Dear Conference Participant:

On behalf of the Centre for International and Defence Policy and the Chair of Defence Management Studies at Queen’s University, the United States Army War College, and the Land Force Doctrine and Training System of the Canadian Forces, we are pleased to welcome you to the seventh annual Kingston Conference on International Security. These conferences reflect our continuing commitment to facilitating discussions, debate, and research on security issues of concern to the people and governments of the United States and Canada.

This year’s conference focuses on International Security in an Age of Austerity. Our discussions will focus on the challenges that all western countries face in trying to reshape their national security policies in the contemporary era. The prime challenge is how to address threats to international security—particularly threats from non-state actors—in an environment that is marked not only by reductions, often dramatic, in spending on defence, but also by a deepening skepticism among western publics about expeditionary operations.

We invite you to join us in these discussions about the challenges to the management of international security in an era of fiscal restraint, and the most effective responses to these challenges in the years ahead.

Sincerely,

Kim Richard Nossal
Centre for International and Defence Policy
Queen’s University

Ugurhan Berkok
Defence Management Studies
Queen’s University
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<th>Time</th>
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<tr>
<td>1730</td>
<td>WELCOME MEET &amp; GREET – Fort Frontenac Officers Mess</td>
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<td><strong>Major-General Steve Bowes, Commander, Land Force Doctrine and Training System</strong></td>
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<td><strong>Tuesday, 12 June 2012</strong></td>
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<td><strong>DAY 1: THE CHALLENGE OF AUSTERITY</strong></td>
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<td>0715</td>
<td>REGISTRATION – St. Lawrence Foyer</td>
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<td>Breakfast – Hearth Room and West Seventy6 Grill</td>
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<tr>
<td>0830</td>
<td>CONFERENCE INTRODUCTIONS – Master of Ceremonies</td>
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<td><strong>Lieutenant-Colonel Anthony Kaduck, Land Force Doctrine and Training System</strong></td>
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<td>0845</td>
<td>WELCOME AND CHALLENGE TO THE CONFERENCE</td>
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<td><strong>Major-General Steve Bowes, Land Force Doctrine and Training System</strong></td>
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<td><strong>LTG (ret) Keith Dayton, Director, George C. Marshall European Center for Security Studies</strong></td>
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<td>The first keynote explores the future environment that will shape decisions about international security in an “age of austerity,” looking at the implications of a global system where there is no existential threat from other great powers but an on-going threat to security from non-state actors such as anti-western extremists who are organized globally and willing to use terrorism to advance their goals and globally organized criminal networks and organizations. What are the longer-term domestic political implications of the protracted expeditionary operations that western democracies have been engaged in since the end of the Cold War? What are the implications for international security policy of a global economy weakened by shocks from the dot-com crash, the subprime crisis, pressures on budgets from overseas military operations, and difficulties within the euro zone?</td>
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## Tuesday, 12 June 2012
### DAY 1: THE CHALLENGE OF AUSTERITY

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| 1030  | PANEL I: IDENTIFYING THREATS, VITAL INTERESTS AND CORE VALUES | Looking ahead over the next twenty years, nations will need to retain military capabilities that enable them to:  
   a) Respond to threats to the realm: non-state actors, rogue states, near-peer competitors;  
   b) Protect national and collective vital interests;  
   c) Protect and advance core values.  
   Is there agreement with these priorities, and the order of their relative importance?  
   Chair: John Adams, School of Policy Studies, Queen's University  
   Rear-Admiral Ron Lloyd, Chief of Force Development, Canadian Forces  
   Ambassador Lincoln P. Bloomfield, Chairman, Stimson Center, U.S. |
| 1200  | Lunch                                |                                                                         |
| 1300  | PANEL II: FRAMING THE STRATEGIC OPTIONS | Following the discussion from the previous panel, and knowing we are entering into an era a deep fiscal restraint, what strategic options are most likely to be embraced by countries?  
   Chair: Dr. Kim Richard Nossal, Centre for International and Defence Policy, Queen’s University  
   Dr. Philippe Lagassé [Canadian perspective], Public and International Affairs, University of Ottawa  
   Dr. Steve Metz [US perspective], Regional Strategy Department, Strategic Studies Institute, U.S. Army War College  
   Dr. Frank Milne [Australian perspective], Department of Economics, Queen's University |
| 1430  | Break                                |                                                                         |
| 1500  | PANEL III: APPROACHES TO RESHAPING THE DEFENCE BUDGET | Looking at countries that have experienced deep budget cuts, how were these cuts absorbed within their armed forces? What were the most relevant influences, processes, forums and logic used to affect these strategic choice outcomes?  
   Chair: Colonel Ross Fetterly, Ph.D., Comptroller Chief of Military Personnel, Canadian Forces  
   Dr. Marcus Kaim, German Institute for International and Security Affairs (SWP)  
   Dr. Andrew Dorman, International Security, King’s College London, U.K. |
| 1630  | Reception – Hearth Room               |                                                                         |
| 1800  | Dinner – Kingston 1000 Islands Cruises | Boarding 6:00pm at Confederation Basin Docks – departure at 6:30 sharp  
   1 Brock Street – North side of Confederation Park |
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<td>0730</td>
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<td>0830</td>
<td>PANEL IV: FROM STRATEGY TO OPERATIONS Part 1</td>
<td>It has been suggested that the cost and risk of future interventions could be reduced by relying less on “boots on the ground”, and more on remote surveillance systems and long range precision strike assets. Can the problems of austerity be resolved by drawing down standing armies in favour of satellites, armed drones, precise munitions and network-centric operating concepts? Are the current US operations against militants within Pakistan a model for future foreign interventions? Are counter-insurgencies/wars among the people/stability operations now the core business of armies? If so, what are the implications for force structure? Chair: <strong>Lieutenant-General Stuart Beare</strong>, Commander, Canadian Expeditionary Force Command (CEFCOM), Canadian Forces <strong>Brigadier General William Hix</strong>, Army Capabilities Integration Command, U.S. Army <strong>Dr. David Betz</strong>, Department of War Studies, King’s College London, U.K.</td>
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<td>1030</td>
<td>PANEL IV: FROM STRATEGY TO OPERATIONS Part 2</td>
<td>How useful has the Whole of Government approach proven in reducing the military costs associated with stability operations? How far should the core services of the military be contracted out? <strong>Dr. Peter Gizewski</strong>, Centre for Operational Research and Analysis, Defence R&amp;D Canada <strong>Dr. David Moore</strong>, Centre for Defence Acquisitions, Cranfield University, U.K.</td>
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<td>1200</td>
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<td>1300</td>
<td>KEYNOTE ADDRESS: &quot;The Profession of Arms in an Age of Austerity&quot;</td>
<td><strong>Lieutenant-General (ret) Mike Jeffery</strong>, Canadian Forces How should militaries deal with civilian authorities in times of retrenchment, providing a normative guide to the ways in which military leadership can foster synergistic relationships and work with the civilian side in making strategic choices?</td>
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### Wednesday, 13 June 2012
#### DAY 2: POTENTIAL SOLUTIONS AND MILITARY IMPLICATIONS

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| 1400  | PANEL V: IMPLICATIONS FOR THE MILITARY | What kind of future is envisioned for western militaries—and the army in particular—in an era of tightening budgets, uncertain operational demands, and an increasing temptation to turn to high technology means of projecting military power?  
**Jill Sinclair**, Assistant Deputy Minister (Policy), Department of National Defence  
**Cindy Williams**, Security Studies Program, Massachusetts Institute of Technology |
| 1530  | CLOSING REMARKS                  | **Professor Douglas Lovelace**, Strategic Studies Institute, U.S. Army War College |
THE FUTURE SECURITY ENVIRONMENT
Rear-Admiral Ron Lloyd
Chief of Force Development, Canadian Forces

This presentation will highlight the future security environment as it relates to the Canadian and international communities. He will discuss the balancing of threats, vital interests and core values for future military capabilities to respond to the future environments. His presentation will be framed around the Canadian Forces’ Capability Based Planning (CBP) report 2012 as this process will be used to address the military needs over the next 20 years. He will discuss how the CBP report was prepared by covering the key pillars in its development: an analysis of the Future Security Environment, maintenance of context within of the Government of Canada Policies, recognizing the changes and challenges that our allies have and will go through, and identifying the threats to security.

THE FUTURE SECURITY ENVIRONMENT
Ambassador Lincoln P. Bloomfield
Chairman, Stimson Center, D.C.

National security tools that proved effective during the twentieth century can still be tactically effective but are becoming strategically less relevant to the security challenges of the twenty-first century. The beginning of wisdom in posturing our military forces is to widen our aperture in assessing what makes us less or more secure, for the results will show that existing government tools of influence are yielding diminishing leverage on major security trends. We must reflect a greater recognition that not just the size or persistence but the quality of our national effort, including both military and non-military dimensions, can spell the difference between success and failure. While cultivating military and economic strength, we need to orient our endeavors to support arguably the most important element of national power in this century: our reputation.
CANADIAN DEFENCE PLANNING IN A PERIOD OF AUSTERITY:
SMART OR STUBBORN DEFENCE?
Professor Philippe Lagassé
Assistant Professor of Public and International Affairs,
University of Ottawa

As Canada’s military mission in Afghanistan winds down and the country faces several years of fiscal austerity, all of Canada’s major political parties are agreed that Canadian defence budgets must stay level or be cut. This comes at a time when the defence department is slated to replace the Canadian Forces (CF) major equipment fleets. Canada’s defence establishment thus faces some critical decisions. One option is to try to maintain its expeditionary capabilities across all three services: army, navy and air force. Absent substantial new infusions of funds, however, this approach is likely to lead to an overall and largely chaotic reduction of capabilities.

Another option is to make some difficult choices as to which expeditionary capabilities to maintain as part of a strategic review of Canada’s future military needs. Such an option would ensure that Canada has at least some military capacities which can reliably be devoted to the most demanding international operations, while maintaining those capabilities required for domestic duties and North American defence. Pursuing this option would accord with the new North Atlantic Treaty Organization Strategic Concept and the call for ‘Smart Defense’ within the Alliance. This article assesses the arguments for and against the option of specialising Canada’s future defence capabilities and explores scenarios as to what a future CF may look like.

THE AUSTRALIAN ECONOMY
STRATEGIC RISKS AND OPPORTUNITIES: A COMPARISON WITH CANADA
Professor Frank Milne
Bank of Montreal Professor, Department of Economics and School of Business,
Queen’s University

Australia has economic similarities to Canada. Both are commodity producers and exporters. Both have weathered the Economic Crisis, and are in far better shape than many other Western nations. This good fortune should not lead to complacency, but be tempered by the downside risks. Both countries are exposed to the commodity cycle, driven largely by China; they have troubling housing bubbles; and they have disturbingly high levels of private debt. Furthermore, both countries face the demographic and economic challenges of the aging baby boomers.

Given these similarities, it is important to not overlook the differences in the composition of their economies that will impact on their long term welfare.

Finally, both countries differ in their geographic location, strategic risks and opportunities.
**THE IMPACT OF THE FINANCIAL CRISIS ON EUROPEAN AND GERMAN DEFENCE**

Dr. habil. Markus Kaim,  
*SWP- German Institute for International and Security Affairs*

The Libya Mission 2011 illustrated the consequences of the long-standing inability of the majority of European allies to afford at least marginal contributions to NATO missions. Insiders argue that 90% of the Libya operations had to be supported by the US military. The financial crisis has a significant detrimental impact on European armed forces. Holland’s election campaign to withdraw French troops from Afghanistan at the end of 2012 is only one of many examples of how European states try to cope with these rising pressures.

The change from territorial defence army to mission oriented out-of-area forces has been made too slowly. That is also the case with required equipment. As Germany and its European neighbors introduce new budgetary cuts, this may undermine their ability to conduct military operations.

This presentation will explore the impact of the financial crisis on Germany and Europe, and how they handle it. Additionally it will present recommendations and new approaches in the framework of cross-border collaboration that have to be discussed if Germany and its EU partners wish to remain reliable EU and NATO allies.

**DEFENCE IN AN AGE OF AUSTERITY: THE UNITED KINGDOM’S EXPERIENCE**

Dr. Andrew Dorman  
*Professor of International Security, King’s College London, U.K.*

The presentation is divided into a six parts. The first part examines the context in which the 2010 National Security Strategy and Strategic Defence and Security Review (SDSR) were set. This covers economic, defence and political dimensions. The second part analyses the 2010 SDSR, highlighting its assumptions, the twin time-scales in which it was set and the major policy decisions that were taken. The third part then outlines the reviews major weaknesses of the SDSR and considers the criticisms that have been levelled at the review. The fourth part then considers the work strands that were left to be developed in the period following the publication of the SDSR including defence reform, industrial policy, the reserves, the nuclear deterrent and military covenant. The fifth part focuses on the various announcements that have emerged from these work strands plus the impact of a further wave of cuts aimed at finally balancing the projected defence budget in the decade ahead. The last part then reflects on what remains to be undertaken including the future structure of the army and the challenges that are already building for the next defence review scheduled for 2015.
WAR, THE PEOPLE, DE-SOLDIERING AND RE-SOLDIERING THE 'BATTLE SPACE'

Dr. David Betz

Department of War Studies, King’s College London, U.K.

This paper argues that if we understand better what we mean by ‘counterinsurgency/wars amongst the people/stability operations’, and ‘core business of armies’, then the answer to the ‘money question’ — what sort of army do we need to build? — is a lot easier to answer by those whose job it is to square policy objectives X, Y & Z with means A, B & C. The logical frame of analysis if the question is framed as one of the ‘core business’ of armed forces is simply war in its immutable nature as an act of force to compel one’s enemy to do one’s will—not, at least in the first instance, of a distracting portmanteau or hyphenated war subtype. War’s highly mutable context and character, on the other hand—the ‘operating environment’, to use a popular jargon—is characterised in the present, and the future for as far as it is prudent to say, above all by the increasing density of human interconnectivity both physical and, most rapidly, virtual or digital. Soldiers and statesmen alike must apprehend the scope and specifics of this change. Ultimately, the primary tension is between developments in military technology which are driving the de-soldiering of the immediate 'battlespace' with policy objectives that still require their physical presence.

CONDUCTING STABILITY OPERATIONS:

THE UTILITY OF THE WHOLE OF GOVERNMENT APPROACH

Peter Gizewski

Strategic Analyst, Defence Research and Development Canada

Recent years have witnessed growing emphasis on the development and application of Whole of Government (WoG) approaches as a key means of addressing emerging security threats and challenges. In fact, such approaches have been viewed as especially relevant as a means of restoring stability in the case of fragile and failing states - offering the promise of providing more coordinated, efficient and ultimately, more effective responses to the complex problems which such states confront.

The following presentation investigates the merit of such claims. More specifically, it considers the utility of the WoG approach — both in terms of its ability to provide effective responses to the challenges associated with stability operations, as well as its capacity to reduce the costs which such operations involve for those conducting them (the military in particular). Such an investigation indicates a somewhat mixed record. While the approach has clearly yielded a number of benefits in the conduct of past stability operations, it has also confronted -- and continues to confront -- a number of significant challenges. Nevertheless, ongoing development of the approach itself (based in part on the "lessons" of past experience) does offer some grounds for cautious optimism regarding its potential to yield more efficient and effective results in future.
IMPLICATIONS FOR THE U.S. ARMY

Cindy Williams

Principal Research Scientist, Security Studies Program
Massachusetts Institute of Technology

During the coming decades, tightening budgets will result in significant cutbacks to U.S. Army troop levels and force structure. The most recent budget request from the U.S. Department of Defense reflects only a small year-over-year cutback in real terms for the non-war defense budget, but the Army already plans to eliminate 13 percent of its active-duty troops and 18 percent of its brigades. Unless overturned by Congress and the President, the Budget Control Act of 2011 will reduce non-war defense budgets by another ten percent. Moreover, even if that law is overturned, the U.S. fiscal situation does not bode well for future Army budgets. As a result, the Army may shrink by an additional ten to 20 percent. Army equipment purchases will be curtailed to match the smaller force, and complex new equipment programs are likely to be canceled or deferred in favor of the refurbishment and upgrade of existing material. The future Army may be lighter than today’s, and the service will continue to adapt its individual and unit training programs to emerging strategies, missions, and technologies.
**MAJOR-GENERAL STEVE S.J. BOWES**  
*Commander, Land Force Doctrine and Training System, Canadian Forces*

Major-General Stephen J. (Steve) Bowes enrolled in the Canadian Forces in 1985. He served in a variety of positions and locations during his formative years, first with the 8th Canadian Hussars (Princess Louise's) through tours in Petawawa, Germany, and Moncton. He also served in Gagetown with the Armour School and finally with the 12e Régiment Blindé du Canada in Valcartier as a Squadron Commander. Promoted to Lieutenant-Colonel in 2000, he was employed as the G3 of CTC before taking command of the Armour School in 2003, and also serving as Deputy Director Armour Corps.

Major-General Bowes was promoted to Colonel in April 2005 and subsequently appointed the first Commander of the Kandahar Provincial Reconstruction Team. He deployed to Kandahar on Operation ARCHER Rotation 0 from July 2005 to February 2006 under an Operation ENDURING FREEDOM mandate. In May 2006, he was appointed Deputy Commander Standing Contingency Force in Halifax and participated in the Integrated Tactical Effects Experiment (Sea-Land-Air) culminating in a LIVEX along the Atlantic seaboard in November 2006. In June 2007, he assumed formation command and was appointed Commander Combat Training Centre Gagetown. In September 2009, he was promoted to his present rank and appointed Deputy Chief of Staff Plans and Projects for the standup of the new International Security Assistance Force Joint Command (IJC) Headquarters in Kabul. Brigadier-General Bowes recently returned home to take command of Land Force Atlantic Area. He was promoted to Major-General in June 2011, and took command of Land Force Doctrine and Training System in Kingston on 13 June 2011.

Major-General Bowes graduated from Acadia University in 1981 with a Bachelor of Arts in History, and in 1982 with a Bachelor of Arts Honours in Political Science. In 1985, he graduated from Queen's University in Kingston with a Master of Arts in Political Studies. He is also a graduate of the Canadian Land Forces Command and Staff College Course and the Canadian Forces College Command and Staff Course.

Major-General Bowes has been awarded the Meritorious Service Cross, the Meritorious Service Medal, presented the United States Bronze Star Medal, and awarded the Chief of the Land Staff Commendation.

His hobbies include reading, long walks, and golf where his "Foot Wedge" is by far his best club.
KEITH W. DAYTON, LT. GEN., U.S. ARMY (RET.)

Director, George C. Marshall European Center for Security Studies
Germany.

Lt. Gen. (ret.) Keith W. Dayton is director, George C. Marshall European Center for Security Studies. He is responsible for orchestrating resident courses, outreach programs and an international and interagency network of more than 8,000 government officials throughout Europe, Eurasia, Central Asia and South East Europe in fields of international security studies, defense and foreign affairs. The Marshall Center is a German-American partnership organization dedicated to advancing security sector reform, capacity building and harmonizing views on common security challenges.

He retired from the U.S. Army active duty Dec. 1, 2010, as a lieutenant general after more than 40 years of service. His last assignment while on active duty was as U.S. security coordinator to Israel and Palestinian Authority in Jerusalem.

A foreign area officer by training, General Dayton studied at the U.S. Army Russian Institute in Garmisch. His assignments in that field included politico-military staff officer for the Army in Washington D.C.; U.S. defense attaché in Russia; and deputy director for politico-military affairs, Europe and Africa, for the J-5 division of the joint staff in Washington D.C.

General Dayton also worked as director for operations and director for human intelligence for the Defense Intelligence Agency in Washington D.C., including duty as director of the Iraqi Survey Group for Operation Iraqi Freedom in Iraq; and went on to direct the strategy, plans and policy division for the Department of the Army before his assignment to Jerusalem in December, 2005.

In addition to his politico-military experience, General Dayton has held command four times as an artillery officer, and been an operations officer and executive officer during his career. He earned a senior service college fellowship to Harvard University, and served as the senior Army fellow on the Council on Foreign Relations in New York.

His military awards include the Defense Distinguished Service Medal with two oak leaf clusters, the Army Distinguished Service Medal with oak leaf cluster, the Defense Superior Service Medal, and the Legion of Merit with oak leaf cluster.

General Dayton has a bachelor of arts degree in history from the College of William and Mary, a master’s degree in history from Cambridge University, and a master’s degree in international relations from the University of Southern California. He speaks Russian and some German.
LIEUTENANT-GENERAL (RETIRED) MICHAEL K. JEFFERY, C.M.M., C.D.

Lieutenant-General Mike Jeffery was born in London, England. He joined the Royal Regiment of Canadian Artillery under the Canadian Army Soldier Apprentice Programme in 1964. After his commissioning in 1967, he served in a variety of regimental, command and staff positions.

In 1987 he was appointed Commanding Officer of Third Regiment Royal Canadian Horse Artillery. Promoted to Colonel in February 1989, he was appointed Canadian Contingent Commander to the United Nations Transition Assistance Group (UNTAG) in Namibia. Following attendance at the National Defence College, he served at National Defence Headquarters in a variety of staff positions including Director of Land Requirements, Director of Artillery and Director General Program Co-ordination.

In 1996, Lieutenant-General Jeffery was appointed Commandant of the Canadian Land Forces Command and Staff College. In 1997, he was appointed Commander of the 1st Canadian Division and Army Training Authority. In 1999 Lieutenant-General Jeffery was appointed Joint Task Force Commander for Operation ABACUS and oversaw the transition of the Division HQ to the CF Joint HQ. On promotion to Lieutenant-General on 1 May 2000, he was assigned to the Reserve Restructure Project. Lieutenant-General Jeffery served as Chief of the Land Staff from 8 August 2000 to 30 May 2003. He retired from the CF on 1 August 2003.

Lieutenant-General Jeffery is a graduate of the Long Gunnery Staff Course (UK), the Canadian Land Forces Command and Staff College, The US Army Command and General Staff College and the National Defence College. In 2000, he was promoted in the Order of Military Merit to the grade of Commander, and in 2004 he was awarded an Honorary Doctorate Degree from the Royal Military College.

Mike Jeffery runs his own consulting business focused on strategic planning, change management and defence and security issues. He is a Senior Research Fellow at the Canadian Defence and Foreign Affairs Institute and a member of the board of the Perley and Rideau Veterans Health Centre in Ottawa. In October 2011 Lieutenant-General Jeffery assumed the honorary appointment of Colonel Commandant, The Royal Regiment of Canadian Artillery.

Lieutenant-General Jeffery and his wife Anne have two adult children, Christopher and Jennifer and lives in Ottawa.
JOHN ADAMS  
*Skelton-Clark Fellow, School of Policy Studies, Queen’s University*  
John graduated from the Royal Military College in 1965 with a Chemical Engineering Degree. A coveted Rhodes Scholarship took him to Oxford University until 1967. A career as a Military Engineer with the Canadian Forces then began in Canadian Forces Base Chilliwack with 3 Field Engineer Squadron, a unit that he would later command in 1974.  
A 35 year career with the Canadian Forces concluded with John retiring as the Senior Serving Military Engineer in 1995.  
After a three year stint as an Assistant Deputy Minister with the Department of National Defence, John moved to become the Commissioner of the Canadian Coast Guard in the Department of Fisheries and Oceans.  
John then moved back to the Department of National Defence as an Associate Deputy Minister and Chief of the Communications Security Establishment. He was there from 2005 until his appointment as the Skelton Clark Fellow at Queen’s on February 2012.

REAR-ADMIRAL M. RON LLOYD  
*CD Chief of Force Development, Canadian Forces*  
Rear-Admiral Ron Lloyd, graduated from Royal Roads Military College in 1985 with a BA. After initial naval officer training he navigated HMC Ships IROQUOIS, YUKON, TERRA NOVA, and ANNAPOLIS before joining VENTURE, the Naval Officer Training Centre, as a navigation instructor. In 1993, he attended the Operations Room Officer course and subsequently joined CALGARY as the Combat Officer where he was promoted to Lcdr. In CALGARY he participated in OPERATION TRANQUILLITY, which consisted of enforcing United Nations sanctions against Iraq in the Arabian Gulf and enforcing a United Nations embargo against the Former Yugoslavia in the Adriatic.  
In 1996, he assumed the position of Combat Officer Sea Training Pacific. His next appointment was as the Executive Officer in OTTAWA, which deployed as an integral member of the USS ABRAHAM LINCOLN Carrier Battlegroup on OPERATION MERCATOR, which consisted of another deployment to the Arabian Gulf in support of United Nation's operations. He then returned ashore to attend the Canadian Forces Command and Staff College in Toronto.  
In 2000, he was promoted to Commander and appointed as Commanding Officer of CHARLOTTETOWN in Halifax. In CHARLOTTETOWN he deployed as an integral member of the USS HARRY S. TRUMAN Carrier Battlegroup on OPERATION AUGMENTATION 2001-1, which also deployed to the Arabian Gulf. After a three-month reprieve in Halifax, CHARLOTTETOWN returned to the Arabian Gulf in support of OPERATION APOLLO, Canada's commitment to the
War on Terrorism. In 2002, he served as the Executive Secretary to the Chief of Maritime Staff and the following year he completed his MA and French language Training. Capt(N) Lloyd was appointed as Commanding Officer ALGONQUIN in September, 2004.

In 2006, he was appointed Director General Maritime Force Development at National Defence Headquarters in Ottawa. He completed the National Security Studies Program in 2008 and on completion he was promoted to Commodore and appointed as the Commander Canadian Fleet Atlantic. He was appointed as Commander Canadian Fleet Pacific in March 2009. He was promoted to his current rank and appointed Chief of Force Development in July 2010

AMBASSADOR LINCOLN P. BLOOMFIELD
Chairman, Stimson Center, DC.


Mr. Bloomfield founded Palmer Coates LLC in 2005 and serves as president, and he is also a Senior Advisor at Akin Gump Strauss Hauer & Feld LLP. He graduated from Harvard College and received a Master of Arts in Law and Diplomacy from the Fletcher School of Law and Diplomacy. Mr. Bloomfield is a recipient of the Secretary of Defense Medal for Outstanding Public Service, the Secretary of Defense Medal for Meritorious Civilian Service, the State Department’s Distinguished Honor Award and the State Department's Superior Honor Award. He serves on the Board of Directors of the Landmine Survivors' Network and is a Senior Advisor at CSIS. From 1993-2001, he was a partner in the international business group Armitage Associates L.C. He is editor of Global Markets and National Interests: the New Geopolitics of Energy, Capital, and Information (Washington, DC, CSIS Press, 2002).
**Kim Richard Nossal**  
*Director, Centre for International and Defence Policy, Queen’s University*

Kim Richard Nossal went to school in Melbourne, Beijing, Toronto, and Hong Kong and attended the University of Toronto, receiving his PhD in 1977. In 1976 he joined the Department of Political Science at McMaster University in Hamilton, Ontario, where he taught international relations and Canadian foreign policy and served as chair of the Department in 1989-90 and 1992-1996. In 2001, he came to Queen’s University, heading the Department of Political Studies until 2009.

He has served as editor of International Journal, the quarterly journal of the Canadian International Council, Canada's institute of international affairs (1992-1997); president of the Australian and New Zealand Studies Association of North America (1999-2001); and president of the Canadian Political Science Association (2005-2006).

**Dr. Philippe Lagassé**  
*Assistant Professor, University of Ottawa.*

Philippe Lagassé is assistant professor of Public and International Affairs at the University of Ottawa. His research focuses on Canadian defence policy and politics, civil-military relations in Westminster democracies, machinery of government related to foreign policy and national security affairs, and the nature and scope of executive power in the Westminster tradition.

He holds a B.A. in philosophy from McGill University, an M.A. in war studies from the Royal Military College of Canada, and a Ph.D in political science from Carleton University. He also works as an occasional contract defence and procurement policy analyst for government, industry, and political parties. His current research examines national defence and executive-legislative relations in Canada.
**DR. STEVEN METZ**  
*Chairman, Regional Strategy and Planning Department,  
Research Professor of National Security Affairs, Strategic Studies Institute,  
U.S. Army War College*

Dr. Metz has been at the Army War College since 1993, previously serving as Research Professor of National Security Affairs, the Henry L. Stimson Professor of Military Studies, and Director of Research. He has also been on the faculty of the Air War College, the U.S. Army Command and General Staff College, and several universities. Dr. Metz has served as an adviser to political organizations, campaigns, the intelligence community, and national security policy advisory panels, testified in both the U.S. Senate and House of Representatives, serves on the RAND Corporation Insurgency Board, and spoken or undertaken research in thirty-one countries (including Iraq immediately after the overthrow of the Hussein regime).

Dr. Metz is the author of *Iraq and the Evolution of American Strategy* and more than a hundred other publications on future war, the emerging security environment, military strategy, defense policy, international relations and world politics. Dr. Metz holds a B.A. in philosophy and M.A. in international studies from the University of South Carolina, and a Ph.D. in political science from the Johns Hopkins University.

**DR. FRANK MILNE**  
*Professor of Economics and Finance, Department of Economics and  
Queen’s School of Business, Queen’s University*

Frank Milne is the Bank of Montreal Professor of Economics and Finance in the Economics Dept. at the Queen’s University; with a joint appointment in the Queen’s School of Business. Before joining Queen’s University in 1991, he was a Reader in Economics at the Australian National University in Canberra. He has been during his career a visitor at Stanford University, University of Chicago, Carnegie-Mellon University, New York University, London Business School, The University of Mannheim, University of Heidelberg and many other universities around the world.

Professor Milne has taught a number of graduate courses in the Queen’s Economics Department, including Finance Theory, Financial Derivatives, Financial Risk Management; Corporate Finance, and Modern Banking and Financial Institution Theory.
From 2001 Milne has been a visitor to the Bank of England, discussing Financial Stability with senior members of the Financial Stability section of the Bank. In 2005, he was invited by the Bank of England to teach an intensive Risk Management course at the Bank of England. From September 2008 until June 2009, Milne was a Special Advisor to the Bank of Canada. During this time he advised the Bank on the Financial Crisis. For many years Milne has acted as a consultant on financial and economic policy matters for various Federal government departments in Australia and Canada.

Milne is a graduate of Monash University and the Australian National University.

**Colonel Ross Fetterly, Ph.D**

*Comptroller Chief of Military Personnel, Canadian Forces.*

Colonel Ross Fetterly was posted in June 2011 as the Comptroller Chief of Military Personnel following two years as the 8 Wing Trenton Administration Officer. He was previously employed in the Air Staff where he was the Section Head in Director Air Comptrollership and Business Management (D Air CBM) responsible for financial management of the Air Force Budget and for Cost Analysis in the Air Staff. Colonel Fetterly has also been employed as the Section Head in Director Strategic Finance and Costing (DSFC) within Assistant Deputy Minister (Finance and Corporate Services) at National Defence Headquarters responsible for costing analysis of all capital projects and major departmental initiatives, as well as the Section Head in Director Budget responsible for Economics.

Colonel Fetterly completed a tour in February 2009 as the Chief CJ8 at COMKAF HQ, the NATO Base HQ at Kandahar Airfield, Afghanistan. In this position he was responsible for Finance, Procurement and Contracting.

Colonel Ross Fetterly will be graduated in May from RMC with a PhD (War Studies). His PhD Dissertation was entitled *Arming Canada: Defence Procurement for the 21st Century*. He has a Master of Administration (MAdmin) from the University of Regina in Public Policy, a Master of Arts (MA) in War Studies from the Royal Military College of Canada (RMC) and Bachelor of Commerce (BCom) from McGill University. His PhD fields of study are Defence Economics, Canadian Defence Policy and Defence Cost Analysis.
DR. MARKUS KAIM

Head Research Division, International Security Program
Stiftung Wissenschaft und Politik, Berlin (SWP)
German Institute for International and Security Affairs

Former Positions: Visiting Professor, University of Toronto; Professor, Konstanz University; Visiting Fellow, American Institute for Contemporary German Studies, Johns Hopkins University, Washington, D.C.

DR. ANDREW DORMAN

Professor of International Security, King’s College London, U.K.

Andrew Dorman is a Professor of International Security, King’s College London based at the United Kingdom’s Joint Services Command and Staff College. He is an Associate Fellow at the Royal Institute of International Affairs, Chatham House and the United Kingdom’s representative on the Independent Scientific Evaluation Group in NATO’s Emerging Security Challenges Division. He originally trained as a Chartered Accountant with KPMG at their Cambridge office, qualifying in 1990 before returning to academia. He has previously taught at the University of Birmingham, where he completed his masters and doctoral degrees, and the Royal Naval College Greenwich.

His research focuses on decision-making and the utility of force utilising the case studies of British defence and security policy, defence transformation, nuclear strategy and European Security. He has held grants with the ESRC, British Academy, Leverhulme Trust, Ministry of Defence and US Army War College and provided policy advice to a variety of clients including the defence departments and/or National Security Councils of the United Kingdom, Japan, Iraq, Sweden and the United States.
LIEUTENANT-GENERAL STUART BEARE
Commander, Canadian Expeditionary Force Command – CEFCOM, Canadian Forces

Lieutenant-General Stuart Beare enrolled in the Canadian Forces in June 1978, starting at Collège Militaire Royal in St-Jean, Quebec, and graduating from the Royal Military College of Canada in Kingston, Ontario, with a Bachelor of Engineering degree in 1983. He served with the 1st Regiment Royal Canadian Horse Artillery in Lahr, Germany; attended Army Staff Course 23 at the Royal Military College of Science in Shrivenham, England; and after a stint at National Defence Headquarters in Ottawa in the Directorate of Land Requirements, was appointed Battery Commander, E Battery (Para), 2nd Regiment Royal Canadian Horse Artillery. After commanding his Battery on operations in Cyprus, Major Beare attended the Canadian Forces Command and Staff College in Toronto.


Major-General Beare was appointed Chief of Force Development for the Canadian Forces in 2008. In August 2010 he was then assigned to serve as Deputy Commander – Police for the NATO Training Mission – Afghanistan. He was promoted to Lieutenant-General on 1 July 2011. On 1 September 2011, Lieutenant-General Beare assumed Command of CEFCOM from Lieutenant-General Marc Lessard.
Brigadier General Bill Hix
Director, Concept Development and Learning Directorate,
Army Capabilities Integration Center
United States Army Training and Doctrine Command

Brigadier General Hix assumed duties as Director, Concept Development and Learning Directorate, Army Capabilities Integration Center in March 2012.


Brigadier General Hix has served in a variety of strategy and planning positions, including as Director for Operational Plans and Joint Force Development, Joint Staff J-7, from 2009 to 2010, Strategy Division Chief, Joint Staff J-5, principal special assistant to Commander, U.S. Joint Forces Command, Supreme Allied Commander, Atlantic, and Supreme Allied Commander, Transformation, and as a staff officer at Combined Forces Command, Korea.

Previous operational assignments include command and staff positions in the 82d Airborne Division, 1st Battalion, 1st Special Forces Group (Airborne), and the 101st Airborne Division (Air Assault), with operational tours spanning peacekeeping missions in the Sinai and the Western Sahara and command in Desert Shield and Desert Storm.

Born in Washington, D.C., Brigadier General Hix was commissioned as an infantry officer following graduation from the U.S. Military Academy in 1981. He holds a Masters of Military Art and Science, was a National Security Affairs Fellow at the Hoover Institution on War, Revolution, and Peace at Stanford University and is a member of the International Institute for Strategic Studies.

Brigadier General Hix is a master parachutist and has earned the Combat (with Star) and Expert Infantryman Badges, Special Forces and Ranger Tabs, and Military Freefall, Pathfinder and Air Assault Badges. His awards and decorations include the Defense Superior Service Medal (with 2 Oak Leaf Clusters), Legion of Merit (with 1 Oak Leaf Cluster), Bronze Star Medal (with 2 Oak Leaf Clusters), Southwest Asia Service Medal (with 2 Bronze Service Stars), Afghanistan Campaign Medal, Iraq Campaign Medal, NATO non-Article 5 Medal, and United Nations Medal (MINURSO).

He and his wife Sharon, a career teacher, have been married since 1981. Their son is also in government service. His hobbies include hiking, shooting, history, and cooking.
DR. DAVID BETZ
Senior Lecturer, War Studies Department, King’s College, London U.K.

David Betz is a senior lecturer in the War Studies Department at King’s College London. He is the head of the Insurgency Research Group there as well as the academic director of MA War in the Modern World. He also heads a 2-year US DoD Minerva-funded project on Strategy and the Network Society. He is a Senior Fellow of the Foreign Policy Research Institute. He has written on information warfare, the future of land forces, the virtual dimension of insurgency, propaganda of the deed, cyberspace and insurgency, stand British counterinsurgency in such journals as the Journal of Strategic Studies, the Journal of Contemporary Security Studies, and Orbis. His book Cyberspace and the State has just been published by the International Institute for Strategic Studies. He has advised the UK MOD and GCHQ on strategic issues, counterinsurgency and stabilization doctrine, cyberspace and ‘cyberwar’.

He regularly lectures internationally and in the UK at the Defence Academy to the Advanced and Intermediate Command and Staff. After a short and generally unremarkable career as an infantryman in the Canadian Forces he left with the rank of Master Corporal to wander around Asia and the Middle East for three and a half years before going back to university where he remains still.

PETER J. GIZEWSKI
Senior Defence Scientist, Centre for Operational Research and Analysis Defence Research and Development Canada

Peter Gizewski has served as Strategic Analyst to the Land Staff since November 2002. He was educated at the University of Toronto (Trinity College) and Columbia University where he was a MacArthur Fellow in Conflict, Peace and Security, and a Department of National Defence Fellow in Military and Strategic Studies. In his 20-year career as a policy analyst, Mr. Gizewski has worked for a number of government agencies (DFAIT, CIA), think tanks (Canadian Centre for Global Security) and in academia (UoT, York University) both in Canada and the United States.

Gizewski’s areas of interest and expertise include: US and Canadian foreign and defence policy, arms control, non-proliferation and disarmament, South Asian Security affairs and the environmental and the demographic sources of conflict. His recent publications for the DRDC-CORA and the Land Staff include a study of the Future Security Environment and its Implications for Canada’s Army, and a number works examining the prospects for the creation of a more Comprehensive Approach to Military Operations (w/ Dr. Michael Rostek).
**DR. DAVID MOORE**  
*Director, Centre for Defence Acquisition, Cranfield University, U.K.*

Dr David Moore is Director of the Centre for Defence Acquisition with Cranfield University at the Defence Academy of the United Kingdom.

He worked in purchasing, logistics and supply chain management within public sector and commercial organisations before entering academia, with the University of Glamorgan, where he developed and delivered Chartered Institute of Purchasing and Supply (CIPS) courses for organisations such as British Airways, London Underground and the Civil Service College. These were followed by the development and leadership of the MBA full time and part time programmes, as well as the MBA ‘by Directed Learning in Bahrain.’ In 1996, he joined Cranfield University where he initiated the BSc (Hons) Management and Logistics course and then the MSc Defence Logistics Management. Most recently he designed, developed and delivered the MSc Defence Acquisition Management course.

David has undertaken extensive education, training, and consultancy assignments in the UK, USA, Europe, Middle East and Far East for organisations such as Shell, British Gas, NHS, Welsh Office, the Gibraltar Health Authority, Coca Cola, Qatar Steel and the Arab Ship Repair Yard. He has also spoken at conferences around the globe.

Particular interests include outsourcing, the use of contractors for service provision, developing effectiveness through professionalism and the development of a relevant Body of Knowledge. He has written a number of books and book chapters plus conference and journal papers.

David served in the RLC (TA) until 1999 and held both staff and CO appointments as Lt Colonel.


**MAJOR GENERAL JEFFREY J. SNOW**  
*Director, Strategy, Plans and Policy, G-3/5/7, U.S. Army*

Major General Jeffrey J. Snow was commissioned a Lieutenant of Infantry in 1983 after graduation from the United States Military Academy. He has served in a variety of command and staff positions in the United States, Germany, Kosovo, Kuwait, and Iraq. He is currently assigned as the Director of Strategy, Plans and Policy, Office of the Deputy Chief of Staff G3/5/7. In this capacity, Major General Snow is responsible for developing, articulating, and advancing strategic plans, concepts, and policies that shape the geostrategic security environment and allow Army senior leaders to meet national security requirements.

Major General Snow’s staff assignments include Company Executive Officer and Battalion S1/Adjutant in 2nd Battalion, 6th Infantry in Erlangen Germany; Company and Battalion Tactical Operations Officer, West Point, NY; Battalion Operations Officer, Chief of Operations, and
Brigade Operations Officer in the 10th Mountain Division, Fort Drum, NY; Strategic Planner to the Army G3 in the Pentagon; Senior Task Force Observer Controller at the Training Center in Hohenfels, Germany; Executive Officer to the Commanding General, Third U.S. Army / Coalition Forces Land Component Command (CLFCC) stationed primarily in Kuwait; Director of the Iraq Army Training and Advisory Mission, Army and Director of Strategy, Plans and Assessments for USF-Iraq during Operation Iraqi Freedom / Operation New Dawn.

Major General Snow had the privilege to command B Company, 2d Battalion, 6th Infantry in Erlangen, Germany; 2nd Battalion 2nd Infantry in Vilseck, Germany as well as in Kosovo during Operation Joint Guardian and 1st Brigade, 10th Mountain Infantry at Fort Drum in New York as well as in Iraq during Operation Iraqi Freedom.

Major General Snow is a graduate of the Infantry Officer Basic Course, the Infantry Officer Advanced Course, Command and General Staff College, and the Army War College. He has Masters’ Degrees in Social Psychology and Strategic Studies. His awards and decorations include the Distinguished Service Medal, Defense Superior Service Medal with Oak Leaf Cluster (OLC), Legion of Merit with OLC, Bronze Star Medal with OLC, Meritorious Service Medal with 3 OLC, Joint Service Commendation Medal, Army Commendation Medal with 4 OLC, and Army Achievement Medal with OLC. He has also earned the Expert Infantry Badge, Combat Infantry Badge, Ranger Tab, Parachutist Badge, Army Staff Identification Badge, and Joint Staff Identification Badge.

Major General Snow and his wife Lisa are the proud parents of three children; two daughters: Lauren, age 26, and Maggie, age 15, and a son Kelly, age 22.

**JILL SINCLAIR**

*Assistant Deputy Minister (Policy), Department of National Defence*

Ms. Sinclair joined the Department of External Affairs in 1981 and has held diplomatic posts in Prague, Havana and the Middle East. In September 2008, she joined the Department of National Defence where she is currently the Assistant Deputy Minister (Policy). Her professional career has focused on issues of international and regional security and defence.

From April 2006 to July 2008 she served as Assistant Secretary to the Cabinet, Foreign and Defence Policy at the Privy Council Office. Ms. Sinclair was Canada’s Special Coordinator for the Middle East Peace Process from September 2003 to 2006, based in the Middle East, with responsibility for engagement throughout the region on all dimensions of the peace process. From August 2001 to 2003, Ms. Sinclair was Director General, International Security Bureau at the Department of Foreign Affairs, responsible for Canada/US defence relations, NATO, the OSCE, arms control and disarmament and regional security dialogues and arrangements.
She served as Executive Director of the Canadian sponsored International Commission on Intervention and State Sovereignty from November 2000 to December 2001. The Commission produced the report “Responsibility to Protect,” which was submitted to the UN Secretary General in December 2001. Ms. Sinclair has also served as Director General Global Issues, responsible for Canada’s human security initiative. From 1996 to 1998, as Director of the Non-Proliferation, Arms Control and Disarmament Division, Ms. Sinclair led the Ottawa Process, which resulted in the negotiation of the Ottawa Convention banning anti-personnel landmines. She was appointed as Canada’s first Ambassador for Mine Action in May 1998.

Ms. Sinclair is a graduate of Glendon College, York University with an Honours BA in Political Science and History (1979). She undertook post-graduate work in Strategic Studies and International Relations at Dalhousie University (not completed). Ms. Sinclair has also served on the UN Secretary General’s Advisory Board on Disarmament Affairs.

**MARTIN GREEN**

*Director General Policy Planning, Department of National Defence*

Martin Green is currently Director General Policy Planning at the Department of National Defence.

Previously (2004-2011), Mr. Green served as Director General of the Workplace Partnerships Directorate in the Department of Human Resources and Skills Development Canada (HRSDC). He also held positions as Chief of Staff to the Deputy Minister, and as Director General, Program Policy, Planning and Coordination at HRSDC.

Before joining HRSDC in 2004, he held senior management positions at Industry Canada, the Privy Council Office in Intergovernmental Affairs and the Economic Secretariat at the Canadian Environmental Assessment Agency.

Prior to joining the Public Service in 1991, Mr. Green served as Senior Political Advisor, Executive and Legislative Assistant to several Ministers of the Crown including: Industry, Trade, and Environment, as well as to the President of Treasury Board.

Mr. Green holds a Bachelor of Arts degree from Glendon College, York University in Toronto.
CINDY WILLIAMS

Security Studies Program, Massachusetts Institute of Technology

Cindy Williams is a Principal Research Scientist of the Security Studies Program at the Massachusetts Institute of Technology. Her work includes an examination of the processes by which the U.S. government plans for and allocates resources among the activities and programs related to national security and international affairs and an examination of the transition to all-volunteer forces in the militaries of European countries. Previously, Dr. Williams was an Assistant Director of the Congressional Budget Office, where she led the National Security Division in studies of budgetary and policy choices related to defense and international security. She has served as a director and in other capacities at the MITRE Corporation in Bedford, Massachusetts; as a member of the Senior Executive Service in the Office of the Secretary of Defense at the Pentagon; and as a mathematician at RAND in Santa Monica, California.

Dr. Williams holds a Ph.D. in mathematics from the University of California, Irvine. She is a member of the board and an elected fellow of the National Academy of Public Administration and a former member of the Naval Studies Board of the National Academies. She is a member of the Council on Foreign Relations and of the International Institute of Strategic Studies. She serves on the editorial board of International Security and the advisory board of the Scowcroft Institute of International Affairs at the Bush School of Government and Public Service of Texas A&M University, and is on the advisory committee of Women in International Security (WIIS).

PROFESSOR DOUGLAS LOVELACE

Director of the Strategic Studies Institute, US Army War College

Douglas C. Lovelace, Jr., became the Director of the Strategic Studies Institute in May 2000. He held the Douglas MacArthur Professor of Research Chair at the U.S. Army War College. His Army career included a combat tour in Vietnam and a number of command and staff assignments. While serving in the Plans, Concepts and Assessments Division and the Conventional War Plans Division of the Joint Staff, he collaborated in the development of documents such as the National Military Strategy, the Joint Strategic Capabilities Plan, the Joint Military Net Assessment, national security directives, and presidential decision directives. He also was Director of Military Requirements and Capabilities Management at the U.S. Army War College.

He is a graduate of the U.S. Army Command and General Staff College and the National War College. He holds an MBA from Embry Riddle Aeronautical University and a J.D. from Widener University School of Law. He is a member of the Pennsylvania and New Jersey bars. He has published extensively in the areas of national security and military strategy formulation, future military requirements and strategic planning.
DR. UGURHAN BERKOK
Adjunct Chair, Defence Management Studies, Queen's University

Dr. Ugurhan Berkok is the Adjunct Chair, Defence Management Studies at the School of Policy Studies, Queen's University. He also holds a Defence Economics professorship with The Royal Military College of Canada.

His current teaching interests cover game theory, public economics, health economics, defence and national security economics. His current research interests are defence procurement offsets as signal-jamming, peacekeeping and collective action, force generation, interagency coordination, and political incentives of terrorism insurance.
The history of Kingston dates back to 1673 when Robert Cavelier de La Salle, on behalf of the Governor of Nouvelle-France, chose Cataraqui as the site for a fortified trading post of the same name. Later Fort Cataraqui was renamed Fort Frontenac.

In 1687 war broke out between the French and the Iroquois. Two years later the French abandoned the fort to the Iroquois, who destroyed it. The site remained in ruins until 1695 when, after the development of peaceful relations between the two sides, the fort was both reoccupied and rebuilt by the French, who maintained their rule over it for many more years.

Under French rule, Fort Frontenac was used as a key point in attacks against both the Iroquois and British forces on various occasions. However, during the Battle of Fort Frontenac in 1758, the fort was captured by the British and again destroyed.

During the War of 1812 Kingston was the base for the Lake Ontario division of the Great Lakes British naval fleet which engaged in a vigorous arms race with the American fleet, based at Sackett's Harbor, New York for control over Lake Ontario. After the war, the British built Fort Henry and a series of Martello towers to guard the entrance of the Rideau Canal. Fort Henry still stands today and has become a popular tourist destination. In 2007, the Rideau Canal and the fortifications at Kingston were designated a UNESCO World Heritage Site.

Kingston's location at the Rideau Canal entrance to Lake Ontario made it the primary military and economic centre of Upper Canada. Incorporated as a town in 1838, Kingston had the largest population of any centre in Upper Canada and maintained this distinction until the 1840s. In 1846 Kingston was incorporated as a city.
Prior to Confederation, the city was a candidate for becoming the capital of Canada. However, after a brief stint as capital from 1841 to 1844 (including the first meeting of the Parliament of the United Canadas on June 13, 1841), it lost its position to an alternating location of Montreal and Toronto, and then to Ottawa in 1857. Kingston was the home of Canada's first Prime Minister, Sir John A. Macdonald.

It was also during the mid 1800s that the Church of Scotland selected Kingston as the Canadian location for a school. The purpose of this school was to prepare clergy members for service as well as to enlighten others in the subjects of science and literature. What started as a simple facility with one professor and a few students has evolved into the world-renowned Queen's University. This small beginning has promoted Kingston as a centre for knowledge-based industry. Several predominant names in health sciences, environmental services and products, technology firms, as well as information technology and telecommunications have research and development facilities in Kingston.

Thus began a surge of knowledge in Kingston, and the arrival of other institutions such as The Royal Military College of Canada, St. Lawrence College, and the Canadian Armed Forces School of Communications and Electronics. This has promoted Kingston as a centre for knowledge-based industry. Several predominant names in health sciences, environmental services and products, technology firms, as well as information technology and telecommunications have research and development facilities in Kingston.

During the late 19th and early 20th centuries Kingston was an important Great Lakes port and a centre for shipbuilding and locomotive building including the largest locomotive works in the British Empire which closed in 1969. Most heavy industry has now left the city and employment is now primarily in the federal institutional, military, and service/retail areas.

Kingston is known unofficially as the “home of the army.” Fort Frontenac was, before the First World War, home to one of the two regular force artillery batteries in the nascent Canadian army. Fort Frontenac is, to this day, an active military establishment and has long been the home of the Canadian Army Staff College in its many variations over the years. The city is also home to The Royal Military College of Canada, Canadian Forces Base, Kingston, and the Canadian Forces School of Communications and Electronics and several Reserve Force army, naval, and Communications units.

The diversity of Kingston’s numerous attractions is great. For those interested in history, Kingston has 17 museums and several more historic locales. Site of the 1976 Olympic sailing competition, Kingston quickly became known as the fresh-water sailing capital of the world, and has gained popularity in shipwreck diving. Because of the coolness of the waters, several wrecks dating as far back as the mid 1800s can be visited in waters less than 120 ft. deep.

In 2008 Kingston was ranked as one of the top 5 most desirable places to live in all of Canada.
There are three features of special interest in the St. Lawrence – the Thousand Islands, the Rapids, and the highlands of the north shore from Quebec down. The first are the perfection of beauty, the second are almost terrible in their strength, and the last are stern and grand, rising at times to the sublime.

The Lake of the Thousand Islands begins immediately below Kingston, and stretches down the river for forty or fifty miles, varying from six to twelve miles in width. This area is profusely strewn with islands of all sizes from the little rock giving precarious foothold to a stunted juniper or a few wild flowers, to the large island, stretching in broad farms and waving with tall and stately forests. Instead of a thousand, there are in all some eighteen hundred of these lovely isles and one man-made one. The islands were formed in the last ice age, more than 10,000 years ago. Retreating glaciers carved out a rocky mountain range, the peaks of which became islands when the St. Lawrence flooded the region.

Aboriginals call the area Manitouna, or “Garden of the Great Spirit,” and explain its creation with the following legend.

“Two powerful gods, one good and one evil, were arguing over who would rule the St. Lawrence River. They hurled handfuls of rocks, torn from the earth’s surface, across the river at each other. Many of the rocks fell short of the banks and landed in the river. The good god won the battle, and evil spirits were banished. Enchanted spells allowed forests to flourish on the rocks which had fallen in the river. These forested rocks became the thousand islands.”

Archaeological evidence traces Aboriginal presence in the area back 7,000 years. Many Iroquois tribes favoured the islands as summer camping grounds before the Europeans arrived. Between 700 BC and 1600 AD, they served as a base for fishing camps in the summers and fall hunting excursions.

European discovery of the St. Lawrence River is claimed by Jacques Cartier, who came upon it in August 1535. It quickly became an important transportation route for explorers, trappers, traders, soldiers, and missionaries seeking access to the Canadian interior and the United States.

Arriving in the 1600s, Samuel de Champlain was the first European explorer to come upon the islands. By the late 1700s, European settlement of the islands had begun. A boundary agreement between Canada and the United States ensures that no island is split between countries. While two thirds of the islands fall in Canadian territory, the total acreage of Canadian and American islands is roughly equal. Most of the islands are now privately owned, but the region is also home to a UNESCO biosphere reserve and the St. Lawrence Islands National Park. Thousands of tourists enjoy the Thousand Islands region each year.

The construction of canals around the river’s rapids has made it entirely navigable, though ice can obstruct passage during the winter months. The river, nearly 750 miles long, comprises a significant part
of the St. Lawrence Seaway. Opened in 1959, the St. Lawrence Seaway is an international waterway of canals, locks, and dams in the St. Lawrence River and connecting channels between the Great Lakes. It stretches almost 2,350 miles in length, allowing large ocean-going vessels access to central North America. Today it also serves as an important source of hydroelectric power.

With the exception of the Amazon at its flood, the St. Lawrence is the largest river in the world. Its basin contains more than half of all the fresh water on the planet. At its issue from Lake Ontario it is two and a half miles wide, and is seldom less than two miles. At its mouth it is upward of thirty miles wide, and at Cape Gaspe the Gulf is nearly a hundred miles wide.