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EXERCISE/EXERCICE NEW HORIZONS

**CANADA'S AIR FORCE 2001:**

***MORE COMBAT CAPABLE AFTER TEN YEARS OF AUSTERITY?***

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## EXERCISE NEW HORIZONS

### CANADA'S AIR FORCE 2001:

#### **MORE COMBAT CAPABLE AFTER TEN YEARS OF AUSTERITY?**

The Canadian public have traditionally been ambivalent to military preparedness, viewing themselves as living in a “fireproof house” immune to military aggression.<sup>1</sup> Recently however, there has been growing evidence that Canadians have become concerned about the state of Canada’s combat capability. Cognizant of ten years of concentrated defence cutbacks, and sensitised by specific warnings from the Auditor General, SCONDVA<sup>2</sup>, the NATO Secretary General, the US Ambassador and retired officers, over two-thirds of Canadians have come to suspect that the Canadian Forces do not have all the necessary resources to effectively conduct their defence missions.<sup>3</sup> Canadians embraced Liberal defence cuts in 1994 when the cuts largely eliminated the federal deficit, but since then they have been exposed to myriad ‘isolated’ issues which have made a cumulative impression upon the public’s concern for the CF. Prolonged failure to replace the Sea King, the significant reduction of CF aircraft and flying hours, out-sourcing of air force capabilities,<sup>4</sup> lack of strategic lift, high-profile aircraft unserviceabilities and the loss of life of a full Labrador crew<sup>5</sup> are some of the issues that have captured public attention. By May 2001, sufficient public interest and scepticism had been generated that the media seized upon General Maurice Baril’s impending

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<sup>1</sup> Desmond Morton, *A Military History of Canada* (Edmonton: Hurtig Publishers, 1985) 266.

<sup>2</sup> Standing Committee On National Defence and Veterans’ Affairs.

<sup>3</sup> John Ward, “Poll Suggests High Approval for Canadian Forces,” (The Canadian Press, 7 Dec 1999) accessed at <http://www.pollara.ca/new/Library/SURVEYS/DNDapproval.htm> on 11 Apr 2002.

<sup>4</sup> CE-144 and T-33 Combat Support; Maintenance of the new CH-149 Cormorant.

<sup>5</sup> Fatal crash of Labrador 113305, 2 Oct 98 at Marsoui QC, killing all 6 crew.

retirement as Chief of Defence Staff (CDS) to ask for his candid assessment of affairs. Believing him to be ‘unshackled’ from the obligation to defend government policy, the media expected General Baril to confirm that the CF needed Canadians’ help. Instead, he affirmed that despite years of cutbacks and downsizing, Canada’s armed forces were in fact more combat capable than they had been ten years earlier when, for comparison’s sake, Canada participated in the Gulf War.<sup>6</sup> The incoming CDS and the Minister of National Defence (MND) echoed these assertions, presenting a united position.<sup>7</sup> Unsubstantiated by any departmental study, these statements quickly drew bitter criticism from several retired generals who countered that General Baril was putting a ‘positive spin’ on the decline of the CF, and that the government needed to spend more money to replace obsolete equipment.<sup>8</sup> By December 2001, soon after the World Trade Center and Pentagon terrorist attacks, the rhetoric escalated as Prime Minister Chrétien stated on national television that proponents of additional defence spending were simply lobbyists for the armaments industry and that Canada’s generals have always “complained” for more money.<sup>9</sup>

Unfortunately, this ‘debate’ has made the already nebulous issue of Canadian defence preparedness even more difficult for the public to assess. In view of such a categorical albeit non-specific assertion that the Canadian Forces were more combat capable in 2001 than in 1991, this paper assesses that Canada’s *air force* of 2001 was in fact comparatively *less* combat capable than its predecessor of ten years. The paper will

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<sup>6</sup> Stephanie Rubec, “All Well With Forces: Military Fighting Fit, Baril Says”, [The Ottawa Sun](#), 4 May 2001, 26.

<sup>7</sup> Jeff Salot, “Chretien Names Former Fighter Pilot to Succeed Baril as Chief of Defence Staff,” [The Globe and Mail](#), 23 May 2001, A6.

<sup>8</sup> Mike Blanchfield, “Retired Generals Step In to ‘Tell it Like it is’: Ex-Forces Brass Decry Current General’s ‘Positive Spin’ on Readiness of Canadian Troops,” [The Ottawa Citizen](#), 13 May 2001, A1.

<sup>9</sup> Robert Fife, “Armed Forces ‘Well-equipped,’ Chrétien Fires back,” [National Post](#), 21 Dec 2001, A6.

define the criteria by which such a comparison can be made, then present the arguments made by proponents and critics of Canada's combat capability. After concluding that Canada's three combat aircraft fleets have failed to evolve in the past ten years and have in fact atrophied, the paper will briefly identify some of the unintended consequences of the CDS's assertions to the Canadian public.

The argument that the CF are more combat-capable than in the past is frequently based upon the introduction of a few new or improved pieces of military hardware, with a narrow focus on the particular equipment without consideration of the overall state of the CF.<sup>10</sup> General Baril essentially showcased a single capability of a single platform when he reasoned that Canada's air force was more combat capable in 2001 because CF-18s dropped precision guided munitions (PGMs) in Kosovo in 1999, whereas during the 1991 Gulf War they had only dropped unguided bombs.<sup>11</sup> Defence Minister Eggleton borrowed this assessment, repeating it during an October 2001 address to SCONDVA on the specific issue of air force readiness.<sup>12</sup> Given the lack of substantiation and the simplicity of the argument, one can only interpret that the CDS and Minister believed that the acquisition of nine PGM pods *more than compensated* for the decline of Canada's air force combat capability during ten years of cutbacks, stagnant modernization, reduced flying hours and smaller numbers of pilots and aircraft.<sup>13</sup>

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<sup>10</sup> Sean Henry, Caught in the Middle: An Assessment of the Operational Readiness of the Canadian Forces (Ottawa: Conference of Defence Associations Institute, 2001) 15.

<sup>11</sup> "Speaking Notes for General J.M.G. Baril, CDS, For an Appearance Before SCONDVA in Ottawa, 3 May 2001" accessed at [http://www.vcds.forces.ca/cds/speeches\\_pdf/030501.pdf](http://www.vcds.forces.ca/cds/speeches_pdf/030501.pdf) on 11 Feb 2002.

<sup>12</sup> "SCONDVA Transcript: State of Readiness of the CF (04 15h30 Oct 01)" accessed at <http://dgpa-dgap.mil.ca/DGPA/Transcr/2001Oct/01100407.htm> on 21 Mar 2001.

<sup>13</sup> The CF purchased nine NITE Hawk PGM targeting pods in 1998. An additional three have since been purchased for spare parts and maintenance.

Professor Doug Bland, a military analyst from Queen's University, suggests that any credible characterization of military capability should not focus on a single piece of equipment, but review each particular capability in terms of its inseparable components:

- a. "the number and operational state of weapons and/or equipment;
- b. the adequacy of trained personnel and the state of unit and multi-unit training;
- c. the adequacy of supporting equipments and logistics, such as ammunition, spare parts, and personnel reinforcement and the sustainment for these items;
- d. the adequacy and competency of command support – i.e. trained officers and commanders to bring the capability into operations; and
- e. the credibility of doctrine matching various capabilities together."<sup>14</sup>

In addition, no assessment of capability can ignore the *relative* threat environment. "Unless the technological component of major fighting platforms is regularly upgraded, its capabilities erode – not in absolute terms – but in relative terms, as the military technological capabilities of allies and adversaries continue to advance and leave stranded technology increasingly out of date and dangerous to its crew's survival in battle."<sup>15</sup> In qualitative terms, CF-18, CP-140 Aurora and CH-124 Sea King weapons effectiveness remained unimproved through the 1990s (CF-18 PGMs notwithstanding), while other nations continued to introduce new weapons platforms and systems. As an example, the adoption of fire-and-forget AMRAAM<sup>16</sup> missiles within the air forces of the

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<sup>14</sup> Doug Bland, "Funding Canada's Defence Policy", 8 Nov 2001, accessed at [www.stratnet.ucalgary.ca/ccspapers/papers/bland-funding\\_defence.htm](http://www.stratnet.ucalgary.ca/ccspapers/papers/bland-funding_defence.htm) on 11 Feb 02.

<sup>15</sup> Brian MacDonald, "The Capital/Capabilities Gap: The Final Rustout Decade of the Canadian Forces?" *On Track*, 29 Jun 2001, 14.

<sup>16</sup> *Advanced Medium-Range Air-to-Air Missile*. The AIM-120 AMRAAM is superior to the CF-18 AIM-7 Sparrow in terms of speed, range, manoeuvrability, reliability and resistance to electronic counter measures. AMRAAMs are active-guidance missiles capable of being launched in rapid sequence against multiple simultaneous targets. The AIM-7 is semi-active, requiring continuous radar illumination from the launching aircraft. As a result, the CF-18 is capable of engaging only one target at a time, and any defensive manoeuvring of the CF-18 'off boresight' will cause its own launched missile to become unguided and harmless. ("Air-to-Air Missiles, United States of America: AIM-120 AMRAAM," *Jane's Air-Launched Weapons*, 18 Dec 2001, accessed at <[www.janes.com](http://www.janes.com)> through the CF Defence Information Network on 3 May 2002).

United States, Britain, Germany, France, Denmark, Netherlands, Norway, Belgium, Greece, Spain, Italy, Turkey, Australia and Russia (AA-12 Adder), as well as the introduction of IFF<sup>17</sup> interrogators, improved air-to-air radar, frequency-agile radios and other fighter innovations saw the CF-18 lose relative counter-air capability with each passing year.

In quantitative terms, the number of operational CF-18s declined from 93 to 60 between 1991 and 2001, the Sea King fleet shrank from 34 to 30 aircraft, and the Aurora fleet remained steady at 18. Total CF inventory showed a more drastic decline, reflecting a loss of both real support capability (aircraft) and residual force-generation capability (aircrew and support personnel). In November 1990 the CF had a total of 759 aircraft,<sup>18</sup> but by 2001 the inventory had been reduced to 505. In January 2001, it was quietly reported in Jane's Defence Weekly that Canada's air force was on the eve of retiring another 223 aircraft, reducing its total fleet strength to 282 aircraft.<sup>19</sup>

Applying the logic of the so-called revolution in military affairs (RMA), some argument can be made that smaller more technologically advanced forces can replace and in some cases provide better capability than a larger force. This represents fairly the CF's improved air-to-ground capability, in that the PGM pods now enable nine CF-18s to destroy what might have taken (for argument's sake) 18 CF-18s with unguided munitions. While appreciable, this specific counter-land capability cannot alone substantiate the CDSs' assertion about overall air force capability: the modest gain in air-to-surface capability did not offset the more significant erosion of air defence capability.

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<sup>17</sup> *Identify Friend or Foe* transponders.

<sup>18</sup> Larry Milberry, Canada's Air Force Today – 1991 Update (Toronto: CANAV Books, 1991) 23.

<sup>19</sup> Sharon Hobson, "Canada Continues to Cut Daily Flying Operations," Jane's Defence Weekly, 29 Jan 2001.

The Canadian Forces are established to *defend* Canada in accordance with the 1994 White Paper priorities: defence of Canada, defence of North America and contribution to international security. While nine PGM-capable CF-18s provide an important element of force projection, they do nothing to defend the airspace over the second largest landmass on Earth. RMA notwithstanding, any requirement to defend the many air approaches to Canada will require aircraft-intensive operations<sup>20</sup> and a sustainment ratio of two pilots per aircraft. Until surveillance-cueing becomes reliable enough, if ever, to reduce the need for multiple air defence CAPs,<sup>21</sup> quantities of aircraft will continue to be critical for defensive capability against bombers, cruise missiles and hijacked aircraft. In reality, the number of operational CF-18s declined by 35% between 1991 and 2001, the number of operational CF-18 pilots declined by 58% (161 to 68), and there were no qualitative improvements made to the counter-air capabilities of those aircraft remaining in service. Thus it is safe to say that the defensive capabilities of the CF-18 fleet declined in both real and relative terms during the period 1991-2001.

The argument that Canada's air force could be *more* combat capable after years of deferring and suspending capital procurement defies logic. One would expect a general increase in capability to be linked to general investment in new equipment, yet this has hardly been the case. To illustrate, the CF first identified the requirement for 'Capital Project A1677 Aurora Update' in July 1978 to address the recognized deficiencies of the Aurora, not yet in service. A project management office was established in 1987 to implement the programme, yet by 2001 there had still been no movement on the project

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<sup>20</sup> Forces canadiennes, "3 Ere Bagotville – Disponibilité Opérationnelle," Guide de Planification de la 1 DAC pour 1999, 19 août 1998, C2-1/19.

<sup>21</sup> *Combat Air Patrols*: fighter orbits flown inside multiple adjacent areas of responsibility (AORs) to form a defensive perimeter against air threats.



because of capital-funding shortages.<sup>22</sup> Procurement strategies should typically be planned and forecast out to twenty years, but DND funding throughout the 1990s was uncertain even from one year to the next. Invariably, whenever funding was cut, capital programmes had to be delayed or sacrificed to pay for current operations and personnel. The following extract from Defence Minister Collenette's 1995 Budget Impact Statement encapsulates the sweeping scope of defence cuts from 1989 to 1999, totaling \$23.8 billion – a staggering amount when compared to an annual budget baseline of \$10-11 billion.

With the end of the Cold War and the emergence of other national priorities, various aspects of Canada's defence policy and program [sic] have changed as illustrated by the cancellation of a number of large capital acquisitions and the withdrawal of stationed forces in Europe. These changes resulted from budget decisions between 1989 and 1993 that reduced planned defence spending by \$14 billion over the period 1989-90 to 1997-98. The 1994 federal budget reduced defence expenditures by a further \$7 billion over five years, ... and the 1995 budget further reduce[d] the defence program [sic] by \$2.8 billion over the [following] four years.<sup>23</sup>

The cuts were to have been mitigated by selectively eliminating non-combat fleets while improving 'core combat' platforms, but in reality the core combat fleets were being reduced in 2001 to fund their own modernization programmes.<sup>24</sup> In 1991, there had been seven operational CF-18 squadrons manned by 161 operational pilots, flying a minimum of 240 flying hours per pilot per year – a number which the pilots considered to be barely adequate to maintain combat readiness.<sup>25</sup> By 2001, increasing maintenance costs and siphoning of monies for re-capitalization had squeezed flying rates to the point that the four remaining operational CF-18 squadrons were manned by a total of 68 pilots,

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<sup>22</sup> Canadian Forces, Aurora Incremental Modernization Programme Statement of Operational Requirement (AIMP SOR) (Ottawa: NDHQ, Dec 2000) 3/26.

<sup>23</sup> David Collenette, 1995 Budget Impact Statement (Ottawa: NDHQ, Feb 1995) 2-3.

<sup>24</sup> Hobson.

<sup>25</sup> R.A. Davidson et al, Human Factors in the CF-18 Pilot Environment (Toronto: Defence and Civil Institute of Environmental Medicine, 1991) 33.

flying only 178 hours each.<sup>26</sup> This lack of flying time has complicated the management of readiness training across the CF-18 community and has been cited anecdotally as a dissatisfier, exacerbating pilot retention problems and increasing unforecast pilot attrition. As a result, turnover of CF-18 pilots is chronically high, and those who remain in the CF possess increasingly less flying experience. Unfortunately, these ills tend to self-perpetuate, “deter[ring] promising people from joining the forces and ... driv[ing] many of the brightest and the best from the services.”<sup>27</sup> In summary, and to dispel the notion that Canada’s air force has become ‘smaller but meaner’, David Bercuson notes in a 2001 University of Calgary report that “[d]espite the rhetoric of change, the CF force structure today differs little from that of ten years ago – the CF have simply become smaller.”<sup>28</sup> Lieutenant-General Campbell, Chief of the Air Staff (CAS), appears to agree: “We are smaller, and we also have some significant personnel shortfalls.”<sup>29</sup>

Having examined elements of qualitative and quantitative analysis, it is necessary to review force sustainability to assess Canada’s air-combat capability. The 2001 CAS Planning Guidance (CAS PG) perhaps best captures the essence of sustainability challenges, stating, “Throughout the myriad of changes over the past several years the air force has managed to maintain a relatively constant breadth of capabilities; however, the depth has been reduced. The degree of flexibility, the redundancy of critical elements and

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<sup>26</sup> Canadian Forces, “CF-18 Mission Ready Pilots,” Briefing from the Office of 1 CAD A3 Combat Readiness (Winnipeg: 1 Canadian Air Division/Canadian NORAD Region Headquarters, 2001).

<sup>27</sup> Ray Dick, “The Chickens Have Come Home to Roost”, re-published from Legion Magazine, May/June 2001 in On Track, 29 Jun 2001, 20.

<sup>28</sup> Bercuson, 19.

<sup>29</sup> “Remarks by LGen L.C. Campbell to SCONDVA on 15 May 2001,” accessed at [http://www.airforce.dnd.ca/news/2001/05/15\\_2\\_e.htm](http://www.airforce.dnd.ca/news/2001/05/15_2_e.htm) on 13 Mar 2002.

the surge capacity in almost every activity have diminished.”<sup>30</sup> CAS PG 2001 further articulates that,

[w]ith each passing year the percentage of equipment being operated beyond initial design life is increasing. Continually rising support costs, parts obsolescence, and degradation in operational capability/interoperability are the main areas of concern. The timely modernization or replacement of aircraft and related equipment continues to be problematic due to a lack of funding. Failure to maintain, or in some cases restore, contemporary operational capabilities will jeopardize both the ability to operate with our allies and to fulfil the Air Force contribution to meeting the security needs of Canada. This is particularly true in the case of three core combat aircraft fleets: the CF-18 Hornet, CP-140 Aurora and CH-124 Sea King.<sup>31</sup>

While the air force is still generally capable of meeting its peacetime commitments, there are doubts as to its wartime capabilities, especially in terms of sustainability of pilots, weapons and spare parts.<sup>32</sup> Specifically, Canada’s ability to employ its commitment of 24 CF-18s to NATO, UN or coalition operations is dubious. The example of the Kosovo conflict explains why. “With respect to manning levels, it was quickly determined that in order to *sustain* operations, at least two pilots for each aircraft were needed for each daily mission. For the eventual sixteen sorties per day of flying, Canada thus needed at least 32 pilots, representing at least half of all available combat-ready aircrew. ... In short, the operational commitment [of 12 CF-18s] pushed the available pool of combat ready pilots to the limit.”<sup>33</sup> If half the combat ready CF-18 pilots were required for 12 aircraft, then the *maximum* capacity at the same rate of air-to-ground activity would appear to be only 24 aircraft. Thus, a complete fulfilment of the

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<sup>30</sup> Canadian Forces, Chief of the Air Staff Planning Guidance 2001- Amendment 1 (Ottawa: NDHQ, 2001) Chapter 1-5/7.

<sup>31</sup> CAS PG 2001, Chapter 1-4/7.

<sup>32</sup> Henry, 36.

<sup>33</sup> Todd Balfe et al, “Mission Ready: Canada’s Role in the Kosovo Air Campaign”, Canadian Military Journal, Spring 2000, 60.

NATO commitment would exhaust Canada's complement of fighter pilots, leaving no capacity for NORAD operations or indeed any employment of the remaining 36 jets.

Quite clearly, Canada's air force is suffering from qualitative and quantitative deficiencies while the relative threat and challenges of sustainability have increased markedly since 1991. The next section of this paper will examine comparative readiness and combat capability issues related to each of the CF-18, CH-124 and CP-140, as well as briefly identify support-capability concerns.

In 1991, CF-18s routinely held 5-minute NORAD alert to launch rapidly and assert peacetime air sovereignty. Pilots and groundcrews manned Quick Reaction Area (QRA) facilities, and were practiced and proficient in no-notice air defence intercepts. CF-18s were still relatively new (first delivery Oct 1982, last delivery Sep 1988),<sup>34</sup> and were only just beginning to be outclassed by newer technologies such as the AMRAAM, first introduced into USAF service in 1991. In addition to the NORAD mission, there were fully 45 operational CF-18s permanently assigned to 1 Canadian Air Division in Baden, Germany and a further 24 CF-18s dedicated as NATO Rapid Reaction Force (RRF) from their Canadian bases. NATO units were skilled in force-protection, known as 'Survival To Operate' (STO), using aircraft dispersal, hardened air shelters and nuclear, chemical and biological defence (NBCD) techniques to defeat an enemy WMD (weapons of mass destruction) attack.<sup>35</sup> There was a considerable pool of trained fighter pilots from which to mount and sustain combat operations. 161 pilots could be drawn from the seven CF-18 squadrons for immediate combat employment, and a further 31 instructor pilots

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<sup>34</sup> CF-18 information, <http://www.pma265.navair.navy.mil/crew/fms/canada/canada1.html>, accessed on 2 Apr 2002.

<sup>35</sup> Bob Hicks, They Stand On Guard: A Defence Direction for Canada (Ottawa: Conference of Defence Associations Institute, 1991) 94.

were available from the CF-18 Operational Training Unit (OTU) to be quickly readied for wartime surge.

By May 2001, at the time of General Baril's statement, NORAD alert expertise had dulled considerably. CF-18s no longer routinely practiced or held 5-minute NORAD alert, QRA facilities at Bagotville had been condemned, and virtually all deployment bases were experiencing increasingly difficult impediments to their support of CF-18 facilities, infrastructure and aircraft servicing. Only 68 pilots could be drawn from the four CF-18 squadrons, and a further 21 instructors from the OTU. The total liability for NORAD contingency operations was 36 aircraft<sup>36</sup> and 70-plus pilots, which, if invoked, would have left no pilots to fly NATO operations. If NORAD contingency operations were not being conducted, Canada would still have been hard-pressed to meet its commitment of 24 fighters because of manning limitations. Given that the 78-day Kosovo campaign required fully half of Canada's complement of combat-ready pilots to employ 12 CF-18s,<sup>37</sup> one can extrapolate that the full complement of pilots would be insufficient to sustain employment of more than 24 of its 60 operational fighters. Also by 2001, the robust STO capability that Canada retained throughout its Cold War European operations had been allowed to erode to near-extinction due to post-1994 budgetary pressures. Consequently, there were insufficient personnel, resources and expertise within the fighter community to meet existing force-protection standards for the safety and effectiveness of internationally deployed forces.<sup>38</sup> Compared to 1991, this was an easily calculable loss of previous capability. Finally, the CF-18 had become a relatively dated

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<sup>36</sup> "3 Ere Bagotville – Disponibilité Opérationelle," C2-1/19.

<sup>37</sup> A total of 18 CF-18s were eventually deployed to Aviano, but combat output never exceeded that of a twelve-aircraft operation due to the number of crews and resources deployed.

<sup>38</sup> Canadian Forces, Amended CAS FY00/01 Level 1 Business Plan, (Ottawa: NDHQ, 1999), Part 3-11/19.

aircraft by 2001. According to the December 1999 CAS Business Plan, the CF-18 could not meet NORAD requirements on low-observable target engagements, its ability to fulfil the NORAD role as an all weather day-night fighter was limited, it failed to meet NATO requirements on multiple air-to-air engagement capability, and the existing Defensive Electronic Warfare Suite was ineffective against many contemporary threats. The Business Plan also reported, “Many of Canada’s allies have updated, or are in the process of updating, their fighter aircraft with systems that are no longer interoperable with the CF-18.”<sup>39</sup>

The excellent performance of CF-18 crews during the 1999 Kosovo conflict has led some officials to conclude that all is well with the fighter force: Canadian pilots led a disproportionately large percentage of multi-national strike packages into Kosovo and Serbia proper. In October 2001, Defence Minister Eggleton rightfully cited these accomplishments as proving the tremendous mettle and professionalism of Canada’s fighter force.<sup>40</sup> Still, there were hard lessons to be learned and even the pilots who participated in the conflict have tempered the accolades with cautions about declining combat capability. Major Todd Balfe, Tactical Standards Officer at 4 Wing Cold Lake wrote, “...the point must be made very clearly that [Canada’ Kosovo performance was] not an indication of our true capability, nor was it sustainable. On the contrary, the Canadian contribution was, I believe, an affirmation of training and resources spent in previous years when the fighter force was more robust. A key indicator of this was the varying performance level of the pilots involved. There was a vast discrepancy in experience levels, and it’s safe to say that the more senior aviators very much carried the

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<sup>39</sup> Amended CAS FY00/01 Level 1 Business Plan, Part 4-3/25.

<sup>40</sup> “SCONDVA Transcript: State of Readiness of the CF (04 15h30 Oct 01),” accessed at <http://dgpa-dgap.mil.ca/DGPA/Transcr/2001Oct/01100407.htm> on 21 Mar 2001.

younger ones.”<sup>41</sup> Colonel Donihee, Commander 4 Wing Cold Lake, similarly remarked that the success of Canada’s contribution to the Kosovo campaign was possible only because of “...the vestiges of a time when [the fighter force was] capable of retaining greater readiness levels and overall expertise. We need to articulate the requirement for a credible fighter force and point clearly to the manner in which it is atrophying as a result of a dwindling resource base.”<sup>42</sup> Colonel Davies, Commander Task Force Aviano, provided an apt summary of Canada’s participation, stating, “As it sits, we could not repeat the same level of activity, and in most scenarios we would not be permitted to participate to the same extent, due to our increasingly outdated equipment.”<sup>43</sup>

The assessment of fighter capability becomes even more negative when supporting capabilities such as Ground Controlled Intercept (GCI), air-to-air refuelling (AAR) and airlift are considered. GCI controllers – officers and technicians who monitor air defence radar and who vector fighters onto airborne targets – have suffered shortfalls in readiness training resulting directly from the retirement of the CE-144 Challenger in 2000 and phase-out of the T-33, used to simulate fighters and targets for GCI training.<sup>44</sup> Such training was abundant in 1991. Also, the CF have had no strategic, or intercontinental, AAR capability since 1997. This capability was organic to the CF during the Gulf War, but its absence has since made Canada dependant upon other forces to effect rapid deployment of CF-18s overseas and to project NORAD forces outside the Air Defence Identification Zone (ADIZ). CF-18s returning to Canada from Aviano on short-notice in December 2000 were only able to obtain AAR because a French Air Force exchange officer arranged, through informal channels, to use French KC-135 tankers for

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<sup>41</sup> Balfe et al, 57.

<sup>42</sup> Balfe et al, 59.

<sup>43</sup> Balfe et al, 59.

the redeployment. Lastly, the one capability that Canada has most aspired to increase since the end of the Cold War is mobility. “Up to a decade ago the CF achieved its mobility goals more by forward deployment than by an actual capability to transport military units efficaciously around the globe. Since the CF is now entirely based in Canada, and given the increased possibility of sending CF units anywhere in the world at short notice, there has been a major change in the amount and type of mobility capability needed.”<sup>45</sup> The CF’s military strategic mobility is currently inadequate for the cause, and a significant improvement is necessary.<sup>46</sup> Given the relative requirements, Canada’s airlift deficiency was arguably much worse in 2001 than it was in 1991, and this had a significant effect on the capability to deploy for combat.

Canada’s second combat aircraft, the CH-124 Sea King, was already deemed to be sufficiently obsolete and operationally ineffective that a replacement was announced in 1993, only to be subsequently cancelled by the incoming Chrétien Government. Certainly there have been no qualitative improvements made to the Sea Kings since 1991, and serviceability rates have in fact continued to decline while operating costs rise.<sup>47</sup> The CH-124 entered service in 1963. The current ‘tactical search’ radar was purchased in the 1970s for weather avoidance, its sonar is obsolete, it has only a limited electro-optical sensor capability, and has no data-link, Electronic Support Measures (ESM) or self-defence equipment.<sup>48</sup> There is simply no case to be made that Canada’s Sea Kings were

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<sup>44</sup> Canadian Forces, Air Force Level 1 Business Plan 2001 (Ottawa: NDHQ, 2001) A-7/15.

<sup>45</sup> Canadian Forces, “Capability Goals for the CF,” 21 Jun 2000, accessed at [http://www.vcds.dnd.ca/dgsp/dda/strat/chap5\\_e.asp](http://www.vcds.dnd.ca/dgsp/dda/strat/chap5_e.asp) on 13 Mar 2002.

<sup>46</sup> “Capability Goals for the CF.”

<sup>47</sup> 2001 Report of the Auditor General of Canada – Chapter 10, 5 Dec 2001, accessed at <http://www.oag-bvg.gc.ca/domino/reports.nsf/html/0110ce.html> on 7 Dec 2001.

<sup>48</sup> Amended CAS FY00/01 Level 1 BP, Part 4-2/25.



qualitatively or quantitatively more combat capable in 2001 than they were ten years earlier.

Canada's third combat fleet is the CP-140 Aurora, armed to conduct anti-submarine warfare. The CF acquired an eighteen-aircraft Aurora fleet in the early 1980s to provide strategic surface and underwater surveillance and to operate as a "critical element of Canada's maritime combat team."<sup>49</sup> Unfortunately, the Aurora of 2001 was still equipped with its original 1970s-technology mission suites based on the initial-variant S-3A Viking<sup>50</sup> which the US Navy phased out of service between 1991 and 1994.<sup>51</sup> The December 2000 Statement of Operational Requirement (SOR) stated that the Aurora's systems were not only suffering from maintenance and technological obsolescence, but also from failing to meet the evolving demands of the operational environment.<sup>52</sup> "The CP-140 Aurora's mission computer, communication management system, and radio suite are no longer adequate to support the Aurora's assigned roles. Its surface surveillance capabilities are limited by a radar which has no long range stand-off target detection and identification capability, by its ESM, which is unable to detect some contemporary radar systems, and by its FLIR [Forward Looking Infra-Red sensor], which is unable to identify targets at long range, at night, or in bad weather... In addition, the ability of the Aurora to survive and operate effectively beside our Allies has eroded significantly since its introduction to service..."<sup>53</sup> "The growing inability of the Aurora to address Canadian and coalition military operations due to obsolescence has reduced its effectiveness and will continue to restrict its employability in the future."<sup>54</sup>

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<sup>49</sup> AIMP SOR, 1/26.

<sup>50</sup> AIMP SOR, 1/26.

<sup>51</sup> "S-3B Viking," accessed at <http://www.fas.org/man/dod-101/sys/ac/S-3.htm> on 20 Apr 2002.

<sup>52</sup> AIMP SOR, 2/26.

<sup>53</sup> Amended CAS FY00/01 Level 1 BP, Part 4-3/25.

<sup>54</sup> AIMP SOR, 2/26.

Having reviewed the state of Canada's air combat capability, with much of the

In a foreword to the book *Generalship and the Art of the Admiral: Perspectives on Canadian Senior Military Leadership*, General Baril wrote that “too often those of us serving in the military are overcome with an impulse to focus exclusively on the daily crises that arise and forget that we have a responsibility to educate, inform and prepare both our internal constituencies as well as the general public.”<sup>59</sup> This responsibility to inform from the highest office of the CF is crucial, for generalship entails not only a promotion with a higher pay scale, but involves membership in the senior leadership cadre of the nation, with all its inherent obligations.<sup>60</sup> For this reason, it is imperative that the information presented to the public be honest and factual. General Baril’s message to the Canadian public and Canadian Forces members that the CF not only survived years of severe cutbacks and downsizing, but actually *improved* its combat capability was at worst misleading and at best unhelpful.

As this paper has demonstrated, the combat capability of Canada’s air force has declined in the ten years following 1991. Though improvements had been made to the air-to-ground attack capability of nine CF-18s, the overall air-to-air capability of the CF-18 fleet declined relative to the developing capabilities of adversaries and allies. Similarly, the capabilities of the CH-124 Sea King and CP-140 Aurora did not evolve at all through the 1990s, and by 2001 both fleets were unable to counter contemporary threats or inter-operate effectively with Canada’s allies. Finally, overarching issues of force-generation and force-sustainment also degraded Canada’s overall air force combat capability.

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<sup>59</sup> Maurice Baril, foreword, *Generalship and the Art of the Admiral: Perspectives on Canadian Senior Military Leadership* (St. Catherines: Vanwell Publishing, 2001) ix.

<sup>60</sup> Bernd Horn, introduction, *Generalship and the Art of the Admiral: Perspectives on Canadian Senior Military Leadership* (St. Catherines: Vanwell Publishing, 2001) xiii.

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