HQAC-MAP 2018–2022 spreadsheet, 01 December 2020.

26. Ibid.

Fifth, since its inception in 2012, the US Marine Rotational Force in Darwin (MRF-D) has become a larger deployed force and more embedded in the ACAP.²⁷ Although the MRF-D exercises with forces from across the joint force, recently, there has been a significant desire to expand the concept of ‘enhanced air cooperation’, meaning the RAAF is playing a larger role. While beneficial to both the US and Australia, this integration continues to add pressure to the already task-saturated ACAP.²⁸ Finally, while a considerable number of additional ‘international’ and ‘MRF-D’ exercises have been added to the schedule over the past four years, very few of the ‘legacy’ exercises have been removed from the ACAP. Due to classification issues, these legacy exercises provide lower RTS benefit to prepare for the likelihood of high-end, high-intensity warfighting.²⁹

To reduce the IE pressure on the ACAP, the RAAF should initiate a line-by-line review of the current Air Force IE Plan to ‘map’ activities against strategic-level direction and tactical-level RTS requirements. Further, DIE-AF must indicate which IE exercises can either be removed from the ACAP entirely or have their frequency reduced. Like any other organization, the annual exercise ‘battle rhythm’ must be set in a top-down manner. HQJOC, as the lead agency for CJCT and JCT, must block out the weeks of the year when they require all domains to be available for CJCT and JCT. Next, following the RTS and IE exercise review, HQAC must block out the weeks of the year that it requires for CT and IE exercises. Finally, the FEGs will be left with ‘white space’ in the annual calendar to plan and execute unit-level and other FEG-specific RTS. Like any change, the process will not be easy. Many exercises are conducted on a 24-month planning cycle. Chapter 5 investigates other similar air forces to see how they are organized to address similar issues that the RAAF faces today. Then, Chapter 6 offers some recommendations for resolution.

27. For more details, see <https://www.marforpac.marines.mil/MRFDarwin/>

28. Detail drawn from data contained in the HQAC, A7 Directorate, HQAC-MAP 2018–2022 spreadsheet, 01 December 2020.

29. *Ibid.*

CHAPTER 5

WHAT OTHERS ARE DOING

5.1: Background and context

To address some of the issues identified in Chapters 1–4, this chapter investigates the organizational structure of several air forces from around the world, alongside one non-air force organizational structure, the Australian Army. First, this chapter looks at the air forces of the United Kingdom (UK), Canada and the Netherlands. These three air forces were selected as archetypes for several reasons. First, two of the nations are fellow Commonwealth nations; second, they fly similar fleets of ‘Western’ (mostly US) aircraft; and third, they have similar-sized air forces. Fourth, both the UK and Canada share some geographic similarities with Australia – they are both (nearly) wholly surrounded by water, and Canada has a very similar landmass. Fifth, as part of the ‘five-eyes’ community, the RAF and RCAF share a similar culture, geopolitical ambitions and strategic goals as the RAAF. Finally, the respective sizes of each of these air forces provide a good ‘bracketing’ of the RAAF size: the RAF is twice the size of the RAAF, the RCAF is the same size as the RAAF and the RNLAFF is half the size of the RAAF.

Next, this chapter investigates the USAF ‘Composite Wing’ concept; it explores the advantages and disadvantages associated with mixed capability flying wings. Although the USAF is significantly larger than the RAAF, it is included in this work because a USAF wing is equivalent in size to an RAAF group. Thus, despite the obvious differences in total force size, at the component or formation level, they remain very similar. Further, along with the UK and Canada, the US shares a similar culture, geopolitical ambitions and strategic goals.

Finally, this chapter returns to Australia to investigate the outcome – 10 years on – of a total, enterprise-wide organizational restructure of the Australian Army (called Plan Beersheba). Prior to 2011, the Australian Army, like the RAAF today, was organized functionally – infantry with infantry, light armor with light armor, heavy armor with heavy armor, and so on. Plan Beersheba elucidates many of the key lessons for the RAAF moving forward.

5.2: Introduction to the five case studies

As air forces around the world start to turn 100 years old, one of this work’s initial hypotheses considered it unlikely there was much ‘new’ to be discovered about how best

to organize a modern air force for high-intensity conflict. Indeed, it was anticipated that a fit-for-purpose, off-the-shelf organizational design would be found, and organizational architecture simply converted to the Australian context and then optimized. However, as the research progressed, the level of difficulty associated with the research question became apparent. Indeed, this difficulty might explain why so many air forces around the world have elected to delay organizational change for so many years. The difficulty of the task ahead for the RAAF is significant; however, it is likely being made more and more complex with each passing year.

In a recent publication released by the Chief of Staff of the USAF, *Accelerate Change or Lose*, General Brown (2020) put forward a sobering message to the USAF. Brown (2020) asserts that the dynamic world environment, combined with new strategic challenges, has resulted in the USAF having a ‘unique – but limited – window of opportunity’ with which to ‘accelerate change to control and exploit the air domain ... [however] if we don’t change – if we fail to adapt – we risk losing’ (pp. 2–3). Moreover, Brown told his force that the USAF risks losing in great power competition in a high-end fight. Brown (2020) foresees a time when American airmen:

Are more likely to fight in highly contested environments ... [with] combat attrition rates and risks to the nation more akin to the World War II (WWII) era than to the uncontested environment to which [the USAF] have become accustomed. (p. 3)

Despite their size difference, the RAAF and the USAF are currently trying to deal with several of the same issues. Indeed, Brown (2020) proclaimed that to be successful, the USAF:

Must reframe platform-centric debates to focus instead on capabilities to execute the mission ... we [the USAF] must align Air Force processes and force presentation to better support readiness, the generation of combat power, and warfighting ... we must empower Airmen at all levels, delegating to the lowest capable and competent level possible ... we must candidly assess ourselves and address our own internal impediments to change ... [and] the USAF must *accelerate the evolution of its* operational concepts and *force structure to optimize* its contribution to Joint All Domain Operations. (p. 5)

5.3: Case study 1 – The Royal Air Force

The RAF is the oldest air force in the world; it turned 100 in April 2018. In the lead-up to the RAF’s 100th birthday, during the RAF Air Power Conference in 2017, then RAF CAS, Air Chief Marshal Sir Stephen Hillier (2017), warned the audience that ‘the challenge has arrived to the airpower supremacy we have enjoyed for the last couple of decades. We will now have to fight – and fight hard – to achieve and maintain control of the air and space’ (p. 2). Moreover, during his speech, Hillier (2017) detailed the challenges facing

the RAF in the years ahead and spoke of ‘meeting the people challenge [by] focusing on our core roles and *adjusting our structures*, to ensure that we maximize capability at the front-line’ (pp. 4–5). The challenges he detailed were very similar to those expressed by RAAF leaders in the lead-up to the RAAF’s 100th anniversary, addressed earlier in this work. Indeed, they are the same set of challenges detailed by USAF Gen Brown earlier in this chapter.

Accordingly, Gen Brown and ACM Hillier appear to be in lockstep with what is required – that is, enterprise-level organizational change to meet future high-intensity challenges. Near the end of his address to the 2017 RAF Airpower Conference, ACM Hillier spoke about the scope and speed of modern communications and information. These technological advances, posited Hillier (2017), offered ‘the chance to advance our capabilities by challenging our established ways of doing things ... [providing] an irresistible impetus to adapt, innovate, and change ... [this] is at the heart of delivering a Next Generation Air Force’ (p. 4). Moreover, Hillier (2017) reinforced the need for the RAF to ‘think, innovate, and organize more creatively and rapidly than ever before: the evolving strategic environment demands that we must’ (p. 2).

The RAF is roughly twice the size of the RAAF; in April 2020, the RAF had 32,940 full-time regular personnel (Ministry of Defence, 2020). Despite the difference in size, the RAF’s organizational building blocks (groups, wings and squadrons) are the same as the RAAF. From this point, the RAF and RAAF organizational structures begin to diverge. The RAAF has a separate group for many of its primary *airpower roles*, such as ACG, AMG, SRG and CSG. Conversely, prior to its most recent organizational restructure in November 2018, the RAF was separated into four mixed-capability groups: Number 1 Group, primarily fast-jet fighter/combat aircraft and intelligence, surveillance, targeting and reconnaissance aircraft; Number 2 Group, predominantly air mobility, force protection, battlespace management and support forces; Number 22 Group, predominantly training; and Number 83 Expeditionary Air Group, responsible for the four Expeditionary Air Wings (RAF, 2021).

The focus of this section is on 1 Group, 2 Group and the newly formed 11 Group.¹ Prior to the 2018 RAF reorganization, Number 1 Group and Number 2 Group were led by two-star officers. Each of the Group Commanders reported directly to a three-star officer, the Deputy Commander Operations. Outside the Group construct sat a one-star officer, Chief of Staff Operations (COS Ops), who was charged with the operational employment of the forces that had been ‘raised, trained and sustained’ by 1 Group and 2 Group (R. Machin, personal communication, 23 January 2021). The RAF COS Ops filled a similar role to that currently performed in the RAAF by Director General Air (DGAIR).

1. 11 Group was formed on 01 November 2018.

According to the RAF (2021), the formation of 11 Group was designed primarily to enable the ‘conduct of operations across multiple environments or domains, particularly, air, space, and cyber’ allowing the data collected to be focused and integrated, fused with intelligence, and then ‘incorporated into the planning and execution of operations across the domains’. However, the creation of a new two-star officer position also neatly addressed a structural/rank imbalance, which had previously seen a one-star officer (COS Ops) endeavoring to make prioritization calls on the utilization and employment of aircraft and personnel ‘owned’ by two-star officers – the commanders of 1 Group and 2 Group. Unfortunately for proponents of organizational change, the creation of 11 Group did not represent just one small change in a range of extensive enterprise-level organizational changes. Indeed, aside from the creation of a new two-star position, the remainder of the much-heralded ‘RAF Centenary’ organizational changes are easily consigned to ‘tinkering in the organizational margin’, not the meaningful organizational change ACM Hillier foreshadowed in 2017.

Lessons for the RAAF from the organization of the RAF. Although the most recent RAF organizational change was not wide-ranging, key lessons can still be gleaned from the RAF organizational structure. First, the RAF successfully operates mixed-capability groups, such as Number 1 Group, which combines the core airpower roles of *Control of the Air*, *Strike*, and *ISR*. Further, Number 2 Group successfully combines the core airpower role of *Air Mobility* with the airpower enabling roles of *Command and Control*, *Force Protection*, and *Force Generation and Sustainment*. Chapter 6 of this work will assert that the new RAAF organizational structure can go one step further and field mixed-capability groups that contain many of the roles from 1 Group and 2 Group combined into one single Multi-Role Combat Group (MRCG).

Second, the RAF case study demonstrated that organizational change is hard. Regardless of how unambiguous and resolute the intent for organizational change from the highest levels of command, ultimately, without ruthless execution, it is possible to start with good intentions, yet finish having merely tinkered in the margin. Indeed, like the RAAF experience since 2003 (detailed in Chapter 2), the primary outcome of organizational change can result merely in the creation of new star-ranked officer positions. Finally, a comparison between the ‘rank balance’ of the RAF and the RAAF reveals the RAF has 116 star-ranked officers for its 32,862, a ratio of one star-ranked officer for every 283 airmen (1:283), slightly lower than the RAAF (1:262) (Ministry of Defence, 2020).

5.4: Case study 2 – The Royal Canadian Air Force

Like the RAF, the RCAF shares many cultural, geopolitical and strategic similarities with the RAAF, making it a good comparative case study. Also similar to Australia and the UK, Canada is surrounded by water, apart from its land border with the US. Also like the RAAF and RAF, the RCAF is part of the ‘five-eyes’ intelligence sharing agreement, and it flies a mixture of US and European aircraft. Further, Canada shares another significant similarity with both the US and Australia in that they are the second largest (Canada), third largest (US), and sixth largest (Australia) countries by landmass in the world (Statista, 2019). The RCAF (14,500) is almost identical in size to the RAAF (14,365) (K.L. Harvey, personal communication, 26 January 2021).

Given all the geographical, population and alliance similarities between Canada and Australia, one could hypothesize that if there were ‘an optimized small air force organizational structure, for a large (landmass) country, with a small population’, then after a cumulative 196 years of operational service, either Australia or Canada would have established such an optimized construct by 2021. However, at the operational level, the RCAF is organized differently from both the RAAF and the RAF.

The RCAF (2021b) undertook its last wide-ranging organizational restructure in 2009. At the operational level, the RCAF (2020) is divided into two ‘Air Divisions’, 1 Canadian Air Division (1 CAD), and 2 Canadian Air Division (2 CAD). 1 CAD is commanded by a two-star officer, and 2 CAD is commanded by a one-star officer (RCAF, 2021a). The following are some of the major structural differences between the organization of the RCAF and the RAAF. First, although not the focus of this work, the RCAF ‘Air Staff’ work directly for the strategic-level (three-star) headquarters; whereas, in the RAAF the ‘Air Staff’ work for the operational-level (two-star) headquarters. Second, the two-star Commander of 1 CAD is responsible for all of the operational forces in the RCAF; however, the training organizations (and all trainees) fall under the jurisdiction of the Commander 2 CAD. In the RAAF, the two-star, operational-level commander is responsible for all the operational and training organizations (and trainees). Third, the RCAF (2020) is organized and commanded on a ‘geographical’ basis. Commander 1 CAD exercises command over 14 Wings that are geographically spread across Canada. The 14 RCAF Wings that belong to 1 CAD ‘vary in size from several hundred personnel ... to larger wings ... with several thousand personnel’ (RCAF, 2021c). The 14 RCAF Wings are commanded by a Colonel (O-6) or a Lieutenant Colonel (O-5).

Lessons for the RAAF from the organization of the RCAF. The key lessons for the RAAF that can be drawn from the RCAF case study are as follows. First, the RCAF (2021c) operates as 14 autonomous geographically-based mixed-capability Wings rather than by functional type groups. Many of the 14 RCAF Wings combine mixed capabilities, such as control of the air and strike, maritime patrol, ISR, mobility, air

battle management, air traffic control, engineering, aircraft maintenance, intelligence and catering, under one command. Significantly for the recommendations in Chapter 6, these mixed capabilities are commanded by a Colonel (O-6) or a Lieutenant Colonel (O-5) (K.L. Harvey, personal communication, 26 January 2021).

Second, commanders in the RCAF generally have greater ‘span-of-command’ than the equivalent grade of officers in the RAAF. Indeed, O-6 graded officers in the RCAF’s three largest wings (8 WG, 4 WG, and 14 WG) command 1995, 1645 and 1398 personnel, respectively (K.L. Harvey, personal communication, 26 January 2021). In the three largest O-6 Wing commands in the RAAF (96WG, 95WG and 81WG), the Wing Commander commands 1376, 1295, and 886 personnel, respectively.² Thus, on average, a RAAF O-6 Wing Commander commands 30% fewer personnel than their RCAF colleagues. Indeed, across the 14 wings described in detail in Chapter 4, on average, an O-6-graded Wing Commander in the RAAF has 600 fewer personnel under their command.³

Third, the RCAF is organized using a flatter organizational structure than the RAAF. While the RAAF has three primary formation types below the (two-star) level of operational command (the FEG, wing and squadron), the RCAF has only two types of formations below the (two-star) operational level of command (the CAD), the wing and the squadron.

Finally, when it comes to the balance between the number of general officers as a ratio compared to the total number of personnel in the RCAF, the RCAF has a much lower ratio than the RAAF. The total number of personnel within the RCAF Command is 12,983.⁴ The total number of general officers who work within the RCAF Command is 10. Accordingly, the RCAF has one general officer for every 1294 full-time personnel. Thus, the RCAF has a ratio of general officers to total personnel nearly 500% lower than the RAAF. Alone, this ratio does not mean the RCAF organizational structure is correct and the RAAF incorrect. However, combining the data in this chapter with the RAAF workforce data in Chapters 2 and 4, a picture begins to emerge that the RAAF may currently have too many commanders and headquarters for the number of personnel.

2. Data drawn from a workforce spreadsheet provided by the AFHQ, Directorate of Workforce Plans and Reserves-Air Force (DWP&R-AF), 07 December 2020.

3. Ibid.

4. As noted earlier, the total size of the RCAF is 14,500 personnel. However, unlike the RAF and the RAAF, when RCAF personnel fill positions within the ‘joint force’, the Canadian Armed Forces (CAF), they are no longer counted as belonging to the RCAF and instead are counted as belonging to the CAF. Thus, once the personnel who are seconded to the CAF are removed from the total RCAF personnel number (14,500), the total number of RCAF personnel is 12,983 (K.L. Harvey, personal communication, 26 January 2021).

5.5: Case study 3 – The Royal Netherlands Air Force

The Royal Netherlands Air Force (RNLAf) was formed on 27 March 1953 (Milavia, 2016). The RNLAf is much younger and smaller than the RAAF. Yet, despite its size (7859 full-time personnel), the RNLAf bears many similarities to the RAAF (P. Duran, personal communication, 03 February 2021). Like the RAAF, the RNLAf (2021) ‘is a modern, high-tech armed forces service that contributes to peace and security on a global basis’. Further, although smaller than the RAAF, the RNLAf fleet of aircraft is similar in many ways. For instance, both the RAAF and RNLAf operate the F-35 Lightning II multi-role fighter, the Airbus A330 Multi-role Tanker Transport (MRTT), the C-130 Hercules medium-lift transport aircraft, and will soon acquire and begin operating the MQ-9 Reaper Medium Altitude, Long Endurance (MALE) Remotely Piloted Aircraft System (RPAS) (RAAF, 2021c; RNLAf, 2021). Moreover, while they operate different aircraft platforms to perform these tasks, both the RAAF and RNLAf operate a similar sized fleet of other (non-F-35) fighters: the RAAF F-18; the RNLAf F-16; a fleet of maritime patrol aircraft; a fleet of Very Important Persons (VIP) aircraft; and a fleet of Pilatus pilot training aircraft (RAAF, 2021c; RNLAf, 2021). Indeed, besides the difference in the size of the forces, the only other key difference is the RNLAf (2021) operates several fleets of helicopters for transport (CH-47), attack (AH-64E), combat search and rescue (AS532), and anti-submarine warfare (NH-90); whereas, the RAAF does not operate any helicopters.⁵

The RNLAf provides an interesting case study because the RNLAf shares several other similarities with the RAAF. First, like the RAAF, the RNLAf is currently in the middle of a major capability acquisition and aircraft fleet modernization program (RNLAf, 2017). Second, the RNLAf has a plan for a ‘Fifth Generation Air Force’, which it enunciated in a report released in September 2017. Third, like the RAAF, the RNLAf (2017) is currently grappling with geostrategic changes, which are ‘occurring at a rapid rate and are unique and difficult to predict’ (p. 4). Further, both air forces are trying to pivot in response to strategic guidance away from ‘wars of choice, waged in foreign fields ... [to] large-scale wars of necessity ... [which] have once again become a scenario that has to be reckoned with’ (RNLAf, 2017, p. 4). Finally, the RNLAf and RAAF intuitively understand the need for organizational change to match new capabilities with emerging challenges. Indeed, the RNLAf recently undertook some organizational change in August 2020, and, like the RAAF, the RNLAf is currently considering what the best organizational structure looks like moving forward (P. Duran, personal communication, 02 December 2020).

Following the organizational change in August 2020, the RNLAf has a flat organizational structure. The RNLAf has a three-star Commander of the RNLAf (C-RNLAf). Below

5. ADF helicopters are operated by the Army and Navy only.

the C-RNLAF, at the operational level, the RNLAF is organized into four ‘commands’, that are each led by one-star officers. The four ‘commands’ are Air Combat Command (ACC), Air Mobility and Tanker Command (AMTC), Defence Helicopter Command (DHC) and Main Support Base (MSB), and the four one-star commanders report directly to the C-RNLAF. The current RNLAF organizational structure has a mixture of functionally, geographically and capability-based structures. Three commands (AMTC, DHC and MSB) are aligned along a functional, platform-based and geographically collocated command structure. The fourth command, ACC, is a mixed-capability command, which combines fighter aircraft that provide air defence and strike capabilities with Intelligence, Surveillance and Reconnaissance (ISR) aircraft. ACC assets are also spread geographically across two operating bases.

Regarding the balance of its force structure, the RNLAF has 21 general officers to command its 7859 full-time personnel – a ratio of one general officer for every 374 personnel (1:374).

Lessons for the RAAF from the organization of the RNLAF. The key lessons for the RAAF that can be drawn from the RNLAF case study are as follows. First, the RNLAF organizational structure is much ‘flatter’ than the RAAF. Whereas the RAAF has four layers of command at the operational level and below (HQAC, group, wing and squadron), the RNLAF has only two (Command and squadron). Chapter 6 of this work posits that the more layers of command within an organization, the greater the amount of ‘staff work churn’ generated and general bureaucratic inefficiency created.

Second, the RNLAF organizational structure of ACC demonstrates that a single one-star officer can command a modern, networked, fifth-generation force, which comprises platforms that perform multiple functions (air combat and ISR), located at geographically dispersed locations.

5.6: Case study 4 – USAF Composite Wing

The introductory chapter of this work noted the natural tension that exists between the economists and the operators. Indeed, Chapter 1 proclaimed that the economists would be most satisfied if all the very expensive aircraft and materiel they helped procure for the RAAF were never flown and instead stored in hangars, out of harm’s way, waiting to be flown *only* in the event of an existential threat to Australia or its national interests. Conversely, the operators understand the Australian Government has issued several clear signals indicating that it expects the RAAF to be trained and ready for high-end, high-intensity conflict at reduced notice. These two opposing ideologies are at opposing ends of a readiness continuum. Indeed, the closer one moves the required readiness of their air force toward the high readiness for high-end, high-intensity conflict, the more costly that air force is to operate and maintain (Egge, 1993). At its very core, the tension

can be described as a trade-off between lower operating costs and higher operating costs, lower readiness and higher readiness – essentially the difference between *budget efficiency* and *combat effectiveness*. Figure 3 is a pictorial representation of the tension between budget efficiency and combat effectiveness.

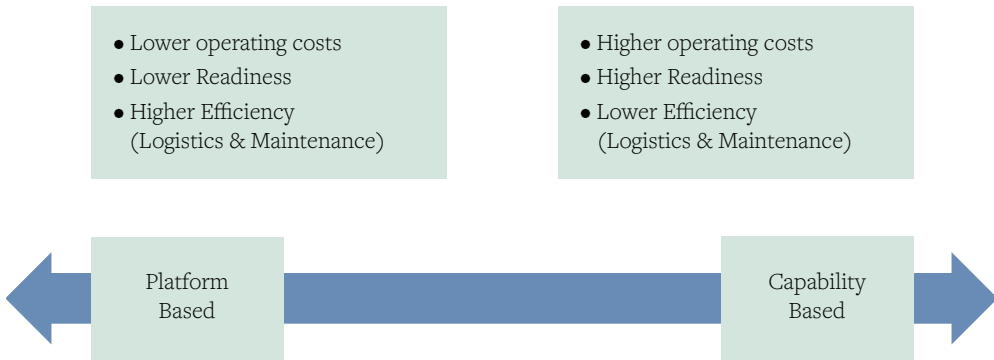


FIGURE 3: The differences between monolithic, platform-based organizational structures and composite or multi-role organizational structures

Source: Author's original work

A commander's view. In the early 1990s, in the shadow of the Cold War, the USAF was required to 'aggressively restructure the Air Force to meet the demands of national security interests' (Bussiere, 2001, p. 22). In the case of the USAF, the driving factor behind the then USAF Chief of Staff of the Air Force, Gen McPeak's desire to re-create composite wings was a 'requirement for a smaller, more capable [air] force that emphasizes the traditional virtues of airpower: speed, range, power, flexibility, precision, and economy of force' (Krislinger, 1992, p. 33). Gen McPeak sought to 'review the way we do business at every level ... our goal is to ensure that we are adapting, evolving ... [and] well-organized, with the measure of merit being combat capability' (Canan, 1991). Indeed, the editorial page of *Airpower Journal's* 1990 Fall edition was titled 'Facing the Challenge Ahead', which asserted the time had come for the USAF to adjust its force structure to better face the threats of this new era (Kirtland, 1990, p. 2).

Gen McPeak (1990) strongly advocated for the composite wing concept to be re-introduced to the USAF, stating it was the best way to mitigate against what von Clausewitz described as 'the friction-filled nature of war', where everything [in war] is very simple, but even the simplest things are very difficult (p. 11). McPeak saw the best way to achieve combat capability and combat effectiveness was by creating composite wings and proclaimed that composite wings could be 'made up of different kinds of aircraft for all sorts of missions' (Canan, 1991). Indeed, McPeak asserted that warfighting

was analogous to improving one's golf game – the 'only real hope is to make smaller mistakes', adding:

The composite wing makes smaller mistakes because it works and trains together in peacetime. It becomes proficient at planning and executing force packages. It knows the playbook. In other words, it can exploit the inherent flexibility of airpower. Moreover, within composite wings, the people live together, families know one another, they form links and bonds that are themselves a decisive, war winning factor. (Canan, 1991, p. 11)

An inside view. Colonel (Col) Chris Hawn was a member of the 366th (composite) Fighter Wing from September 2000 to October 2002. This period overlapped the 11 September 2001 terrorist attacks on the US. During a wide-ranging interview, Col Hawn – an experienced B-1 Bomber pilot and USAF Weapons Instructor Course graduate – confirmed that many of the benefits Gen McPeak envisioned of the composite wing were borne out in execution (C. Hawn, personal communication, 14 December 2020). Col Hawn discussed the tactical-level standards and standard operating procedures that can be developed and optimized when dissimilar aircraft to work together day in, day out. Col Hawn compared these composite wing standards, known as 'Gunfighter standards', to the standards developed during Red Flag exercises. He asserted the 366th composite wing 'raised the bar of organizational effectiveness like nothing he had ever seen before' – so much so that when the 366th attended Red Flag exercises, 'they flew circles around the crawl-walk-run system' (C. Hawn, personal communication, 14 December 2020). Moreover, Col Hawn continually stressed that due to the very nature of the composite wing, it was able to 'achieve very high levels of training' – training he did not see again until weapons school. He stated, 'there was no way to compare the standards of a composite wing to a monolithic [platform based] wing – they just train to a higher level and standard' (C. Hawn, personal communication, 14 December 2020).

Col Hawn emphasized additional tangible benefits of the composite wing, including the more efficient use of restricted airspace, a resource that is under almost constant pressure from the civil aviation sector. Col Hawn stated that it was not uncommon to discover an airspace programming conflict on a Monday morning, where one aircraft type had booked a large portion of airspace for an extended period. However, rather than other aircraft types missing out on training altogether or otherwise being artificially contained in sub-optimal airspace:

By leveraging relationships, we found ways to all use the airspace simultaneously. The composite wing structure, with its homogenous command chain, allowed

6. The 366th Fighter Wing are known as 'The Gunfighters'; accordingly, the standard operating procedures they developed were termed 'Gunfighter standards'.

for short-notice planning and conduct of individual training, and impromptu collective training. Similar planning in monolithic (platform based) wings would normally be the subject of weeks or months of planning conferences and other coordination. (C. Hawn, personal communication, 14 December 2020)

The composite wing structure also affords some less tangible but equally important 'people benefit'. Col Hawn asserted that when deployed on operations, members of the 366th composite wing had 'instant trust and familiarity in warfighting'. Moreover, this trust was not only borne out of working together day in, day out, but also interactions and integration in the social environment. Indeed, Col Hawn proclaimed that 'many tough tactical nuts have been cracked in a unit bar or social environment' (C. Hawn, personal communication, 14 December 2020).

Col Hawn described the 366th composite wing as the USAF's '9-1-1' response unit, 'designed to allow the US government to quickly triage a problem while the remainder of the force were trained up and prepared for deployment'. He described the first night of operations in Afghanistan after 11 September 2001, with the 366th composite wing as 'just like we were back at Mountain Home AFB' (C. Hawn, personal communication, 14 December 2020).

Gen McPeak's vision for the composite wing not only considered mixed fighter aircraft types. McPeak also considered the requirement for integrated logistics, combat support, transport aircraft and tankers (Canan, 1991). That said, McPeak's focus ran deeper than the composition of the force package; rather, McPeak (1990) was most concerned with 'higher echelon command and control'. Indeed, during his time as Commander in Chief Pacific Air Forces, Gen McPeak had learned the difficulties associated with the command, control and employment of a composite force package – known colloquially in the USAF as a 'gorilla'. He explained that with enough warning and time for planning and coordination, the USAF could pull together capable force packages for large force employment activities such as Exercise Red Flag and Exercise Cope Thunder. However, McPeak (1990, p. 5) described these (coordination efforts) as 'hand crafted', with planning meetings, including face-to-face planning conferences, occurring many 'months in advance of execution'.

McPeak knew in 1990 what AIRCDRE Zed Robertson (now AVM) discovered in 2014 when he led the RAAF's deployment of a composite 'Air Task Force' at very short notice to the MEAO to counter an emerging threat posed by the Islamic State of Iraq and Syria (ISIS). That is, the difficulty does not lie so much in getting the right aircraft to the right place at the right time; the difficulty lies in the C2. As the RAAF does not have composite formations, AVM Robertson's Task Unit Headquarters first 'stood up' in the deployed location, 'in fact, [when we arrived in theatre] the people hadn't even met' (Robertson, 2015, p. 8).

The outside view. Over the years, particularly in the US, there has been some debate within academia about the efficacy of composite wings. The delineating factor among scholars can almost always be distilled down to the timeless tension along a continuum between *budget efficiency* and *combat effectiveness*.

In an essay to the inaugural class at the School of Advanced Airpower Studies (SAAS, now SAASS) in 1992, James Moschgat cited various reasons why composite wings had been employed in both combat and peacetime and in various guises since 1911. However, over time, the composite wing formula has almost always reverted back to homogenous (platform-based) wings. Moschgat (1992) suggested that while ‘failure’ of composite wings in the early years was due to reasons such as different frequency requirements for aircraft maintenance of different platforms, different aircraft performance and operating envelopes, different aerodrome requirements, etc., many of these limiting factors have been ameliorated over time. Indeed, during Operation Desert Storm, two composite wings operated against Iraq: the 4th Tactical Fighter Wing (provisional) flying out of the Kingdom of Saudi Arabia, and the 7440th Composite Wing (provisional), which operated out of Turkey. Both of these composite wings operated a mixture of fighter, bomber, ISR, mobility and ‘a host of highly sophisticated support aircraft’ (Moschgat, 1992). During Operation Desert Storm, the 7440th Composite Wing flew 4600 operational sorties over 42 days, day and night. The 7440th suffered zero combat-related losses and achieved a sortie-effectiveness rate of 99.4% over the 42 days Moschgat, 1992).

In chapters titled ‘Analyzing the Composite Wing Concept’ and ‘Summary’, Moschgat (1992) lists various positive and negative traits of the composite wing. On the positive side, he asserts that composite wings are:

Well suited for independent operations in remote areas, especially when a premium is placed on effectiveness, flexibility, and responsiveness ... because of its inherent ability to operate independently, a composite unit is superbly structured to conduct secret operations ... the composite wing offers raw wartime performance other organizations cannot match ... despite any shortcomings, composite wings have reappeared time and time again to tackle some of Air Force’s toughest and most unique missions. Performance is, therefore, the composite wing’s fifth virtue. Though generally less efficient and more expensive than comparable homogenous units, composite wings have been worth the added cost when *effectiveness* or *mission success* were key measures of merit ... [finally] though common sense would indicate that a composite wing would be more complex and thus more difficult to manage than a like-sized homogenous unit, such is not the case. The author found no evidence of a senior Air Force officer with ‘composite’ experience ever criticizing the composite structure. (Moschgat, 1992, pp. 68–69)

On the ‘con’ side, Moschgat (1992) cited several negative traits of the composite wing, namely: their tendency to be able to produce sufficient combat striking power; and that ‘when compared to homogenous wings, composite wings are, as a rule,

generally *less efficient* and *more costly* [emphasis added]'. However, much of his paper details how many of the perceived composite wing 'flaws' can be relatively cheaply and easily overcome. Indeed, Moschgat (1992) listed problems with costs, logistics and maintenance as three of the reasons to avoid the composite wing concept, but immediately walked his claims back by detailing how many of the perceived problems can be mitigated or completely ameliorated. Although he wrote his paper nearly 30 years ago (1992), even then, Moschgat (1992) acknowledges that 'today's technology has given the composite wing a chance to get into the game for good ... today's technology has reversed the cost-benefit ratio' (p. 71). Having cited maintenance and logistics issues as two of the key drivers away from the composite wing concept, Moschgat (1992) cites maintenance data to support his thesis, stating:

In terms of maintenance and reliability, today's aircraft (in 1992) are light-years ahead of those produced just a decade ago. For example, a new ring-laser gyro for the F-15E has proven fifty-five times more reliable than the navigation system in older-model F-15s. Similarly, a new battery for the F-16 proved to be thirteen times more reliable than the battery it replaced. This reliability through technology saves money. (p. 71)

In sum, Moschgat's concerns about increased costs, logistics and maintenance associated with composite wings may have already been mitigated by better technology and increased reliability.

In December 1993, logistician and research fellow at Air Force (USAF) Logistics Command, William Egge, wrote a paper describing the *Logistic Implications of Composite Wings*. He detailed many logistics and maintenance challenges associated with the composite wing concept. Egge (1993) asserted that homogenous (non-composite) wings lack flexibility; however, they 'make sense from an economic and logistics point of view' (p. 16). Conversely, the composite wing concept allows wings to be integrated and optimized. Egge (1993) posited the composite wing 'philosophy underscores and facilitates the concept of train like you are going to fight' (p. 25). Indeed, he asserts the composite wing concept provides commanders with three critical tenets of airpower: speed, range and flexibility. At the conclusion of his essay, Egge (1993) returned to the age-old dichotomy between *combat effectiveness* and *maintenance efficiency*, which has already been discussed at length within this chapter. Egge (1993) proclaimed that 'composite wings are the right approach to improve combat effectiveness, but a composite wing costs more to operate and maintain than a traditional homogenous wing' (p. 78).

In 1994, J. Scott Norwood wrote an essay about the advantages and disadvantages of the composite wing concept. Using the term 'relative advantages of the composite wing', Norwood agreed with the lived experience operating in a composite wing of Col Hawn earlier in this chapter. Norwood (1994) asserted the principal advantage of the composite wing is the 'opportunity for face-to-face coordination among aircrew

members who fly in mutually supporting roles’ (p. 18). Moreover, he asserted that, in reality, the advantages of the composite wing ‘are much more far-reaching. Like money in the bank which can purchase a great many things’ (p. 19). Norwood (1994) asserted that these advantages could be roughly characterized as synergy, responsiveness, adaptability, resiliency and agility.

Lessons for the RAAF from the USAF composite wing. The key lessons for the RAAF that can be drawn from the USAF experience with composite wings are, first, the composite wing provides a force structure that is complementary to peace-time training and wartime joint and combined operations. Second, the composite wing highlights the trade-off between *logistical efficiency* and *operational effectiveness*. Former CAF breaks this tension, giving the final word in 2017 when discussing organizational change and any future RAAF organizational structure. Air Marshal Davies stated that any organizational change ‘must answer the question of how Air Force will be managed and grouped across groups and wings, the command-and-control arrangements ... and considerations of unit geographical locations’ (CAFAC, 2017c). Further, although the issue of politics cannot be divorced from matters of national defense, to foster the development of options, the former CAF stated that ‘the issue of politics will be secondary to [the] determination of the *best structure for Air Force to deliver airpower for Australia* [emphasis added]’ (CAFAC, 2017c). Chapter 6 of this work offers specific recommendations for enterprise-level organizational change within the RAAF; it seeks to balance the trade-off between *efficiency* and *effectiveness*. However, because the RAAF is not large enough to have both *cost-efficient* homogenous wings and *combat effective* composite wings, where required, in accordance with strategic direction from the government and RAAF leadership – it falls towards the requirement for *combat effectiveness*.

5.7: Case study 5 – The Australian Army: Plan Beersheba

A case study about the organization of the Australian Army may initially appear out of place in a paper about the organization of the RAAF. However, there are some excellent contemporary lessons for the RAAF to learn from the enterprise-wide organizational change the Australian Army undertook under Plan Beersheba from 2011. At its core, Plan Beersheba took the Australian Army, which, like the RAAF today, was organized by function or platform (light infantry with light infantry, light armor with light armor, heavy armor with heavy armor, engineering, logistics and communication etc.) and restructured it into ‘multirole combat brigades (MCBs) to make them fundamentally alike’ (Butler et al., 2018, p. 3). The idea of the MCB is by no means *revolutionary*. In *The Pursuit of Power*, William McNeill (1993) described the pre-Napoleonic *evolution* of army units, which contained a mix of ‘infantry, cavalry, artillery, and supporting elements like engineers, medical personnel, and communications experts ... [who were] subordinated to a single commander’ (p. 163).

Plan Beersheba sought to address two enduring problems that are normally in competition. First, the reorganization was designed to ensure each MCB contained a mix of skills and capabilities to provide a ‘mix of firepower, protection, and mobility – essential ingredients required to win on the battlefield’.⁷ Second, and significantly, especially for a highly technical and skilled workforce such as the RAAF, Plan Beersheba sought to provide more ‘predictability and stability to Army personnel ... [allowing] them and their families to plan their lives’.⁸ Plan Beersheba took up to 10 years to be fully implemented. This time lag is very important for the RAAF, which has already been considering enterprise-wide organizational change for several years – that even once a decision is taken, organizational change takes many more years to be finalized.⁹

The Australian Army case study adds to the other supporting evidence already discussed in this chapter. Although the RAAF is not identical to the RAF, the RCAF, the RNLAf or the USAF, a recent report into Plan Beersheba by the RAND Corporation – which looked at the challenges faced by enterprise-level change within the US Army, the US Marine Corps, the French Army and the Canadian Army – found that although the respective forces were of dissimilar size, there was sufficient ‘similarity in their processes and functions’ (Butler et al., 2018, p. 11). The RAND report found that organizational complexity could be defined in terms of three properties: ‘multiplicity (the number of potentially interacting organizational entities), interdependence (how connected those elements are), and diversity (the degree of heterogeneity of elements)’ (Butler et al., 2018, p. 11). Moreover, they concluded that although the multiplicity of elements would be greater in the US Army example, the other two elements – interdependence and diversity – were ‘likely to be similar across these military organizations’ (Butler et al., 2018, p. 11).

The genesis of Plan Beersheba was the realization, after more than a decade of being continuously deployed on operations, that no single Australian Army brigade was appropriately ‘configured to dominate the modern battlefield on its own’.¹⁰ A report written for the Parliament of Australia in September 2000 asserted the (pre-Plan Beersheba) Australian Army contained some good individual capabilities; however, it was not well structured to employ these capabilities effectively. The Parliament report found that the Army structure was not sustainable for mid-intensity conflict, and that the pre-Plan Beersheba structure ‘represented a golf bag of useful but unsustainable capabilities’ (Parliament of Australia, 2000). Following the Parliamentary review and much internal soul-searching, the Australian Army established that ‘contemporary

7. Australian Army, Plan Beersheba Explained: Media Backgrounder, 1.

8. Ibid., 1.

9. Ibid., 3.

10. Ibid., 2.

operations require elements of each specialization in order to ensure that the deployed force is sufficiently balanced to meet emerging challenges with an appropriate and proportional response'.¹¹ Plan Beersheba was designed to 'enhance the Army's force structure ... ensure that personnel and equipment capabilities can be generated for current operations ... [and] to meet contemporary threats and future action as directed by government'.¹² In short, Plan Beersheba was initiated to meet and overcome the same challenges the RAAF faces today.

Lessons for the RAAF from Plan Beersheba. There are lessons for the RAAF from the organizational change conducted by the Australian Army. Principally, wide-ranging organizational change is possible in the Australian context. Second, compared to the RAAF, the Australian Army has more than twice the number of full-time personnel. Thus, the Army successfully faced many of the same challenges the RAAF currently faces, such as a stovepiped, platform-based organization; combined with a large geographical spread of its forces; similar budget pressures, and other housing, political and social constraints. Finally, the RAAF should heed the warning from the September 2000 Parliamentary report into the Australian Army that precipitated Plan Beersheba. The RAAF should not wait to be forced by its civilian leaders into an organizational review for which it is not fully prepared. The Parliament of Australia (2000) report into the Army found that an enterprise-wide review of the Army structure needed to be 'focused firmly on achieving capability outcomes ... [and that] a focus on traditional modes of staffing, structuring, and equipping the Army will perpetuate *form* at the cost of dearly needed *substance*'.

5.8: Conclusion

This chapter has used the organizational structures of four other air forces and the Australian Army as prototypes to demonstrate some of the opportunities for change available to the RAAF as it explores enterprise-wide organizational change. Chapter 5 established that, even among similar air forces (and one army), there is no single panacea for the organizational challenges facing the RAAF.

The trade-off between *budget efficiency* and *combat effectiveness* is likely to be central to developing options for organizational change within the RAAF. Chapter 3 of this work asserted that the strategic direction from the Government of Australia favors the RAAF, siding with combat effectiveness when assessing this trade-off between *cost* and *capability*. Chapter 6 anticipates some RAAF-specific impediments to change before making recommendations for organizational change within the RAAF.

11. Australian Army, Plan Beersheba Explained: Media Backgrounder, 2.

12. Ibid., 2.

CHAPTER 6

HOW COULD THE RAAF BE BETTER ORGANIZED?

There is nothing more difficult to carry out, nor more doubtful of success, nor more dangerous to handle, than to initiate a new order of things. For the reformer has enemies in all those who profit by the old order, and only lukewarm defenders in all of those who would profit by the new order ... [because of] the incredulity of mankind, who do not truly believe in anything new until they have had actual experience of it.

Machiavelli (1952, pp. 49–50)

6.1: Background and context

The previous chapters have systematically laid out a series of separate but linked puzzle pieces. The task of Chapter 6 is to connect the puzzle pieces together and propose a series of recommended solutions. Following this short introduction, Section 6.2 explores some RAAF-specific impediments to organizational change, including small fleet dynamics, geography, C2, low-density high-demand assets, tribalism and aircrew promotion prospects. Section 6.3 proposes some options for solutions and is broken down into three sub-sections.

Section 6.3.a describes recommendations that seek to provide the maximum, immediately realizable capability benefits, while initially minimizing disruption to the current force-in-being. That is, it recommends the much-needed wide-ranging, enterprise-level changes to the organizational structure of the RAAF, which have been elucidated in Chapters 1–5. However, it does so in a manner that is *executable* in the short term via significant changes to command arrangements, yet also *achievable* in the short term because it leaves the vast majority of the units in their current geographical location until the new organizational structure is stabilized and optimized.

Section 6.3.b is a longer-term vision of the recommendations from Section 6.3.a. Once the new organizational strategy has had time to bed down and establish its utility, and as individual capabilities reach the end of their capability life cycle, their replacement capabilities could be geographically co-located to establish the capability and C2 benefits of co-located, mixed-capability formations.

Section 6.3.c briefly explores how some targeted ADF-wide organizational changes could reduce the requirement for some of the organizational overheads associated with the governance and oversight of several ‘like’ capabilities currently replicated across all three ADF services. This section posits that any savings yielded from this initiative could be re-invested into the more meaningful, capability-based recommended changes in Sections 6.3.a and 6.3.b.

6.2: RAAF-specific impediments to organizational change

During research for this work, military professionals of various rank, job type, service and nation, presented a multitude of *barriers to organizational change*. This section does not deal specifically with all the perceived barriers to change that were presented. However, it is important to get out in front of some of these perceived barriers early, prior to providing recommendations for change, so readers are aware of their individual proclivity to cognitively side with some or all of these perceived barriers.

Impact on System Program Offices. SPOs provide a very important *supporting* function; however, during interviews, the perceived impact of organizational change on the SPOs was identified as an important issue more often than anticipated. This work posits that, as the SPOs are an *enabling* function, it would be inadvisable to allow an enabling function to shape or drive the direction of much-needed organizational change. Moreover, the SPOs do not provide a perfect exemplar of organizational effectiveness. The 2015 First Principles Review (FPR) into the ADF, found multiple flaws within the areas of capability planning, acquisition, delivery and sustainment (DOD, 2020e). The FPR found there are ‘an excessive number of System Program Offices ... [with] an excessive amount of process ... [leading to] box-ticking compliance, rather than one focused on outcomes ... an almost total absence of common internal review processes and procedures’ (DOD, 2020e, p.33). In a chapter titled ‘Optimising Resources and Dispelling Myths’, the FPR report recommends a ‘reduction in the number of System Program Offices’ (p. 68). Accordingly, while the SPOs provide a necessary *enabling* function within the RAAF and the wider ADF, it is the firm position of this paper that any concerns about potential second- or third-order impacts on the SPOs resulting from much-needed organizational change within the RAAF aimed at optimizing operational effectiveness, should be viewed in the proper operational context. The SPOs are not currently under the operational C2 structure of the Navy, Army or RAAF.¹ This work does not have the scope to address what the optimized C2 structure of the SPOs would be; however, former Deputy Air Commander Australia and CDR AMG, AIRCDRE Kourelakos, asserts that the SPOs should fall under the C2 of ACAUST (B. Kourelakos, personal communication, 05 March 2021).

1. The SPOs currently fall under the C2 of the CASG.

Small fleet dynamics. The RAAF aircraft fleet is reasonably small across many of its individual capabilities. Several officers expressed a concern that any division of the fleet away from the functional lines that currently divide it could have a deleterious effect on daily aircraft serviceability rates. There are really two components to this concern. First, the RAAF has several low-density, high-demand aircraft platforms such as the C-17, KC-30A, E-7A, P-8A and the AP-3C(EW); any proposed RAAF organizational structure needs to carefully consider the organization of these low-density, high-demand assets. Second, the RAAF already has more desired tasking lines for many of its aircraft platforms and personnel than it has aircraft and personnel to fulfil those tasking lines. Accordingly, each month (or more frequently if required), the DGAIR releases an Air Operations Directive that provides clear direction to the Air Operations Centre and the tactical-level commanders about which activities, operations and exercises have the highest priority for support. This work does not envisage a reduction in the desire for lines of tasking for some assets and personnel in the near- or medium-term; thus, the Air Operations Directive will remain a critical document, as it is today.

Reduced aircraft serviceability rates. Some officers expressed concern about the possibility of reduced aircraft serviceability rates if the RAAF structure was changed from a functional organizational structure to a capability-based organizational structure. This concern is possibly linked to both the 'SPO concern' and the 'small fleet dynamics concern' addressed above. In any event, this work provided evidence in Chapter 5 that suggests there was no evidence of a reduction in aircraft serviceability rates within USAF composite wings.

Problems with command and control (C2) of personnel from different functions. The concern about effective C2 of non-functionally aligned platforms and personnel was a common theme during interviews for this work. The successful deployment of (then) CDR ACG Air Vice-Marshal Robertson in 2014, as the Commander of the Air Task Group, a mixed-capability force comprising elements from ACG, SRG, AMG and CSG provided evidence that a commander of one platform type could seamlessly husband other platforms and functions under one headquarters. Further, there are countless examples since the formation of HQAST in 1996, and subsequently HQJOC in 2004, to demonstrate that ADF officers from all services and job roles can effectively command personnel and platforms from all services of the ADF. Indeed, the current Commander of Joint Taskforce 633, a mixed domain force including Special Forces, has successfully rotated between Navy, Army and Air Force officers of various professions-of-arms since 2003.

Problems with larger span-of-control. This work provided evidence in Chapter 2 that RAAF officers can command very effectively at lower rank levels when given the opportunity. Chapter 2 also cited examples where relatively junior officers (at O-4 and O-5 levels) successfully commanded large numbers of personnel across the RAAF and other ADF services. Moreover, Chapters 2 and 5 provided significant evidence that, compared to

the span of control of personnel of the Australian Army and other similar air forces around the world, the RAAF has a significantly lower ratio of general officers compared to total full-time personnel. Indeed, the USAF and RCAF have four and five times the number of full-time personnel per general officer, respectively. This work asserts that RAAF officers are eminently capable of successfully commanding a larger span of control.

Aircrew ‘tribalism’ and reduced promotion prospects. Several officers raised concerns about whether aircrew ‘tribalism’ would have a deleterious impact on mixed-capability wings or groups. Moreover, several officers were concerned about the possibility of reduced promotion prospects for non-fighter pilots in mixed-capability wings and groups. Essentially, their concern is that wherever there are fighter jets within a formation, a fighter pilot will always be in command. Thus, the mobility, maritime and ISR pilots would lose out on valuable command and promotion opportunities. This concern is best addressed in two parts.

First, **tribalism**. Nearly 20 years ago (in 2002), Australia’s air-combat capability underwent a ‘significant shake-up’, when then CAF Air Marshal Errol McCormack forced a merger between Tactical Fighter Group (TFG, the RAAF’s fighter force) and Strike Reconnaissance Group (SRG, the RAAF’s strike force) to form Air Combat Group (ACG) (Hallen, 2019). AIRMSHL McCormack was frustrated ‘with the lack of integration between the RAAF’s fighter and strike capabilities’ (Hallen, 2019, p. 14). McCormack asserted that the split between TFG and SRG had created tension between the organizational cultures of the RAAF’s fighter and strike forces, and they would be required to work together to be successful against modern integrated air defence systems (Hallen, 2019, p. 14). Similarly, in 2004, the RAAF successfully merged Maritime Patrol Group (MPG, the RAAF’s maritime patrol fleet) with Surveillance and Control Group (SCG, the RAAF’s air-battle management group) to combine all Intelligence, Surveillance, Reconnaissance and Electronic Warfare (ISREW) components into a single FEG, Surveillance and Response Group (SRG) (Hallen, 2019, p. 14).² Additionally, the interview with Col Hawn of the USAF 366th Composite Wing indicated there were far more benefits to the combined wing construct than deficits (C. Hawn, personal communication, 14 December 2020).

Second, **aircrew promotion prospects**. It holds true that where the number of squadrons, wings and groups is reduced, there will be a subsequent reduction in the number of command opportunities for all officers, including aircrew. Further, where the number of groups and wings is reduced, there should also be an overall reduction in the requirement for total headquarters staff. There are three salient points to be made

2. The acronym SRG has been used twice to describe the name of an FEG. First, as Strike Reconnaissance Group (1987–2002), and second, as Surveillance and Response Group (2004–present).

here. First, particularly in recent years, the RAAF has shown a predisposition to place the most suitable person in command appointments regardless of background. Two examples are Air Marshal MacDonald, a career maritime patrol pilot, who was appointed as Commander Air Mobility Group; and Air Commodore Goldie, a career air mobility pilot, who was appointed Officer Commanding 92 Wing, a maritime patrol wing. Second, the RAAF is a meritocracy. Officers are promoted because of demonstrated potential, not to fill command billets arbitrarily set aside for each career field. Finally, and most importantly, the fundamental reason for the existence of the RAAF is to provide *effective combat capability*, not to protect aircrew promotion prospects.

Costs for new infrastructure, housing, office space etc. Section 6.3 of this chapter provides some recommendations for wide-ranging organizational change. There are costs associated with most organizational changes, and reorganizing the RAAF will likely be no different. However, to ameliorate any concerns about costs associated with organizational change, Section 6.3 of this chapter provides three recommendations: 6.3.a, a near-term organizational change that is executable almost immediately with close to zero additional costs for infrastructure, housing and office space. Indeed, this work asserts that the measures contained within Recommendation 6.3.a will be cost-neutral or potentially even return money to the RAAF's operating budget when costed. Recommendation 6.3.b is a medium-term organizational plan scheduled to occur as the capability life cycle of various platforms ends and those platforms are ready for disposal. Accordingly, Recommendation 6.3.b should be cost-neutral to the RAAF operating budget when costed. Further, if Section 6.3.c is implemented after additional study and review, it is anticipated to be cost-beneficial to the overall ADF operating budget.

Political considerations. There are very real political implications to be understood when considering relocating units or personnel within the ADF. This work is focused on maximizing the *combat effectiveness* of the RAAF. Indeed, having reviewed the FPR report, which at various times labels the ADF as 'complicated, slow and inefficient... [and that] waste, inefficiency and rework are palpable ... [Defence is suffering from] institutionalized waste, delayed decisions, flawed execution, duplication, [and] a change resistant bureaucracy', this work asserts that the Government of Australia would be pleased to learn that the RAAF has independently chosen to undertake a significant review of its organizational structure (DOD, 2020e).

KEY POINT

- Despite some concerns about RAAF-specific impediments to change, research for this work did not discover any specific impediment(s) that would prevent enterprise-wide organizational change within the RAAF.

6.3.a: Recommendations for near-term RAAF organizational change

Victory smiles upon those who anticipate the change in the character of war, not upon those who wait to adapt themselves after the changes occur.

Giulio Douhet

The problem. When the current RAAF organizational structure was designed in the mid-1980s, the RAAF was in the process of receiving the first tranche of its fourth-generation fighter aircraft, the F/A-18 Hornet, which replaced the third-generation Mirage (Lax, 2020). The current organizational structure of the RAAF is depicted in Figure 4.

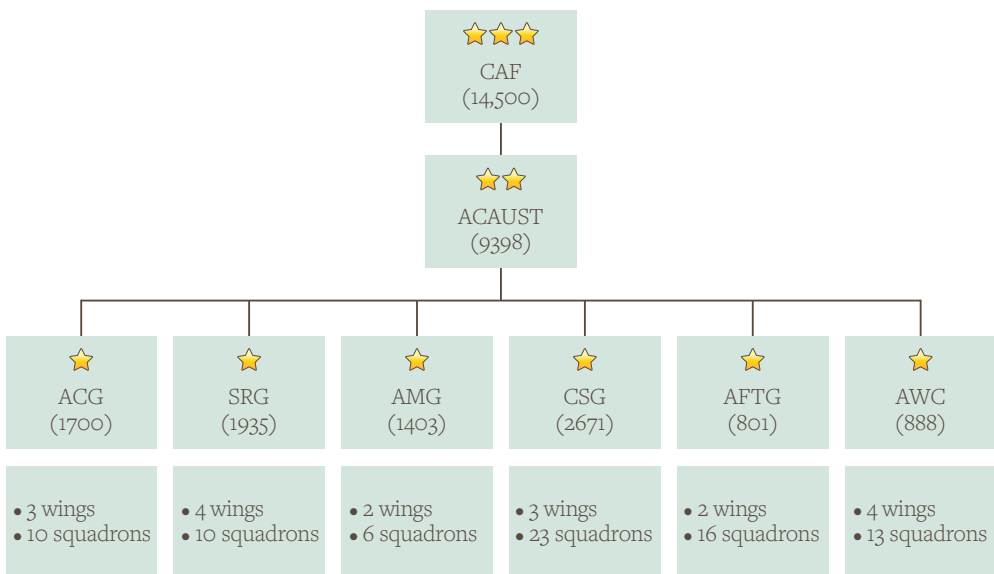


FIGURE 4: The current RAAF operational-level organizational structure

Source: Author's original work.

Note: Displays only the operational-level of the RAAF chain of command

Figure 4 shows that the RAAF aircraft fleet and personnel are currently divided along functional or platform lines into what the current CAF describes as ‘silos of excellence’ (Hupfeld, 2020c). Although well-intentioned at the time, these silos of excellence created groups of technical experts in specialized fields. However, during the ensuing 35 years, the RAAF has transitioned ‘from a bespoke force of standalone capabilities to a networked force capable of delivering air and space power effects for the integrated force’ (Hupfeld, 2020c). Put simply, CAF is stating that the current RAAF organizational

structure has not kept pace with the changing character of the capabilities the RAAF now possesses – it is no longer fit for the purpose it was designed. To generate effective combat power, the RAAF must operate as an integrated and networked force.

However, no one tactical-level commander is currently responsible for sufficient assets or personnel to produce integrated and networked effects. The RAAF’s current organizational structure inhibits integration and networking – forcing O-7 ranked officers to make formal requests to the O-8 operational-level commander every time they wish to conduct any meaningful single-service collective training. This process is highly inefficient and leads to significant amounts of staff-work churn between the various tactical- and operational-level headquarters. First, where O-7 group commanders disagree on the details about a training evolution or prioritization, the O-8 officers’ staff are required to coordinate and prioritize the training. Second, where the O-7 group commanders agree on a training iteration, the O-8 officers’ staff are still required to generate Tasking Orders.

The puzzle for the RAAF. To alleviate the requirement for tactical-level commanders to reach up to the operational level whenever they seek to conduct any form of training outside their platform or function, it is proposed that commanders at the tactical level be furnished with an appropriate mix of personnel and equipment to allow them to conduct networked and integrated training within their organic forces.

In a perfect world, the RAAF would be able to divide its materiel and personnel into ‘like’ MRCGs. However, the RAAF has several low-density, high-demand platforms that are not easily divisible into smaller ‘penny-packeted’ forces.³ Further, several of the RAAF’s mobility and ISR platforms (and personnel) are employed every day in support of other government-directed national strategic-level tasking. Accordingly, a dichotomy (see Figure 5).

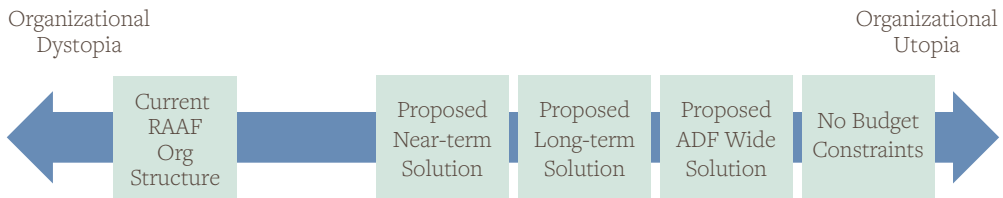


FIGURE 5: The organizational structure continuum

Source: Author’s original work

3. A small number of people or things; insignificant, small-scale, paltry. Lexico. Retrieved 02 March 2021, from https://www.lexico.com/en/definition/penny_packet

Towards the left end of the continuum sits the current RAAF organizational structure, which shows that individual commanders are only capable of providing stovepiped individual training. At the other end of the continuum sits a perfect world in which individual tactical-level commanders ‘own’ sufficient resources to conduct the full range of networked and integrated training.

The proposed near-term solution. The proposed near-term solution seeks to best match idealistic desires with the reality of the RAAF’s small fleet, geography and regional position as a key strategic ally of the US. Importantly, this work asserts the proposed near-term solution can be implemented almost immediately, with little to no net cost. The proposed organizational structure does not alter the structure or geographic location of any unit at the squadron level or below. The proposed structure reduces the RAAF’s current six FEGs down to three new groups. Each of the three new groups is designed to serve a specific purpose, allowing for maximum integration while being sympathetic to the requirements of other government and Army and Navy taskings. To remove any linkages to the current organizational structure, within this work, the three new recommended groups are simply referred to as Group 1, Group 2 and Group 3. The proposed RAAF organizational structure is depicted in Figure 6.

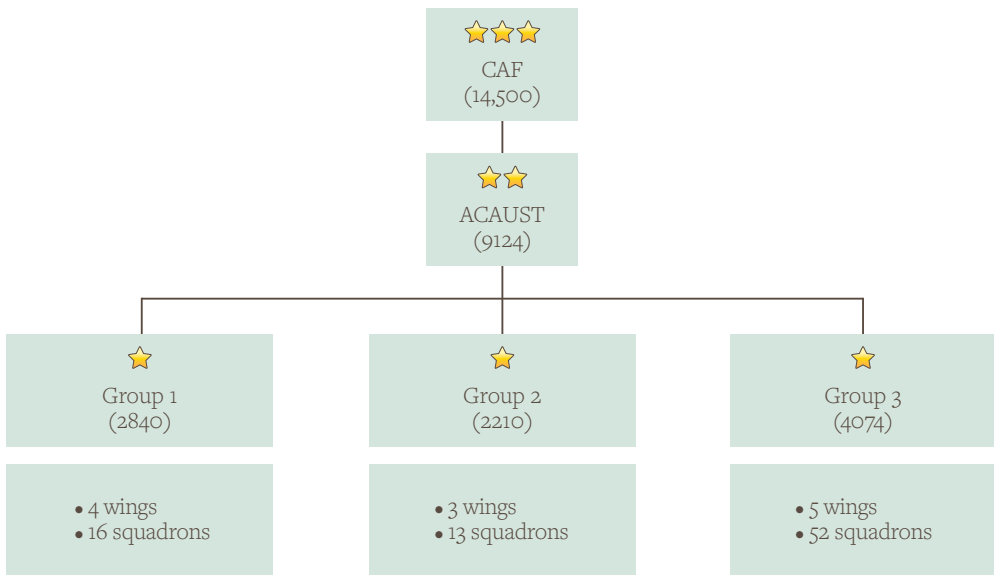


FIGURE 6: The proposed RAAF organizational structure

Source: Author’s original work

Group 1. Group 1 (G1) provides a single one-star ranked officer with sufficient personnel and materiel to quickly and effectively deploy on high-intensity operations and conduct high-intensity RTS without requiring resource requests from the operational-level commander. G1 will comprise four wings: two fighter wings (FW1 and FW2), one mission support wing (MSW), and one operational support wing (OSW). Each of the G1 wings will be led by a Group Captain (O-6). G1 will have an indicative initial operating strength of approximately 2840 full-time personnel, less than the number commanded by a one-star Army MCB commander. Figure 7 depicts the G1 organizational structure.

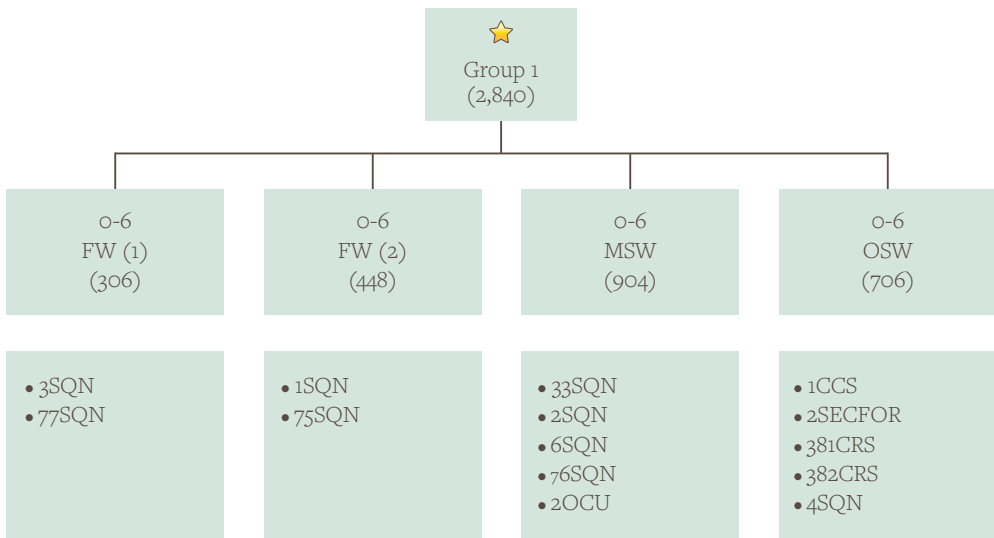


FIGURE 7: The proposed Group 1 organizational structure

Source: Author's original work

G1 will be headquartered at RAAF Base Williamtown.⁴ FW1 will also be headquartered at RAAF Williamtown and comprise Number 3 Squadron (F-35) and Number 77 Squadron (F-35).⁵ FW2 will be headquartered at RAAF Base Amberley and comprise Number 1 Squadron (F/A-18F) and Number 75 Squadron (F-35).⁶ FWs 1 and 2 will form

4. A new headquarters facility has just been completed at RAAF Williamtown for the current ACG. The Group 1 would take over this headquarters facility.
5. FW1 will occupy the new headquarters facility, which was built for 81 wing headquarters. Both 3SQN and 77SQN are currently based at RAAF Williamtown. RAAF Williamtown has new, purpose-built facilities for both 3SQN and 77SQN.
6. FW2 will occupy the near-new headquarters facility that was built for 82 wing headquarters. 1SQN and 75SQN will remain in their current facilities.

the foundations of the MRCG. However, the key difference and true utility of the G1 initiative lies in adding the MSW and the OSW.

The MSW will be headquartered at RAAF Williamstown and comprise Number 33 Squadron (Air-to-air refueling), Number 2 Squadron (Airborne Early Warning & Control [AEW&C]), Number 6 Squadron (Electronic Attack [EA]), Number 76 Squadron (pilot training, fleet support, and low-cost CAS training) and Number 2 Operational Conversion Unit (F-35 pilot conversion training).⁷ The MSW comprises the types of assets which, in a ‘utopian’ world, would be organic to each of the two FWs. Inclusion of these assets would, in effect, transition the FWs into truly capable, fully deployable composite wings. However, due to their *low density* and *high demand*, this work asserts that splitting these individual squadrons, each with a relatively small number of aircraft, into even smaller numbers to place them organically within the FWs would result in a *penny packet* effect – this is not desirable. During WWII, British Field Marshal Bernard Montgomery described the use of airpower in penny packets as ‘the poorest use of airpower’, and British Air Chief Marshal Arthur Tedder described the penny packeting of airpower as ‘worse than useless’ (Grant, 2010). The MSW will move squadrons of aircraft out from under the command of three separate one-star officers within the current RAAF organizational structure and place these same squadrons under the command of a single O-6 Wing Commander. The true utility of moving these ‘mission support’ or ‘enabling’ squadrons under the G1 Commander will be realized by the increased scale and scope of training that can be conducted by a single one-star officer, with no requirement for additional aircraft or personnel.

The placement of Number 33 Squadron (air-to-air refueling) into G1 may be seen as contentious. Number 33 Squadron aircraft are currently viewed as ‘mobility’ assets, and Number 33 Squadron is currently housed in the AMG. However, the primary purpose of procuring the KC-30A air-to-air refueling aircraft was to provide the RAAF with an organic air-to-air refueling capability. Indeed, if the KC-30A was procured only to provide mobility, that task could have been achieved significantly more cheaply with a different (non air-to-air refueling) platform. Importantly, the KC-30A can carry up to 300 passengers and up to 37 tonnes of cargo (including eight standard military pallets) (Airbus Industries, 2021). Accordingly, including Number 33 Squadron within the G1 provides some much-needed organic mobility for G1 assets and personnel.

7. MSW will occupy the facilities that are currently occupied by 42 wing. The remainder of the MSW squadrons will remain in their current location and facilities.

The OSW will be headquartered at RAAF Amberley and comprises Number 1 Combat Communications Squadron, Number 2 Security Forces Squadron, Number 381 and Number 382 Contingency Response Squadrons (logistics, administration, engineering support, air load teams, catering, ground-based aircraft refueling, firefighting etc.), and Number 4 Squadron (Joint Terminal Attack Controllers [JTAC]).⁸ Including the assets and personnel within the OSW will complete the organizational transition from stovepiped, functionally based disparate organizations to a single group with true multi-role, high-end capability. The OSW will provide the G1 Commander and the commanders of FW1 and FW2 with the remainder of the personnel and materiel required to *enable* the conduct of high-end collective training, joint collective training and combined joint collective training – all under the purview of a single one-star officer.

GROUP 1: KEY POINTS

- A single, tactical-level commander will have direct command responsibility over fighter, strike, air-to-air refueling, (limited) mobility, AEW&C, EA, combat communications, security forces, JTAC and the full spectrum of contingency response assets.
- Allows one commander to deploy on high-intensity operations and conduct the full spectrum of RTS, from individual training to combined joint collective training with organic group assets and personnel.

Group 2. Group 2 (G2) places a single one-star ranked officer in command of the remainder of the RAAF's operational aircraft fleet and associated personnel. G2 will comprise three wings: a mobility wing (MW), a maritime patrol wing (MPW) and an ISR wing (ISRW). Each of the G2 wings will be led by a Group Captain (O-6). G2 will have an indicative initial operating strength of approximately 2550 full-time personnel and will be headquartered at RAAF Williamtown.⁹ Figure 8 depicts the G2 organizational structure.

8. OSW will occupy the facilities currently occupied by 95 wing. The remainder of the OSW squadrons will remain in their current location and facilities.

9. A new headquarters facility has just been completed at RAAF Williamtown for the current SRG. Group 2 would take over this headquarters facility.

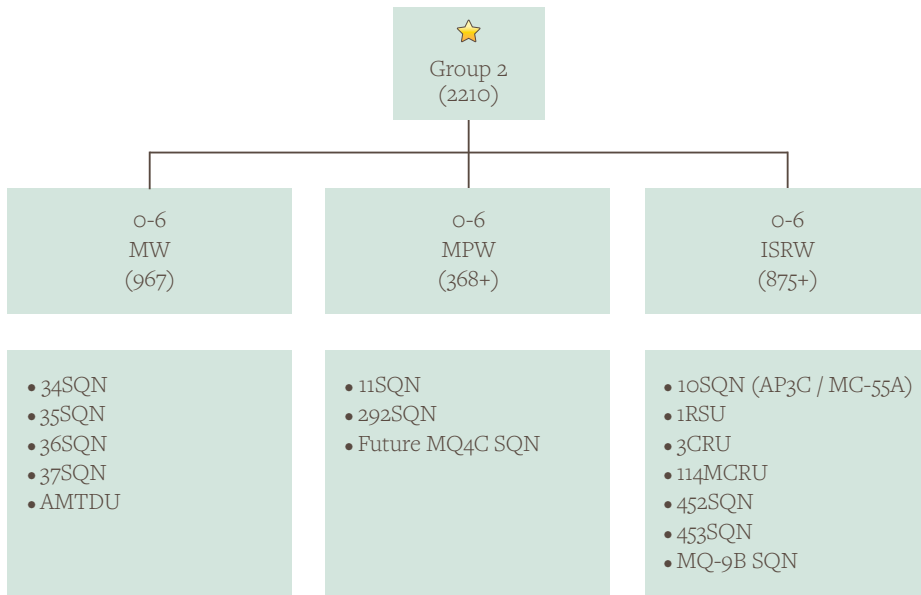


FIGURE 8: The proposed Group 2 organizational structure

Source: Author's original work

While assets and personnel from G2 will be required to operate and be networked and integrated with assets and personnel from the G1 during some high-end training – and during a high-end warfight – the G2 is intentionally kept separate from the G1 for several reasons. First, following consultation with several current and former senior officers, it became clear that the assets and the personnel from the G2 will be regularly called away from scheduled FORGEN training activities to conduct higher priority government tasking or higher priority FORGEN with Navy, Army or Special Operations Command.¹⁰ Accordingly, any perceived increase in flexibility by having G2 assets under the command of a G1 fighter wing would quickly be undone by the frequency with which these assets (and personnel) will be called away at short notice for higher priority tasking. Second, due to simple C2 and span of control issues, the overall number of aircraft and personnel within both G1 and G2 would require a C2 cleavage at some point. The cleavage elucidated in this work provides the neatest and most practical ‘RTS surety’ to ‘operational uncertainty’ split.

10. Based on interviews with several current RAAF O-6 and O-7 commanders, including CDR ACG, CDR AMG, CDR SRG, CDR CSG, DGAIR, DGFORGEN.

In short, the G1 assets and personnel are less likely to be subjected to any form of short-notice recall or re-prioritization. Thus, G1 will be free to plan and conduct relatively uninterrupted high-end FORGEN. Further, by placing all other operational aircraft under the command of one other officer, when the G2 FORGEN program is interrupted – which it inevitably will be – instead of having to re-coordinate training and operations across three different groups, the commander of the G2 will be able to exercise greater command and control, and provide greater agility and resilience.

The MW will be headquartered at RAAF Amberley and comprise Number 34 Squadron (VIP transport), Number 35 Squadron (C-27), Number 36 Squadron (C-17), Number 37 Squadron (C-130J) and the Air Mobility Training and Development Unit.¹¹ The daily tactical and operational employment of the RAAF mobility fleet will continue to be coordinated by the Air Mobility Coordination Centre (AMCC). To provide the MRCG with as much ‘mobility planning certainty’ as possible, the AMCC will continue its current practice of allocating daily ‘training lines’ of aircraft to G1 from the C-27, C-130, and C-17 fleets. When there is an inevitable disconnect between the number of aircraft ‘training lines’ allocated and actually available, Commander G1 will be better placed to prioritize any reduced mobility allocation without having to negotiate with several other FEG Commanders through ACAUST.

The Maritime Patrol Wing (MPW) will be headquartered at RAAF Edinburgh.¹² In the immediate term, the MPW will only have two resident squadrons, Number 11 Squadron (P-8A), and Number 292 Squadron (training). However, the MPW will be future-proofed so it can be organized to cater for the arrival of the MQ-4C Triton unmanned aircraft system (UAS) (RAAF, 2021c). The MQ-4C will operate in conjunction with the P-8A aircraft to provide the ADF with a persistent maritime ISR capability (RAAF, 2021c).

The ISRW will be headquartered at RAAF Williamtown.¹³ The ISRW will comprise Number 10 Squadron, which currently operates the AP-3C(EW) aircraft that will be replaced by the MC-55A Airborne Intelligence, Surveillance, Reconnaissance and Electronic Warfare (AISREW), Number 1 Regional Surveillance Unit (ABM), Number 3 Control and Reporting Unit (ABM), Number 114 Mobile Control and Reporting Unit (ABM), Number 452 Squadron (ATC) and Number 453 Squadron (ATC). Further, the ISRW will also be organized to cater for the arrival of the MQ-9B Sky Guardian UAS, which will fill the Medium Altitude Long Endurance (Armed) UAS capability to enhance the ADF’s overland ISR capability (General Atomics Aeronautical, 2020; Thorn, 2020).

11. The MW headquarters will occupy the current 86 wing headquarters facility.

12. MPW will occupy the current 92 wing headquarters facility.

13. The ISRW will occupy the facilities currently occupied by 41 wing and 44 wing.

There will be some cross-over between the missions conducted by the MPW and the ISRW. Accordingly, having both wings commanded by the same one-star officer will allow for rapid response to government tasking and agile reprioritization where required.

GROUP 2: KEY POINTS

- One tactical-level commander with direct responsibility for all of the mobility and ISR assets, which are regularly the subject of daily tasking/re-tasking.
- These assets are insulated from Group 1, so short-notice tasking does not have a deleterious effect on planned Group 1 RTS.
- Increased agility and resilience within the mobility and ISR fleet.

Group 3. Group 3 (G3) places a single one-star ranked officer in command of the RAAF air and ground training system, the Air Warfare Centre (AWC) and the National Support Base (NSB) functions. G3 will comprise five wings: a Training Wing (TW), an AWC wing (AWCW), two NSB wings (NSBW1 and NSBW2) and a Health Services Wing (HSW). Each of the G3 wings will be led by a Group Captain (O-6). G3 will have an indicative initial operating strength of approximately 4074 full-time personnel. G3 could be headquartered in existing facilities at either RAAF Williams or RAAF Edinburgh.¹⁴ Figure 9 depicts the proposed G3 organizational structure.

Due to the nature and scope of the assets and personnel allocated to G1, G2 and G3, G3 should remain relatively untouched by the day-to-day ‘pulling and hauling’ of assets and personnel that occurs within the current FEG construct. Indeed, G3 should remain free to plan and execute its three essential core roles with little or no disturbance from the other two RAAF groups. The G3 mission will be three-fold. First, ‘delivering essential, effective, and efficient education and training ... to meet Air Force needs’ (RAAF, 2021a). Second, ‘to deliver timely and relevant advice to the warfighter in response to operational and tactical problems ... facing the Air Force’ (RAAF, 2021b). Third, to provide fixed-base services such as administration, catering, engineering, logistics, aircraft loading, aircraft refueling, security and information technology.

14. Group 3 could occupy the current AFTG headquarters facility at RAAF Williams or the AWC headquarters facility at RAAF Edinburgh. The author of this paper has not had the opportunity to visit either facility and is agnostic about the location of the Group 3 headquarters location.

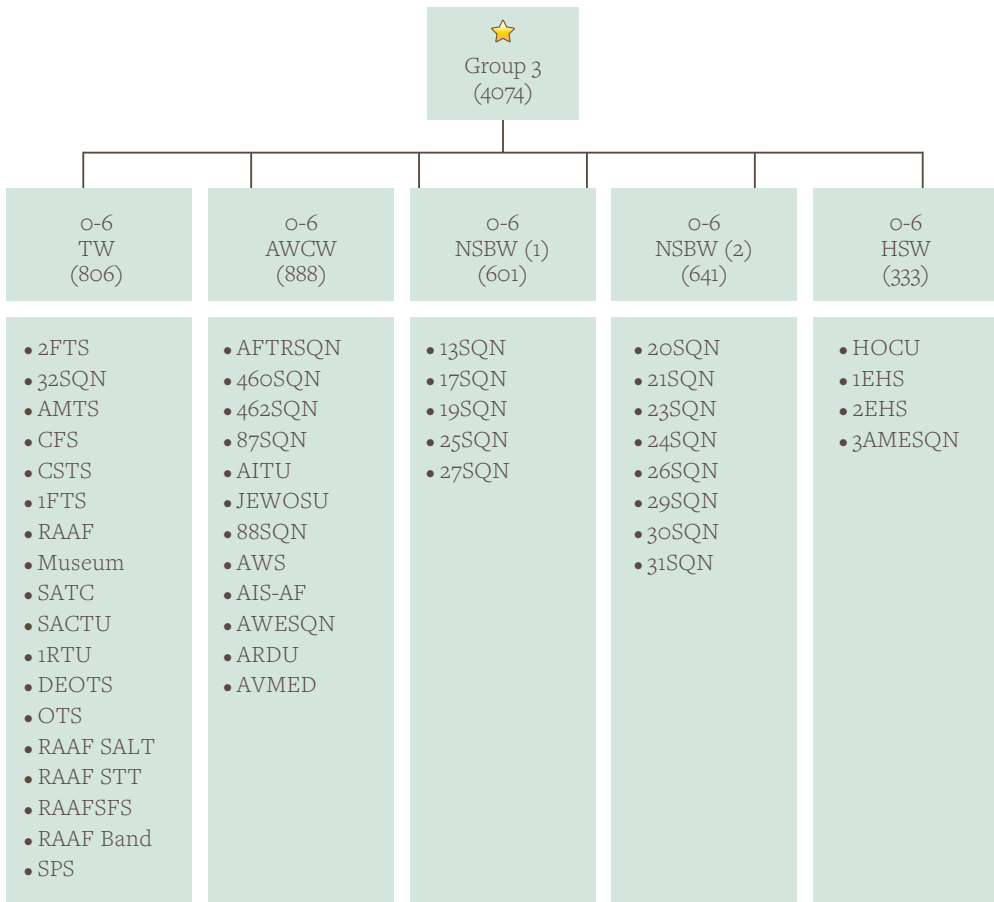


FIGURE 9: The proposed Group 3 organizational structure

Source: Author's original work

The Training Wing (TW) could be headquartered at RAAF Williams, RAAF East Sale or RAAF Wagga and comprise all units that currently reside within the Air Academy and the Ground Academy.¹⁵ The TW will also gain the Surveillance and Control Training Unit (SACTU). The relocation of SACTU to the TW addresses the abnormal placement of SACTU, (primarily) an initial training school that currently resides within an operational FEG.

15. The TW will occupy the headquarters facilities that are currently occupied by the Air Academy and Ground Academy.

The Air Warfare Centre wing (AWCW) will be headquartered at RAAF Edinburgh and comprise the four directorates that currently reside within AWC.¹⁶ The AWC (FEG) only achieved final operating capability (FOC) in 2020 (RAAF, 2021b). Aside from the change of its commander's rank level from one-star to O-6, other changes within the AWCW structure are not the highest priority at this time.

The National Support Base wings (NSBW1 and NSBW2) will be headquartered at RAAF Amberley and comprise the current squadrons within Number 96 Wing, with the addition of Number 1 Security Forces Squadron, Number 3 Security Forces Squadron, Number 65 Squadron (engineering) and Number 295 Squadron (combat support training and standards).¹⁷

The Health Services Wing (HSW) will be headquartered at RAAF Amberley and comprised of the same units resident in the current HSW.

GROUP 3: KEY POINT

- All training, advice, base operations and health functions combined under the command of one tactical-level commander.

The proposed reorganization of the RAAF is *not* designed to achieve *budget efficiency*; it is specifically designed to produce greater *combat effectiveness*. However, for any proposal to gain traction, it must first demonstrate that it is fiscally viable within the current budget allocation. The proposed reduction from six FEG headquarters to three new group headquarters yields an indicative saving of approximately 322 FEG headquarters staff.¹⁸ Given the proposed new group structure has larger group sizes, there may be a need to re-invest some of these personnel savings into the new group headquarters.

Moreover, within the proposed organizational structure, the number of wings is reduced from 17 to 12.¹⁹ This measure yields an indicative saving of approximately 196 wing headquarters staff. Like the FEG headquarters staff savings above, there may be a certain

16. AWC is a FEG within the current RAAF structure. The AWCW will occupy the headquarters facilities, which are currently occupied by AWC (the FEG).

17. The NSBW will occupy the headquarters facilities, which are currently occupied by 96 wing.

18. The current FEG headquarters sizes are as follows: ACG, 156; AFTG, 66; AMG, 121; AWC, 90; CSG, 72; SRG, 139. The median of these numbers is 107.33 personnel per FEG HQ. 107.33 multiplied by a reduction of three FEG HQ yields an indicative saving of 322 FEG HQ personnel.

19. The current median wing headquarters size is 39 personnel. Accordingly, a reduction of five wing headquarters will yield an approximate saving of 196 headquarters personnel.

requirement to re-invest some of these 196 personnel into the larger wings. However, with a total indicative full-time staff saving of approximately 518 full-time personnel across the current FEG and wing structure, it is likely these headquarters staff savings could be re-invested into areas of greater operational need across the RAAF, such as key warfighting capabilities like the Theatre Air Control System (TACS), including the Air Operations Centre (AOC).

Summary of 6.3.a, the proposed near-term solution. Following are the key features of the proposed near-term solution. First and foremost, the proposed organizational structure places all the RAAF's operational forces into three broad organizational groups. Principally, G1 is specifically designed to facilitate enhanced combat effectiveness via improved C2 and intra-unit familiarity, as described in the 'composite wing' section of Chapter 5. Indeed, the proposed near-term solution almost immediately resolves 'a key dilemma now facing the Air Force', by providing commander G1 with all of the resources required 'to quickly raise Air Task Groups (ATGs)', which today 'necessarily contain capabilities drawn from multiple FEGs' (Champion, 2021).

Second, the near-term solution facilitates enhanced RTS because tactical-level commanders 'own' sufficient resources to conduct effective individual, collective, joint collective and combined joint collective training. Third, G1 contains those forces that can afford to enter into long-term FORGEN planning with a lower likelihood these plans will be disturbed by short-notice, higher-priority tasking. Fourth, G2 contains those forces who generally expect to be the subject of short-notice, higher-priority tasking. The G2 assets will enhance activities when they are available to execute planned FORGEN; however, they are less likely to severely disrupt or completely derail the collective, joint collective or combined joint collective FORGEN plans if removed at short notice. Fifth, G3 is reasonably insulated from the uncertainty of short-notice deployments and can focus on its core roles of training, providing advice to commanders, and day-to-day fixed-base operations.

Finally, and less importantly from a combat effectiveness perspective, the proposed near-term solution is designed to be implemented immediately with very little cost. Further, the proposed near-term solution is sympathetic to the social and political realities of the current COVID-19 landscape. The proposed near-term solution does not require the geographical relocation of any squadron, wing or group. The proposed organizational structure reduces the current six FEGs down to three new group structures. The reduced number of groups will result in a significantly reduced amount of 'staff-work churn'. Moreover, this measure alone will reduce hundreds of headquarters 'staff' positions, which can be re-invested into areas of emerging capability needs.

To overcome some of the anticipated organizational inertia, this work recommends CAF approve a 12-month trial reorganization, similar to the trial the former CAS approved in December 1986 prior to minor variations and approval of the new FEG structure in

December 1987 (Hallen, 2019).²⁰ This work recommends a trial reorganization start date of 01 January 2023.

PROPOSED NEAR-TERM SOLUTION: KEY POINTS

- The new groups are designed to facilitate enhanced **combat effectiveness** via improved C2 and intra-unit familiarity.
- Facilitates the agility to quickly raise ATGs.
- Provides for **enhanced FORGEN** because tactical-level commanders 'own' sufficient resources to conduct effective individual, collective, joint collective and combined joint collective training.
- A significant reduction in the number of wings and groups will result in a significant reduction in inter- and intra-wing/group staff effort, which in turn will allow for greater focus on planning and execution of higher caliber RTS events, leading to higher level of readiness and combat effectiveness.
- The proposed reorganization will allow for reinvestment of personnel into key warfighting capabilities such as the TACS and AOC.
- Can be implemented on a trial basis.
- Very low (or no) cost.
- Does not require the relocation of any SQN, WG or Group.
- Personnel savings from the headquarters reductions can be re-invested into emerging capabilities.

6.3.b: Recommendations for long-term RAAF organizational change

Following the successful implementation of near-term organizational changes, a period of organizational stability should be entered for a minimum of 36–48 months. This period of organizational stability is designed to allow for the full planning and execution cycle of multiple iterations of several annual FORGEN events, and at least two iterations of the full planning cycle of two biennial FORGEN events.²¹

20. Note the Chief of the Air Force was titled Chief of the Air Staff (CAS) in 1986.

21. The annual RTS events should be focused on complex single service training activities such as the 'Lightning' series of exercises, and large-scale joint collective training activities such as the 'Joint Warfighting' series of exercises. The biennial RTS events should be focused on large-scale joint collective and combined joint collective training activities such as exercise Talisman Sabre and exercise Vital Prospect.

Further, this period of organizational stability will provide an opportunity for ‘minor organizational variations’, similar to those conducted after the 1988 FEG restructure (Hallen, 2019, p. 11). This period of stability will also provide an opportunity to conduct a thorough review of the composition of each group, wing and squadron headquarters.

Only after this period of stability should the more financially expensive and somewhat permanent step of geographically relocating some units and headquarters be considered. Moreover, the movement of units and headquarters should be considered only where geographic colocation is deemed to provide organizational benefit, which outweighs the significant costs associated with the relocation of units. Due to the costs involved, the physical relocation of units and headquarters facilities should be timed to match the end of the life-of-type of a particular platform, where new facilities are required to be built for the replacement platform, regardless of the organizational structure.

Any long-term organizational plans for the RAAF must include considering additional cyber or space units. In the near-term, this work anticipates that cyber and space assets will continue to be part of the AWCW (as part of G3). The outcomes of the research being undertaken by the recently approved ‘Detailed Scoping Study into the Air Force Organizational Structure and G2’, which is being initiated by CAF and led by a retired two-star officer, will nest perfectly with the recommendations for long-term organizational change within this work (Champion, 2021).

PROPOSED LONG-TERM SOLUTION: KEY POINTS

- Following the proposed near-term organizational changes, a recommended period of ‘organizational stability’ of 36–48 months will allow for minor iterative changes before longer-term, more permanent organizational changes are made.
- The period of organizational stability is ideal for the CAF-directed organizational scoping study to look more deeply into the best organizational placement of emerging space and cyber assets and personnel.
- The period of organizational stability will allow for the CAF’s two-star led organizational scoping study team to look more deeply into the correct makeup of various squadron, wing and group headquarters.
- Squadrons and wing and group headquarters will only move geographically once it is deemed necessary. Any moves will be timed to match the capability life cycle of various platforms.

6.3.c: Recommendations for ADF-wide organizational change

Recommendations for ADF-wide organizational change are beyond the scope of this work. However, as it has been 25 years since the formation of HQAST and almost 20 years since the formation of HQJOC, this work asserts that for the ADF to train as it is most likely to fight, there are many more opportunities for ADF-wide organizational change. Indeed, in the spirit of ‘jointness’, further research could look to the organizational structure of the US Marines or several Special Forces organizations around the world for inspiration on optimizing the organization of a military force for combat effectiveness.

As a microcosm of what might be possible, during the research phase, several opportunities for ADF-wide organizational change were discovered. For instance, the case studies of the RCAF and the RNLAf demonstrated there are several roles within all three ADF services that perform the same function. These include but are not limited to medical, dental, nursing, engineering, logistics, catering, administration and security forces. Further, the RCAF and RNLAf demonstrated that several of these ‘common’ career fields could be rolled up into the central defence force structure rather than retaining organizational and headquarters structures that are duplicated within each of the separate services. This work posits that further research into these common career fields could yield significant personnel and financial savings. Moreover, if further research indicates that personnel and financial benefit can be derived through ADF-wide organizational change, these savings could be re-invested into other high-end warfighting capabilities across the ADF.

PROPOSED ADF-WIDE ORGANIZATIONAL CHANGE: KEY POINTS

- Further research should actively pursue opportunities for ADF-wide organizational change that enhance joint and combined joint operations and RTS.
- Further research should investigate areas of the ADF where career fields that are common across the three ADF services can be rolled-up and be managed by ADFHQ, removing the current duplication of effort.

CHAPTER 7

CONCLUSION

This work commenced with a puzzle. It described how the RAAF had operated successfully for 100 years and acquired some of the most modern, cutting-edge technology in any air force, anywhere in the world. Indeed, by 2025, the RAAF will not have a single operational aircraft that entered service prior to the year 2000. The paper described how the RAAF leadership regularly expresses a desire to raise, train and sustain a world-class small air force capable of networked and integrated, joint and combined operations. However, the RAAF is currently organized into functional, stovepiped silos of excellence. Simultaneously, strategic guidance indicates the RAAF needs to be more prepared today for a high-end conflict in the Indo-Pacific region than at any other time since 1942.

The central thesis of this work is that the current RAAF organizational structure is no longer fit for the purpose the Australian Government requires of it. The RAAF is too compartmentalized, resulting in stovepiped training, inhibiting high-end, networked and integrated, joint collective training. Further, ‘there is currently a divergence between the way Air Force prepares, and how it delivers air and space effects as part of the joint force’ (Champion, 2021, p. 2). Accordingly, this work asserts the RAAF must undertake enterprise-wide organizational change to meet the strategic challenges it faces in 2021 and beyond.

Chapter 2 used quantitative data to demonstrate how *unbalanced* the RAAF workforce structure has become since the last enterprise-wide organizational change occurred within the RAAF in 1987. It asserted that after nearly 300 changes to the original 1987 organizational structure, the RAAF organizational structure of today is not as it was designed to be in 1987. Indeed, Chapter 2 asserted that the RAAF’s current organizational structure is top-heavy, unbalanced and rank-inefficient.

Chapter 3 took a deep dive into the most recent strategic guidance issued by the Australian Government and compared government expectations to the ADF FORGEN cycle. Chapter 3 explored how the continuum of the ADF training cycle is supposed to work; however, it also listed interservice rivalry and friction between the services as key inhibitors to the development of truly *combat effective* training. At its core, Chapter 3 asserted that interservice rivalry and friction are enduring problems over which the RAAF has little control. However, it argued that the current RAAF organizational structure handicaps the RAAF the most, inhibiting the RAAF from producing optimized *combat effectiveness*.

Chapter 4 looked more deeply at the RAAF-specific FORGEN cycle; it described how, until very recently, significant tension existed between ‘top-down direction’ and ‘bottom-up (FORGEN) desires’. As in Chapter 3, Chapter 4 found that some of the friction and tension are inevitable. However, using quantitative data, it demonstrated that the current organizational structure of some current groups, wings and units inhibits the planning and execution of effective, combat-oriented FORGEN.

Chapter 5 used five case studies to elucidate some other organizational models available for the RAAF to pursue. The five case studies looked deeply at the air forces of four other nations – the US, the UK, Canada and the Netherlands – and the fifth case study investigated the Australian Army. The case studies were specifically selected to provide a broad range of organizational options available to the RAAF. Indeed, the case studies investigated nations that have many similarities with Australia in their geopolitical strategy; total landmass; other geography, including the length of their coastline; the size and degree of modernization of their air force; type of aircraft flown; and the nature of their alliances. The Australian Army was selected because it recently conducted an enterprise-wide organizational change.

Chapter 6 arranged some of the puzzle pieces from Chapters 1–5 by addressing some (perceived) RAAF-specific impediments to change. It then provided clear recommendations for near-term organizational change, longer-term organizational change, and some very brief ideas about where broader ADF-wide organizational change may be possible.

Regarding opportunities for further research, this work has only investigated the RAAF at the operational level and below. Further research into the organizational structure of HQAC, AFHQ and the broader ADF organizational structure was beyond the scope of this research. However, it is a well-developed opinion of this author that further research into these areas would yield additional examples of bloating, duplication of effort and other organizational waste and mismanagement – each of these characteristics inhibit the development of a *combat effective* defence force. The final words of this work are reserved for David Peever, Chair of the ADF *First Principles Review*: ‘the current organizational model and processes are complicated, slow and inefficient ... waste, inefficiency and rework are palpable ... Defence cannot continue as it is. The time is right to clear the decks and liberate the organization for the future’ (DOD, 2020e).

On 12 February 2021, the Chief of Air Force directed that a review be conducted into the RAAF organizational structure.

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ROYAL AUSTRALIAN AIR FORCE 2025

This work investigates whether the Royal Australian Air Force (RAAF) organizational structure is fit-for-purpose to raise, train and sustain a modern, world-class small air force capable of networked and integrated, joint and combined operations in 2021 and beyond. The author uses a combination of quantitative data analysis and case studies to conclude that the current RAAF organizational structure is top-heavy, unbalanced and too compartmentalized. This results in stovepiped training, which inhibits high-end, networked and integrated joint collective training.

The author compares contemporary strategic guidance to how the RAAF currently conducts force generation (FORGEN) training and concludes that among other sources of friction and tension, the current RAAF organizational structure is the single biggest inhibitor to the RAAF producing combat effectiveness. Then, using five case studies of four air force and one army organizational structure, the author demonstrates that, despite hundreds of years of cumulative service experience, there is no single panacea or silver-bullet to organizational change. Next, the author addresses some of the difficulties associated with organizational inertia and other inhibitors to organizational change. Finally, the author provides some near-term and longer-term recommendations for organizational change.

ABOUT THE SAASS

The school of Advanced Air and Space Studies is designed to train selected officers as air, space and cyberspace power strategists and improve critical thinking skills. Such skills are highly desirable and, since 2006, the RAAF has been invited to send students to complete the course.



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