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## OPTIMIZING CAF ISR AND INTELLIGENCE FOR GREY-ZONE CONFLICTS

Major Jason J. McCullough

### JCSP 47

#### Service Paper

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## OPTIMIZING CAF ISR AND INTELLIGENCE FOR GREY-ZONE CONFLICTS

By Major Jason J. McCullough

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## **OPTIMIZING CAF ISR AND INTELLIGENCE FOR GREY-ZONE CONFLICTS**

### **AIM**

1. There is a view that Canadian Armed Forces (CAF) Intelligence Surveillance and Reconnaissance (ISR) and intelligence systems are designed for conventional conflicts and are not well suited to conduct intelligence collection and Joint Intelligence Preparation of the Operating Environment (JIPOE) in Grey-Zone conflicts below the threshold of war. The purpose of this service paper is to provide a reflective assessment to the Canadian Joint Operations Command (CJOC) J2 of the current CAF ISR and intelligence system's ability to conduct intelligence activities in Grey-Zone conflicts against irregular forces. It will be argued that CAF ISR and intelligence systems are well suited to support Grey-Zone conflicts against irregular forces as demonstrated by CAF intelligence activities in counterinsurgency (COIN) operations in Afghanistan against the Taliban and targeting operations against Daesh in Iraq and Syria. This service paper will also provide recommendations on how best to optimize CAF ISR and intelligence systems to operate in the Grey-Zone by maintaining current capabilities and through the acquisition of new capabilities.

### **INTRODUCTION**

2. CAF intelligence activities have developed and matured significantly since early 2000s through CAF's participation in the Afghanistan counterinsurgency conflict and counter-Daesh targeting campaign in Iraq and Syria. In both conflicts, the Canadian Army's (CA) land intelligence unit, the All Source Intelligence Centre (ASIC), proved to be the centrepiece of intelligence activities in terms of intelligence collection and production. Given that both these conflicts arguably were Grey-Zone conflicts against irregular forces, they will be used to conduct

a reflective assessment of the performance of CAF ISR and intelligence activities against irregular forces.

3. The first section of this reflective assessment will demonstrate how the Afghanistan counterinsurgency conflict against the Taliban and the counter-Daesh targeting campaign are Grey-Zone conflicts against irregular forces and are below the threshold of war. The next two sections will assess the performance of CAF ISR and intelligence activities in Afghanistan and in Iraq and Syria where it will be demonstrated that current intelligence collection and ISR capabilities were well suited for Grey-Zone operations against irregular forces. The fourth section will discuss the status of current ISR and intelligence capabilities that have been employed over the past two decades as well as new capabilities planned for the CAF under Strong Secure Engaged (SSE) Defence Policy. Finally, the service paper will provide recommendations as to which capabilities need to be maintained and what new capabilities need to be acquired to continue to effectively operate in Grey-Zone conflicts.

## **DISCUSSION**

### **Defining Grey-Zone Conflicts and Irregular Warfare**

4. Grey-Zone conflict is a term used to describe conflicts that are not formal wars and do not consist of traditional conventional conflicts between states.<sup>1</sup> The Grey-Zone is typically associated with the centre-left spectrum of conflict where unconventional warfare such as hybrid warfare and irregular warfare occur.<sup>2</sup> US DOD doctrine defines irregular warfare as a type of

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<sup>1</sup> David Barno and Nora Bensahel, *Fighting and Winning in the Gray Zone*, (Texas National Security Review - War on the Rocks, Special Edition May 2015), 1.

<sup>2</sup> *Ibid.*, 1.

warfare conducted below the threshold of conventional warfare which includes counterinsurgency and counterterrorism operations.<sup>3</sup> Recent examples of irregular warfare in Grey-Zone conflicts the CAF has participated in include COIN operations against the Taliban in Afghanistan and counter-Daesh targeting operations in Iraq and Syria. In both cases, irregular forces (Taliban and Daesh) were the primary adversaries of Coalition forces and fought using asymmetric techniques.

5. The significance of Grey-Zone conflicts is that they pose strategic risk for Western nations “as they can threaten critical interest through strategic disruption which endangers the stability of key regions and upend international political and economic order”.<sup>4</sup> For example, Daesh’s ability to “control parts of Iraq and Syria threaten global energy markets, decreased regional stability, and increased the chance of conflict between Sunni and Shia communities”.<sup>5</sup> Similarly, the Taliban provided Al-Qaeda with a safe haven, fought an insurgency against the Afghan government, and threaten regional stability.

6. In sum, Grey-Zone conflicts and irregular warfare have become one of the leading types of unconventional warfare in the 21st century. By assessing CAF’s ISR and intelligence activities against irregular forces in two different Grey-Zone conflicts, it will assist in determining what capabilities need to be maintained or acquired for future Grey-Zone conflicts.

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<sup>3</sup> US Department of Defense, *Summary of the Irregular Warfare Annex to the National Defence Strategy*, (US Department of Defense, 2020), 2.

<sup>4</sup> David Barno and Nora Bensahel, *Fighting and Winning in the Gray Zone*, (Texas National Security Review - War on the Rocks, Special Edition May 2015), 1.

<sup>5</sup> *Ibid.*, 1.

## **Assessing CAF ISR and Intelligence Activities in Afghanistan**

7. The Afghanistan conflict can arguably be seen as the most significant Grey-Zone conflict against irregular forces (the Taliban) that the CAF has been involved in to date. Until the Afghanistan conflict, CAF ISR and intelligence activities were primarily focus against conventional warfare and conventional forces. At the start of the Afghanistan conflict, the CA did not have deployable intelligence units. The CA having determined the need for an intelligence unit supporting the Task Force (TF), hastily formed ASICs to deploy to Afghanistan. This section will discuss CAF ISR and intelligence capabilities and performance during the period of January 2008 to December 2010 in Kandahar province.

8. The two main ISR and intelligence assets of Task Force Kandahar (TF-K) brigade was the ASIC and ISTAR company. The ISTAR company's main ISR platforms were the coyote reconnaissance squadron with a surveillance suite consisting of radar, video and infrared night vision sensors.<sup>6</sup> The ISTAR company also had Canadian Sperwer UAV troop as well as German UAV detachment.<sup>7</sup> In 2009, the Sperwer UAV was replaced by the more reliable and capable Heron UAV operated by the Joint Task Force's ISTAR section.<sup>8</sup> The Heron UAV had "infrared and Synthetic Aperture Radar, able to deliver "full motion imagery in real time" and was used to conduct "area surveillance, route reconnaissance, observation of specific sites or activities of interest, threat identification, and targeting".<sup>9</sup>

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<sup>6</sup> David A. Charters, *Canadian Military Intelligence in Afghanistan*, (International Journal of Intelligence and Counterintelligence 25, no. 3, 2012), 479.

<sup>7</sup> *Ibid.*, 480.

<sup>8</sup> *Ibid.*, 481.

<sup>9</sup> *Ibid.*, 481.

9. The ASIC had several intelligence collection assets to include a Field Human Intelligence (HUMINT) Team (FHT), several Counter-Intelligence (CI) teams as well as Mobile Electronic Warfare Teams (MEWTs). The FHT consisted of both source handlers and integrators and developed an extensive source network in Kandahar. The CI teams also developed local sources focused on threats to CAF force protection. The MEWTs primarily operated with the Battle Group (BG) and collected on insurgent radio/cellular transmissions. The ASIC also had significant reach-back capability into national and five-eye (FVEY) Signals Intelligence (SIGINT) and Imagery Intelligence (IMINT).

10. Although these CAF ISR and intelligence assets had not been previously employed in irregular warfare, they ultimately proved to be effective in degrading and disrupting Taliban activities.<sup>10</sup> ISR and intelligence assets were used to “produce all-source intelligence that was exploited effectively in the tactical battle” and was “particularly effective against local Taliban leaders and in disrupting their IED networks”.<sup>11</sup> Moreover, the JIPOE process was adapted to develop an understanding of the Taliban IED network setting conditions for the BG to conduct intelligence-led operations against the Taliban IED network.

11. The Afghanistan conflict required the CAF’s military intelligence community to “adapt to a new mission concept and develop new means to support the Army’s counterinsurgency operations”.<sup>12</sup> It did so by “adapting structures and doctrines designed for conventional war”.<sup>13</sup> As such, it can be argued that despite being designed for a conventional war, ISR and

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<sup>10</sup> *Ibid.*, 484.

<sup>11</sup> *Ibid.*, 496.

<sup>12</sup> *Ibid.*, 490.

<sup>13</sup> *Ibid.*, 496.



intelligence capabilities were successfully adapted for irregular warfare. The Afghanistan conflict also introduced new capabilities to the CAF such as UAVs. Although the CAF institutionalized some capabilities by creating ASICs in the Land Force and establishing a HUMINT unit Joint Task Force X (JTFX), some capabilities such as UAVs and MEWTs were not maintained or retained post conflict.

### **Assessing CAF ISR and Intelligence Activities in Iraq/Syria**

12. In the fall of 2014, the CAF joined other coalition partners in a campaign to defeat Daesh known as Operation Inherent Resolve (OIR). Canada established Joint Task Force IMPACT (JTF-IMPACT) which included the deployment of two CP-140 Aurora aircraft to conduct ISR missions on behalf of Combined Joint Task Force - OIR (CJTF-OIR). Although the CP-140 Aurora aircraft by design is a Maritime Patrol Aircraft (MPA) typically employed in maritime surveillance and anti-submarine warfare, its sophisticated surveillance equipment consisting of electro-optics/infrared sensor package (BLOCK 3) was well suited to collect full motion video (FMV) of ground targets as well.<sup>14</sup> Between 30 October 2014 and 11 December 2017, the CP-140s flew 881 missions on behalf of CJTF-OIR and JTF-IMPACT.<sup>15</sup> FMV collected by the CP-140 was used as part of the target development process.

13. In May 2016, JTF-IMPACT repurposed and expanded the National Intelligence Centre (NIC) to become a 50 personnel ASIC. The primary task of the ASIC was to conduct target development (TD) on behalf of CJTF-OIR. The JTF-IMPACT ASIC had a robust FMV

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<sup>14</sup> Department of National Defence, *CP-140 Aurora Fleet Modernization and Life Extension*, (Minister of National Defence, 13 Dec 2018).

<sup>15</sup> Department of National Defence, *Operation IMPACT*, (Minister of National Defence, 15 Dec 2020).

analytical capability in order to conduct processing, exploitation, dissemination (PED) of FMV collected by the CP-140. Given that the ASIC was directly supporting CJTF-OIR PED and TD efforts, US Central Command (CENTCOM) provided the ASIC with a direct feed and connectivity to the US PED enterprise. As such, the ASIC had the capability to view FMV collected by US and allied ISR platforms, giving it additional information to develop target packages.

14. Aside from FMV feeds, the ASIC also had access to FVEY SIGINT and IMINT collection as well as coalition HUMINT reports. Having access to multiple sources of intelligence reporting allowed for the ASIC to develop robust target packages on behalf of CJTF-OIR. The traditional JIPOE process to assess the enemy was also adapted whereby the ASIC conducted Target Systems Analysis (TSA) of Daesh function capabilities. Understanding the functional capabilities of this irregular force network was key to enable the targeting process. TSAs identified the critical vulnerabilities of Daesh functional capabilities, therefore optimizing the effectiveness of targeting activities.

15. In December 2017, after a year and a half experience in optimizing intelligence collection and production to support the targeting process, the CAF stood up the Joint Targeting Intelligence Centre (JTIC). The JTIC took over the ASIC's tasks of supporting CJTF-OIR PED and TD. Similar to how the ASIC was institutionalized in the CA following Afghanistan conflict, the JTIC institutionalized the CAF PED and TD enterprise following the counter-Daesh campaign.

16. The CAF's campaign against Daesh demonstrated once again the CAF's ability to use its ISR and intelligence capabilities in Grey-Zone conflict against irregular forces. Although the CP-140 was design to be a MPA to monitor for conventional threats such as Russian submarines, its upgraded capabilities allowed for it to be employed in a Grey-Zone conflict to conduct ISR against land-centric irregular forces. The ASIC once again proved its value and suitability to conduct intelligence activities in the Grey-Zone against irregular forces through its conduct of PED and TD.

### **Current and Future CAF ISR and Intelligence Capabilities**

17. The CAF's involvement in Grey-Zone conflicts against irregular forces such as the Taliban and Daesh has provided the CAF an opportunity to innovate, adapt and institutionalize ISR and intelligence capabilities towards irregular warfare. The ASIC has been institutionalized and continues to be deployed in support of JTF-IMPACT. JTFX has been stood up to train and maintain readiness of HUMINT capabilities. The JTIC institutionalize CAF's targeting capability by ensuring the CAF remains current on PED and TD processes.

18. However, some capabilities, such as UAVs and MEWTs have not been retained or maintained by the CAF. As part of Strong Secure Engaged (SSE), the government of Canada is committed to invest in Joint ISR platforms. These include next generation surveillance multi-mission aircraft to replace the CP-140, airborne ISR remotely piloted systems such as UAVs for CANSOF, and space-based surveillance assets to replace the current RADARSAT system.<sup>16</sup>

Beyond investment in new platforms and capabilities, the CAF will seek to "integrate existing

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<sup>16</sup> Department of National Defence, *Strong, Secure, Engaged - Canada's Defence Policy*, (Minister of National Defence, 2017), 65.

and future assets into a networked, joint system-of-systems that will enable the flow of information among multiple, interconnected platforms and operational headquarters”.<sup>17</sup>

Integrating these ISR capabilities into intelligence capabilities such as the ASIC and JTIC will be vital.

## **CONCLUSION**

19. Although some CAF ISR and intelligence capabilities were designed for conventional conflicts, this reflective service paper has demonstrated that the CAF has adapted and employed those capabilities in Grey-Zone conflicts against irregular forces such as the Taliban in Afghanistan and Daesh in Iraq and Syria. Furthermore, CAF ISR and intelligence collection capabilities have proven quite suitable to support both COIN and targeting operations against irregular forces. The ASIC has proven itself to be able to conduct collection activities against irregular forces in two distinct Grey-Zone conflicts using numerous collection capabilities such as FHT, CI, MEWTs, UAVs, and CP-140. The ASIC has also been able to modify the JIPOE process to conduct IED network analysis in Afghanistan as well as FMV PED in support of TD and TSA of Daesh functional networks in Iraq and Syria. The institutionalization of intelligence capabilities such as the ASIC, JTIC, JTFX will ensure that the CAF continues to be well suited and postured to respond to irregular warfare in the Grey Zone.

## **RECOMMENDATIONS**

20. In order for the CAF to optimize its ability to conduct operations against irregular forces in Grey-Zone conflicts in the future, the CAF needs to maintain the ISR and intelligence

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<sup>17</sup> *Ibid.*, 65.

capabilities it has used in irregular warfare over the past two decades. The ASICs, having been institutionalized as the deployable CAF intelligence unit at the TF level, will ensure its value and relevance in coordinating the intelligence function in future Grey-Zone conflicts. Capabilities that were not maintained such as MEWTs or retained such as UAVs should be reinvested in. The value of MEWTs were well proven in Afghanistan and ought to be reinvested in. Although SSE has plans to obtain airborne ISR platforms for SOF, these platforms either need to be shared with the other services or additional platforms should be acquired for the conventional force. Both the conflicts in Afghanistan and in Iraq and Syria have demonstrated the value of airborne ISR and therefore the requirement for conventional forces to have access to the capability. Similarly, the replacement project for the CP-140 with a new multi-mission ISR platform should be optimized to conduct operations over both maritime and land domains. Maintaining current capabilities and acquiring new capabilities will be critical to effectively operate in Grey-Zone conflicts against irregular forces in the future.

## BIBLIOGRAPHY

- Barno, David and Nora Bensahel. "Fighting and Winning in the Gray Zone." *Texas National Security Review - War on the Rocks*. Special Edition 19 May 2015.  
<https://warontherocks.com/2015/05/fighting-and-winning-in-the-gray-zone/>
- Charters, David A. "Canadian Military Intelligence in Afghanistan." *International Journal of Intelligence and Counterintelligence* 25, no. 3 (2012): 470-507. <https://doi-org.cfc.idm.oclc.org/10.1080/08850607.2012.652533>
- Department of National Defence. "Operation IMPACT". *Minister of National Defence*. 15 Dec 2020. <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-impact.html>
- Department of National Defence. "CP-140 Aurora Fleet Modernization and Life Extension". *Minister of National Defence*. 13 Dec 2018. <https://www.canada.ca/en/department-national-defence/services/procurement/cp-140-aurora.html>
- Department of National Defence. "Strong, Secure, Engaged - Canada's Defence Policy". *Minister of National Defence*. 2017. <https://www.canada.ca/en/department-national-defence/corporate/policies-standards/canada-defence-policy.html>
- US Department of Defense. "Summary of the Irregular Warfare Annex to the National Defence Strategy". *US Department of Defense*. 2020.  
<https://media.defense.gov/2020/Oct/02/2002510472/-1/-1/0/Irregular-Warfare-Annex-to-the-National-Defense-Strategy-Summary.PDF>