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Canadian
Coast Guard

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canadienne



Canadian Coast Guard

2007-2008 FLEET ANNUAL REPORT



Saluti Primum, Auxilio Semper
Safety First, Service Always



Canada

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List of Acronyms

ACV	Air Cushion Vehicle	NAFO	Northwest Atlantic Fisheries Organization
AWS	Aids and Waterways Services	NCC	National Coordination Centre
C&A	Central and Arctic Region	NL	Newfoundland and Labrador Region
CCG	Canadian Coast Guard	NMWD	National Model Work Descriptions
CCGC	CCG Cutter	NPCGF	North Pacific Coast Guard Forum
CCGS	CCG Ship	NRCan	Natural Resources Canada
DFO	Department of Fisheries and Oceans	NSERC	Natural Science and Engineering Research Council
DND	Department of National Defence	OGD	Other Government Departments and Agencies
ER	Environmental Response	PA	Pacific Region
FAIS	Fleet Activity Information System	QC	Quebec Region
FAM	Fisheries and Aquaculture Management	RCMP	Royal Canadian Mounted Police
FSSM	Fleet Safety and Security Manual	ROC	Regional Operations Centre
GT	General Technical	SAR	Search and Rescue
IPY	International Polar Year	SC	Ship Crews
ITS	Integrated Technical Support	SO	Ship Officers
JRCC	Joint Rescue Coordination Centre	SRO	Standard Regional Organizations
LTCP	Long-term Capital Plan	SSMS	Safety and Security Management System
MA	Maritimes Region	TC	Transport Canada
MCTS	Marine Communications and Traffic Services	UNCLOS	United Nations Convention on the Law of the Sea
MS	Maritime Security		
MSET	Marine Security Enforcement Team		

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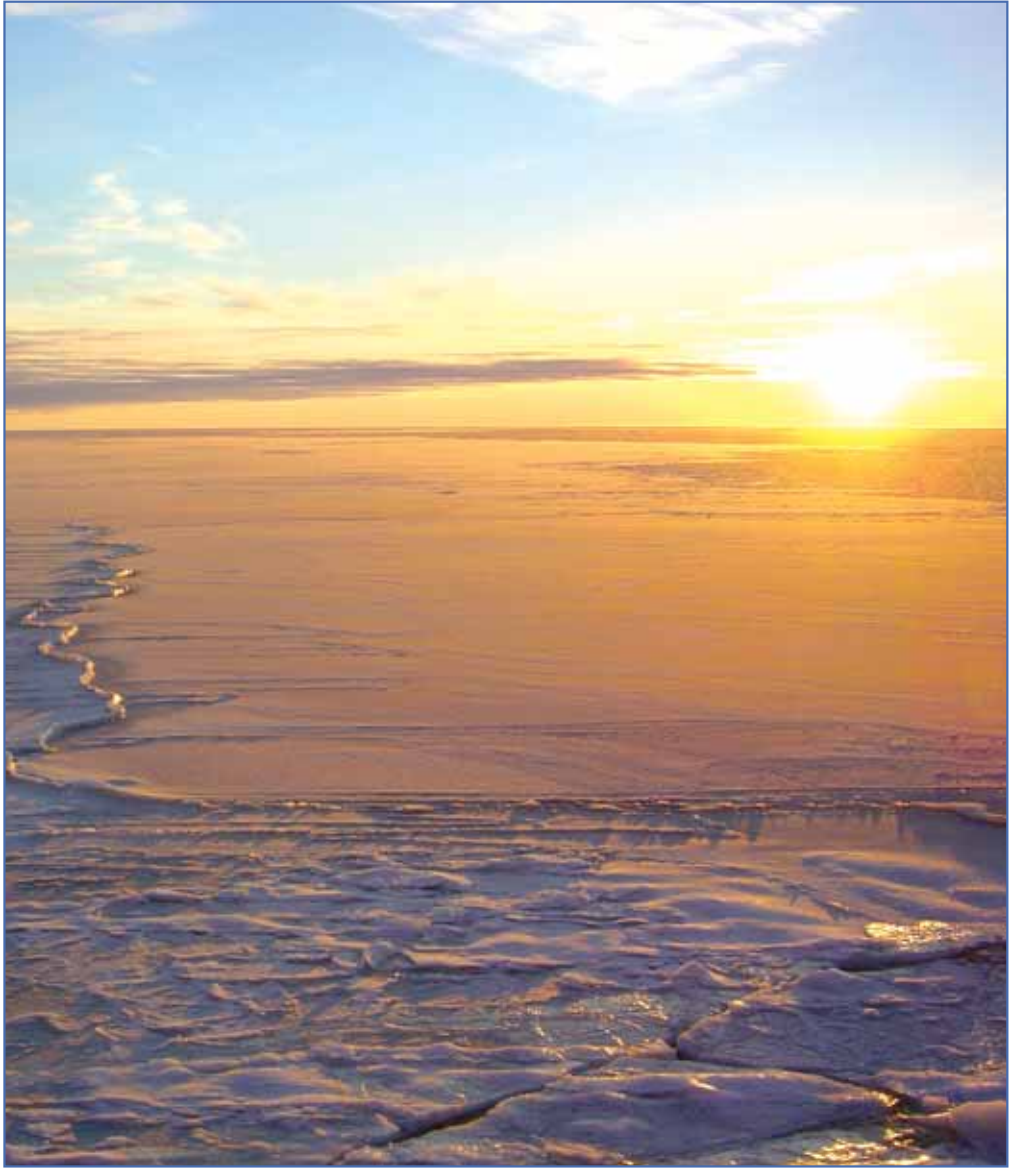
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CCGS Cape Cockburn, SAR Lifeboat

Photo: C&A Region



Arctic Sunrise
Photo: C&A Region

MESSAGE FROM THE DIRECTOR GENERAL, FLEET, CANADIAN COAST GUARD (CCG)

I am proud to present the Canadian Coast Guard Fleet's second Annual Report. This report will provide you with information about the Coast Guard Fleet, its people and its services, as well as a snapshot of our challenges and accomplishments during fiscal year 2007-08, with a goal to help explain how we serve Canada and Canadians.

It is the professionalism, excellence and dedication of our employees that allows the Fleet to deliver a full suite of essential services in some of the world's most difficult and remote environmental and operating conditions. CCG personnel understand, accept and respect the risks that are inherent to our business and do their utmost to ensure maritime safety, security and environmental protection for all Canadians.

By its very nature, the Fleet is a highly flexible organization, operating in a dynamic environment and serving a wide variety of clients. We adapt to the immediate – on-water and weather conditions that can change without warning – as well as to longer-term trends that fundamentally affect Canada's maritime needs and priorities. These include less predictable ice conditions and increased traffic in the Arctic due to climate change, enhanced security requirements along our borders, increased natural resources exploitation, and a more globalized economy that is increasing maritime traffic and competition for qualified seafarers.



Gary B. Sidock
Director General, Fleet
Canadian Coast Guard

In 2007-08, the Coast Guard continued its concerted efforts to address management improvements and Fleet renewal. Financial commitments in recent budgets have allowed us to begin the recapitalization of our fleet including approval to construct a Polar icebreaker, the first of a class and the first in our history. Additionally, integrated business and human resources planning is helping us prepare for the high level of employee turnover we anticipate, and our efforts to create a truly national institution have improved service delivery and effectiveness in the face of an ageing fleet.

In 2007-2008, the CCG Fleet:

Provided 31,499 operational days	or worked 86 years
Sailed 1,324,719 nautical miles	or travelled 61 times around the Earth's circumference
Consumed 64,613,251 litres of ship fuel	or fuelled 1,292,265 compact cars

This year's report features a special section on our Arctic operations (see page 24). During 2007-2008, in addition to our regular service commitments, the Fleet supported seven on-water Arctic projects as part of the Government's participation in the International Polar Year – the largest-ever international program of scientific research focused on Arctic regions. This included the deployment in the Arctic of the *CCGS Amundsen* for a continuous period of fifteen months to conduct the Circumpolar Flaw Lead Study and Inuit Health and ArcticNet studies. CCG also supported ongoing efforts to document Canada's submission to the United Nations Commission on the Limits of the Continental Shelf to extend Canada's sovereign rights, a fundamental element in re-affirming Canada's Arctic sovereignty. CCG also participated in Operation Nanook – a major Arctic exercise by the Canadian Forces in cooperation with the Royal Canadian

Mounted Police (RCMP) and CCG, aimed at ensuring the protection of Canadian sovereignty.

Moving forward, we can expect demand for our services to grow and change, as we adapt to the needs of the people and Government of Canada. I would like to encourage our readers to visit the CCG website where you will find the latest CCG Business Plan and other information which outlines our priorities and commitments for the coming years: www.ccg-gcc.gc.ca.

I hope you will find this second Fleet Annual Report an informative summary of our activities of the past year. Looking back, I am reminded of our committed and enthusiastic workforce, some of whom are featured in this Annual Report, and I am confident in our collective ability to meet the expectations of Canadians whom we serve with pride.

Safety First, Service Always,



Gary B. Sidock,
Director General, Fleet
Canadian Coast Guard



CCGS Leonard J. Cowley, Offshore Patrol Vessel
Photo: NL Region





SERVING CANADIANS



Canada is a coastal nation with a strong maritime tradition and a reliance on maritime transportation and resource-based industries. It has one of the longest coastlines in the world; the world's largest archipelago; inland water systems that stretch 3,700 kilometres from the Gulf of St. Lawrence to Lake Superior; and a 3.7 million square-kilometres Canadian Exclusive Economic Zone with its incumbent management responsibilities. As such, the importance to Canada of having a federal maritime presence, and responsive and operationally ready services and capabilities, cannot be overstated.

The federal government is mandated to play a lead role in ensuring the sustainable use and development of the country's oceans and inland waterways. The Canadian Coast Guard (CCG) is the national institution by which Canada exerts its influence and presence in much of Canada's waterways.

On any given day the CCG Fleet operates in some of the most hostile maritime conditions on the planet. Challenges can include...

- Air temperatures ranging from -40°Celsius to +40°Celsius
- Water temperatures ranging from -2°Celsius to +30°Celsius
- Freezing spray
- Ice under pressure or multi-year ice
- Gale or hurricane force winds
- Waves that can, at times, exceed 20 metres in height; and
- Operating in remote locations and uncharted areas.

Our Legislated Mandate

The Coast Guard's mandate is derived from the *Constitution Act, 1867*, which gives the federal government exclusive authority over navigation and shipping and over beacons, buoys, lighthouses and Sable Island. The *Oceans Act* and the *Canada Shipping Act, 2001* give the CCG its specific mandate.

The *Oceans Act* confers on the Minister of Fisheries and Oceans responsibility for services for the safe, economical and efficient movement of ships in Canadian waters, through the provision of aids to navigation, marine communications and traffic management services, icebreaking and ice management services, and channel maintenance. It also gives the Minister responsibility for search and rescue, pollution response and support of other government departments, boards and agencies through the provision of ships, helicopters and other services.

The *Canada Shipping Act, 2001* confers on the Minister of Fisheries and Oceans responsibilities, powers and obligations with respect to aids to navigation, Sable Island and St. Paul Island, search and rescue, pollution response and vessel traffic services.



On any given day, the CCG...

- Saves 8 lives;
- Assists 55 people in 19 search and rescue cases;
- Handles 1,127 marine radio contacts;
- Manages 2,346 commercial ship movements;
- Services 55 aids to navigation;
- Surveys 5 kilometers of navigation channel bottom;
- Deals with 3 reported pollution events;
- Escorts 4 commercial ships through ice;
- Carries out 12 fisheries patrols;
- Supports 8 scientific surveys;
- Supports 3 hydrographic missions.

The fleet, a vital enabler of the Government's on-water needs, managed and operated by Fleet Headquarters and Regional Operational Services Directorates in the regions is also a visible symbol of Canadian identity. The presence of CCG vessels and helicopters, with their distinctive red and white hulls, and the uniformed officers and crew, provide Canadians with an immediate sense of security and safety on the scene, whether it is in the course of their regular duties and responsibilities, or when responding to a federal or other emergency. The civilian fleet serves as the on-water responder supporting all maritime priorities of the federal government.

1.1 OUR CLIENTS

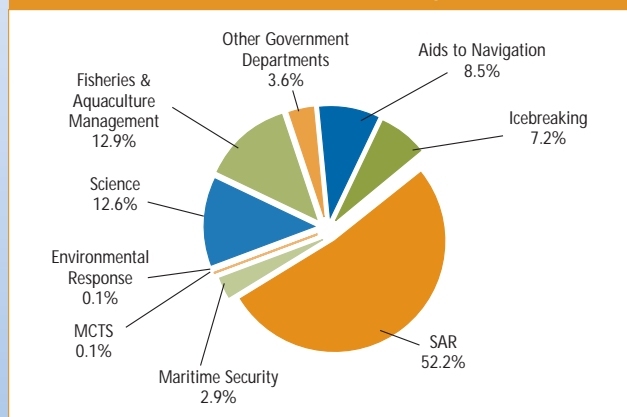
As owner/operator of the Government of Canada's civilian fleet, Fleet supports Canada and Canadians on four equally important levels providing vessels and maritime professionals to:

- Deliver CCG services related to aids to navigation, icebreaking, flood control, search and rescue (SAR), maritime security, environmental response, and marine communications and traffic services;
- Support Fisheries and Oceans Canada science activities and the management and protection of fishery resources;
- Support non-military activities of other government departments (OGD) and agencies; and
- Respond to federal maritime priorities and natural or man-made emergencies.

The services dedicated to each client are further analyzed in Section 4.

Graph 1 illustrates the relative use of fleet assets by client. As in previous years, more than half (52.2%) of our services were devoted to SAR. Icebreaking services increased to 7.2% in 2007-2008 from 5.7% in 2006-07 due to more severe ice conditions.

**Graph 1: Distribution of Fleet Clients, 2007-2008
(% of Operational Days)**



In 2007-2008, while the graph shows a change in the distribution of services to Maritime Security from 5.9% (as reported in the 2006-2007 Fleet Annual Report) to 2.9% in 2007-2008, this does not represent a decline in service support. The change is due to the fact that the evolving Maritime Security program was redefined in 2007-2008. Maritime Security includes all services provided to the RCMP on the Great Lakes and St. Lawrence Seaway under the Marine Security Enforcement Team program plus all law enforcement and customs and immigration support across the country.

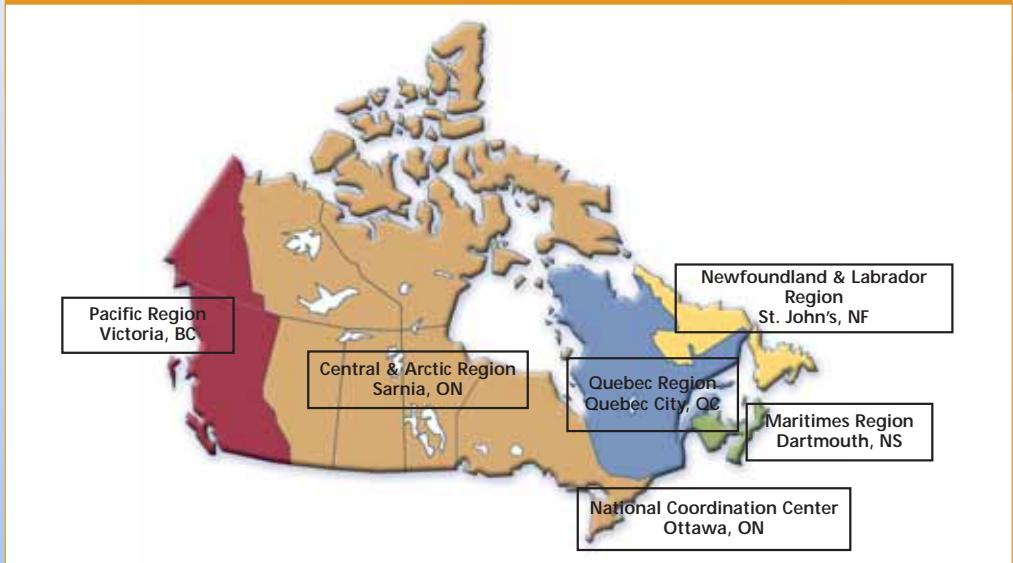
Overall, service delivered by the fleet was 0.7% (213 operational days) less than planned. This gap was primarily due to the requirements of increased maintenance for an ageing fleet.

1.2 OUR OPERATIONS

Fleet effectively manages its diverse and numerous responsibilities by being versatile and highly adaptable. Fleet operates out of five regions, with Regional Operations Centres (ROCs) tasking and deploying vessels and maritime professionals to meet service needs as required. A Coast Guard National Co-ordination Centre (NCC) facilitates national co-ordination of CCG issues, fleet management and an integrated national response when needed (figure 1).

In the event of a major emergency or a national security incident, centralized coordination helps ensure that Coast Guard senior management has prompt, accurate information upon which to base decisions, and support high-level Government of Canada direction.

Figure 1: Fleet Regional Operations Centres





Fleet has established national operating procedures and policies for all aspects of its operations, including the implementation of its Safety and Security Management System. On a daily basis, professionals ashore and at sea manage and operate within this national

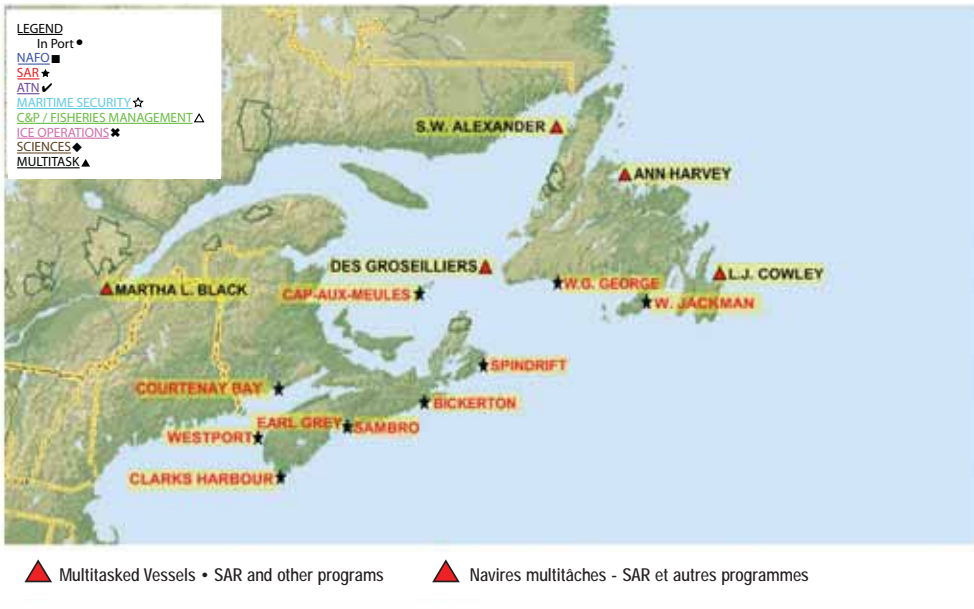
framework and perform on-the-scene analysis to make the most appropriate operational decisions in any given circumstances. At this level, the key is in balancing the needs of clients with safe operations and other factors, such as weather and risk.

Zonal Management

During 2007-2008, the Fleet improved operational coordination and efficiency by improving zonal management of its assets in the Atlantic and the Great Lakes/St. Lawrence Seaway zones. During the busy winter ice season, major vessels were deployed and redeployed to ensure demands such as icebreaking, SAR, maritime security and aids to navigation were being met. Decision makers considered changes in ice and weather conditions, client requests, unplanned incidents and both forecasted and unforecasted operational requirements, (maintenance, crew changes, refueling) across the entire zone. By operating in a more integrated manner, CCG met most client demands, and all priority demands in a highly competitive environment for fleet services.

Figure 2: An example of a daily report of ship positions

Zone Atlantique - Navires opérationnels sur programme SAR Atlantic Zone - Operational Vessels on SAR Program



Maximizing the St. Lawrence Seaway Shipping Season

Every year, the Coast Guard assists with the opening and closing of the St. Lawrence Seaway to balance safety concerns with the economic well-being of commercial carriers.

Most seasons, the Seaway officially opens around March 25th. Prior to official opening, the Coast Guard employs two icebreakers and an air cushion vehicle, depending on conditions, to open a track in the fast ice, usually all the way from Montreal to Lake Ontario. The ice is broken up, a channel is maintained, and, when the first ships arrive, a daytime escort is provided to ensure safe passage.

Around April 10th, ice ceases to pose a problem. The Coast Guard then deploys lighted navigational buoys as quickly as possible so that night navigation can resume. When they are unable to move at night, commercial ships lose valuable time and sometimes require additional pilotage, incurring additional costs.

The shipping season typically ends between December 25th and 30th. CCG keeps the summer lighted buoys in the water as long as possible to ensure safe night navigation and so that commercial traffic has the maximum amount of time to exit before ice forms and the Seaway closes for the winter. Once again, an icebreaker serves as escort to ensure all vessels safely exit the Seaway so it can be closed for the season.



CCGS Griffon, High Endurance Multitasked Vessel - Light Icebreaker

Photo: C & A Region



As Canada's only civilian fleet, the Coast Guard must always be ready to undertake marine missions in the service of the people and Government of Canada. In part, stemming from our support to Hurricane Katrina relief work in 2004-2005, last year, the Fleet finalized the concept of Fleet Mission Readiness to ensure that it is able to respond, in a more systematic way, to unpredictable events or unplanned requests for urgent support. The framework provides strategies and protocols to respond to changes in normal operating circumstances, whether environmental (storms, ice conditions, floods, etc.), hardware (technical breakdowns, accidents, etc.), unplanned increased demand or human factors (security threats, illnesses, etc.). Mission Readiness has now been adopted as formal doctrine and the Fleet will begin operationalizing the Mission Readiness framework in fiscal year 2008-2009.

In the case of search and rescue, CCG vessels are tasked directly from a Joint Rescue Coordination Centre or a Maritime Rescue Sub-Centre, in line with international practice. These situations are managed jointly by the Canadian Forces and CCG, which dictate the mission and response, resulting in tasking the most suitable vessel or helicopter available. In order to provide adequate SAR, effective coverage to non-SAR missions and a high degree of response preparedness in general, Coast Guard vessels are assigned areas of patrol by the ROCs. The ROCs and the NCC are connected to the operations centres of other government departments with similar responsibilities, such as the Royal Canadian Mounted Police (RCMP), the Canadian Forces, and national/regional/municipal emergency preparedness officials. Regular drills and exercises involving member organizations help ensure an effective, coordinated response when incidents do arise.

Table 1: An example of Fleet Mission Readiness on a given day

READINESS CONDITION OF THE CCG FLEET					
NATIONAL	Readiness Condition :		Blue:	- Ops Normal	
			Green:	- Ops Heightened	
			Yellow:	- Ops Accelerated	
			Red:	- Ops Peak	
ZONAL	Arctic Zone				
	Pacific Zone	Great Lakes and Seaway Zone	Atlantic Zone		
REGIONAL	Pacific Region	Central & Arctic Region	Quebec Region	Maritimes Region	Newfoundland and Labrador Region

On the Radar...2010 Olympics

Contingency planning began in 2007 to ensure that CCG is able to adapt to changing conditions prior to and during the Games, which will be held in February 2010.

Because the 2010 Winter Olympic and Paralympic Games involve venues and celebration sites along Vancouver's waterfront, Coast Guard is involved in collaborative planning with other government departments and works under the leadership of the RCMP, with regard to the safety and security of the sites.

NAFTA Members Meet at Montebello

The Chateau Montebello, in Montebello, Quebec, was the site of an August 20-21, 2007 meeting of the three member countries of the North American Free Trade Agreement – Canada, the United States and Mexico.

The Fleet played an important role in ensuring the event went smoothly. The *CCGS Ile Saint-Ours* and *CCG Sipu Muin*, an air cushion vehicle, supported the needs of the RCMP and other police and security agencies in establishing a security perimeter around the property. CCG crews also maintained a marine command centre. With the perimeter and communications in place, police and security personnel were able to ensure an event free meeting from the security perspective.



CCG Sipu Muin, an air cushion vehicle, transporting RCMP and other police and security officers.

Photo: QC Region





Efforts to ensure maritime security continue to be of utmost importance. Since 2005, Fleet has been delivering a joint CCG/RCMP Marine Security Enforcement Teams (MSET) Program on the Great Lakes – St. Lawrence Seaway. Fleet crews work closely with armed onboard law enforcement personnel, exposing them to risks and hazards not experienced in traditional CCG programs. To mitigate the risks, Fleet employees assigned to MSET vessels are provided with additional personal protective equipment and with Law Enforcement Familiarization and Police Defensive Tactics training. The purpose of this training is to improve employee safety while maximizing CCG-police onboard integration, improving MSET on-water effectiveness.

International Coast Guard Fora

Canada, along with Russia, China, Japan, Korea and the United States, is a member country of the North Pacific Coast Guard Forum (NPCGF). Created in 2000, the forum shares information and best practices, identifies opportunities to improve cooperation on common fronts, and organizes joint training and exercises. CCG is Canada's team leader, with participation by the RCMP, Transport Canada, DFO and the Canada Border Services Agency. Recent highlights include development of joint fisheries surveillance patrols and work in developing common terminology and definitions that allow for clear and concise communications between member countries. In July 2008, Canada hosted a NPCGF exercise based on a natural disaster humanitarian assistance scenario.

The North Atlantic Coast Guard Forum, modeled after NPCGF, was formed in 2007 and has 18 member countries. CCG leads Canada's participation in this forum as well. In September 2008 a summit was held in Greenland, and the *CCGS Pierre Radisson* took part in a joint search and rescue/environmental response exercise with Denmark, the United States and Iceland.



CCGS Cape Hurd, Specialty Vessel
Photo: C&A Region

1.3 OUR ENVIRONMENT

The Fleet operates in a dynamic environment that is influenced by a variety of economic, environmental and social factors. Overall demand for CCG services continued to rise in 2007-08 due to:

- Rising levels of global ship traffic, leading to greater demand for CCG services:
 - The cruise ship industry is increasingly active in Canadian waters. From 2003 to 2007, cruise passenger arrivals in Canada increased by 24%¹;
 - Commercial shipping is also on the rise. An Export Development Canada study released in 2007 indicates that Canadian exports to Europe have grown 12% each year since 2002. Further growth is expected as the effects of opening a deep-water port in Prince Rupert, British Columbia and the efforts to enhance Canada's Asia-Pacific Gateway and Corridor increase capacity for container shipping to and from Asia;
- Climate change, notably in the Arctic, is already extending the duration of the commercial shipping season, and may further intensify the demand for marine science and other activities:
 - Environment Canada's Canadian Ice Service has been keeping records of ice in the northern hemisphere for five decades. In 2007, scientists calculated that sea ice hit a new record low of just 4.2 million square kilometers, compared to the normal coverage of 7.5 to 8.5 million square kilometers with increased interseasonal variability.

- Growing attention to maritime security activities and monitoring. While CCG does not have a direct legislated mandate for maritime security, the Fleet plays an increasingly important role in supporting on-water security patrols, interdictions and other activities.
- Increased potential for migrant and other smuggling and the need for heightened border integrity; and
- Enhanced awareness of environmental issues and growing concern for clean water and a clean environment.
 - Only 56% of Canadians rate the overall quality of the environment in their province as good or better. And, there is widespread perception that the quality of the environment is getting worse (47% worse, 44% same, 9% better)².

In addition, Canadians expect the Government of Canada to be ready to respond, quickly and effectively, in the event of natural or man-made disaster, national emergency, maritime priority, or security or environmental threat.

The future is likely to place increasingly diverse demands on the CCG, thus increasing the need for a safe and secure, effective, efficient, adaptable, and operationally and mission ready fleet. This fleet requires maritime professionals capable of responding to incidents and crises, and providing services to a wide variety of clients and partners across government, as well as to public and other institutions.

¹ The Economic Contribution of the International Cruise Industry in Canada 2007, Business Research & Economic Advisors, 2008

² Getting Real – How Do Canadians View the Environment and Energy? An IPSOS survey: www.ipsos-ideas.com/article.cfm?id=3430



CCG employees at work on *CCGS Wilfred Templeman*, Offshore Fisheries Science Vessel
Photo: HQ & NCC



OUR PEOPLE



Coast Guard has the confidence of Canadians³ primarily because of its professional, dedicated workforce. Our marine personnel and staff ashore are of critical importance in the

delivery of our services. CCG relies on skilled and professional marine personnel to deliver high-quality services to Canadians.

Remembering Those Who Lost Their Lives in Service

On October 27, 2007, a memorial was unveiled to honour those who lost their lives while in the service of the Coast Guard. The monument stands in the courtyard of the Coast Guard College in Sydney, Nova Scotia.

Despite their extensive safety and professional training, whether conducting routine deck operations at sea, performing maintenance work on a radio tower, or responding to a search and rescue incident, employees can be injured or even lose their lives while performing their duties. While every precaution is taken, the risks endure.

The monument pays tribute to the commitment of those 34 men and women who paid the ultimate price to serve and protect Canadians at sea.



Memorial at the CCG College in Sydney, N.S.

Photo: MA Region

³ In a 2006 DFO Baseline Public Opinion Survey of Canadians, confidence in CCG services was rated as 7.4 on a scale of 10.



More than half (53%) of CCG's 4,554 employees work on vessels while the remaining 47% work in shore-based operations. In Fleet, Ships' Officers (SOs) and Ships' Crew (SCs) are the main occupational groups responsible for operational delivery with Hovercraft Officers and Crew falling into the GT and EG categories (see Table 2 for Marine Personnel Statistics). Each day, ROC

staff monitor vessel locations, task vessels to programs and geographic areas, and link the CCG with clients, decision makers, and the Government of Canada. Fleet is also supported by shore-based staff responsible for planning, budgeting, policy development, safety and security, human resources and information management.

Table 2: Snapshot of the Seagoing Personnel Statistics as of April 2008

	NL	MA	C&A	QC	PA	Nationally
SHIPS' OFFICERS (SO)						
On Strength (FTE ¹)	181	231	107	171	197	887
On Strength (Term)	2	0	8	11	10	31
Total SO On-Strength	183	231	115	182	207	918
Average Age (FTE)	44	48	43	44	45	45
Men	175	217	97	155	158	802
Women	6	14	10	16	18	64
Aged 45 to 54	85	120	39	77	69	390
Aged 55 to 59	12	35	12	14	25	98
Aged 60 or Greater	7	13	5	3	8	36
SHIPS' CREWS (SC)						
On Strength (FTE)	297	328	141	218	269	1,253
On Strength (Term)	120	79	24	62	81	366
Total SC On Strength	417	407	165	280	350	1,619
Average Age (FTE)	48	49	45	49	45	48
Men	282	314	130	186	242	1,154
Women	15	14	11	32	27	99
Aged 45 to 54	137	187	71	118	112	625
Aged 55 to 59	50	58	13	43	37	201
Aged 60 or Greater	25	20	4	11	14	74
TOTAL	600	638	280	462	557	2,537

¹ Full-time equivalent

Note: Ship Officers in the above table include Hovercraft Officers.

There are a number of circumstances that influence both current operational needs and longer term human resource strategic planning. These include:

- The high percentage of Fleet's most experienced personnel who are eligible to retire or who are nearing retirement eligibility at a time when enrolment in provincial marine schools is declining;
- The acquisition of five new vessels plus 12 replacement vessels over the coming years, which will require approximately 100 additional seagoing personnel (60 Ships' Crews (SC) and 40 Ships' Officers (SO)) as well as additional shore-based employees (see Section 3 for details); and
- A highly competitive Canadian marine industry that may lure trained Fleet personnel to the commercial shipping and cruise ship sectors (although retention of SOs and SCs within CCG remains very high).

In this context, for 2007-08, Fleet is focused on the following areas: recruitment; and training and development.

Union Management Issues...

Coast Guard also places a great deal of importance on maintaining effective communications and working relationships with the bargaining agents representing its employees. Efforts are ongoing to negotiate a common approach to aspects of employment for all marine personnel.

RECRUITMENT

For the average Canadian, there are many career options other than a career at sea. Few careers, however, present such a variety of challenging opportunities, in every region of the country, working for an organization that is committed to staff development and offers very competitive salaries and a well-rounded employment package.

With high levels of attrition anticipated in the future due to retirements, human resources management is a significant short and medium-term challenge. A CCG Strategic Human Resources Plan was published in July 2008 www.ccg-gcc.gc.ca. This plan provides high-level direction and a national analysis of the trends that will influence our recruitment and give managers a clearer picture of human resources requirements into the future. CCG estimates that it will need an additional 318 Ships' Crew members and 233 Ships' Officers from now until 2012.

Coast Guard is making progress with regard to the representation of women seagoing personnel. As of April 2008, 8.2% of Ships' Officers were women, exceeding the labour market availability of 6.3%. Representation in the Ships' Crew occupational group increased by 39% from 2005 to 2008 reaching a total of 9.6% while the labour market availability is set at 18.4%.



Deck Officer Andrea Morrissey

Photo: MA Region



CCG offers a career for everyone...

- A diversity of ship and shore-based positions;
- An opportunity to work in all regions of Canada;
- A variety of work schedules – from 28 days of work followed by 28 days of leave to a more familiar 9 to 5 schedule;
- An increasingly diverse workforce that continually strives to attract more women, Aboriginal peoples, persons with disabilities and visible minorities;
- Its own bilingual training institution, the Canadian Coast Guard College (CCGC), which is instrumental in developing highly professional seagoing personnel to satisfy program and service requirements;
- Excellent benefits such as pension, health and dental plans;
- Employment stability; and
- Job satisfaction second to none.

CCG is always looking for innovative and creative ways to raise the profile of maritime careers among potential recruits. During 2007-2008, it supported *The Guard*, a nationally televised one-hour drama that followed the fictional lives of a search and rescue team.

TRAINING AND DEVELOPMENT

Fleet is improving and bringing in new ways to foster learning and development and to ensure knowledge and skills are interchanged between marine and shore-based operations, and between regional management and headquarters.

During 2007-2008, Fleet made significant progress in enhancing its competency profiles for seagoing personnel. The competency profiles relate the staffing needs of each vessel to the qualifications required (training, experience and certification) for each position of an operational unit. Individual



Electronic maintenance technologist Mylène DiPenta replacing a satellite antenna at the top of the main mast on *CCGS Hudson*, Offshore Oceanographic Science Vessel

Photo: MA Region

On the Radar...

A network representing women serving aboard our ships is being launched to more fully understand the current challenges women face in their seagoing careers. The network will offer opportunities for communication, dialogue, outreach, and will strive to increase visibility and recruitment of women in the CCG.

profiles are then developed, identifying the training required for each employee in support of enhanced skills development.

The National Seagoing Personnel Training Plan ensures qualified personnel who meet all operational and regulatory requirements are in place, and provides a clearer picture of longer-term training requirements. This plan will form the basis for a more sophisticated succession plan and strategy in subsequent years.

New Opportunities...

- A national Leadership Development Pilot Program provides opportunities for employees who have potential to assume Superintendent-level positions over the next decade, and to develop leadership competencies. The pilot is being offered in all five regions.
- The Seagoing Personnel Career Development Initiative encourages Ships' Officers in the lower and middle ranks to take shore positions on a rotational basis. These assignments will:
 - require seagoing expertise;
 - provide pertinent management experience;
 - be a pre-requisite for advancement to senior marine positions.

Training Gets Industry Attention

CCG's Rigid Hull Inflatable Operator Training, delivered on Vancouver Island, gets considerable media attention and has a world-class reputation with the maritime industry.

The training facility at Bamfield provides CCG employees with hands-on experience in adverse weather conditions – basic boat handling, SAR operations, pacing, navigation, maintenance and heavy weather operations – so the students are ready for the variety of situations they will encounter during their careers.



CCG Rigid Hull Inflatable
Photo: Pacific Region



From Seaman/Waiter to Superintendent, Operations, Regional Operations Centre

Sam Babisky joined the Royal Canadian Navy at 17. He returned to his Manitoba home after four years of service, working in a variety of jobs. When he discovered that the *CCGS Namao* operated on Lake Winnipeg, he jumped at the opportunity to be back on a ship and began his CCG career as the ship's seaman/waiter.

His curiosity, affability and desire to learn have, over more than 28 years, resulted in a varied, challenging and very successful career. Early on, Mr. Babisky learned two important lessons from his co-workers, those who were most successful were determined and they took responsibility for managing their careers.

With this insight and the advice of one early captain – read a booklet or publication every day and you can make something of yourself in Coast Guard – he obtained a Master Minor Waters Certificate and moved to the Great Lakes. He served from ship to ship in a variety of capacities – wheelsman, boatswain, coxswain, acting assignments as third and second officer – with a promise to himself that he would never turn down an assignment opportunity. When he eventually returned to the *CCGS Namao* as Chief Officer, it was a personal triumph and one he shared with those he had waited on 10 years earlier.

He continued his education, spending two winters at Georgian College earning a Watchkeeping Certificate, studying public sector management through the distance learning offerings of the University of Manitoba, and taking every Coast Guard course available. As his knowledge grew, he became more interested in ship management.

In 1996, he accepted an Aids to Navigation Review Officer position in the Central and Arctic regional office, with his eye on getting into the Operations Centre. While it was the water that initially attracted Mr. Babisky to the Coast Guard, now he says that he would like to finish his career in the Operations Centre, where he is still learning, applying knowledge and experiencing new challenges.

Mr. Babisky says he has had many rewarding experiences during his career, but his fondest memories are of the pride he feels at being associated with people who are dedicated and committed to the task at hand above all else.



Samuel Babisky, Superintendent, Operations, Regional Operations Centre, Central & Arctic Region





OUR VESSELS AND HELICOPTERS



CCG needs an adaptable fleet that can deliver a variety of services in a safe and secure, effective and efficient manner. In 2007-2008, the Fleet operated 114 vessels and 22 helicopters (see Table 3). Many of these assets are equipped to support the provision of two or more simultaneous operations (multitasked), allowing them to efficiently support multiple clients during a single mission. Other assets have many specialized capabilities necessary to satisfy particular client or program requirements, such as the marine research requirements of DFO's Science Program.

Today's fleet is significantly smaller than that of 13 years ago, when 198 vessels were operating. In making this transition to a smaller, but more capable, multi-taskable and mission-ready fleet, CCG developed a 25-year Fleet Renewal Plan, which guides investment decisions with an aim to ensure that CCG is capable of delivering cost-effective and reliable service to Canadians well into the future.

Significant Fleet Renewal progress was made during 2007-2008. Federal budget 2008 announced \$720 million for the procurement of a new Polar icebreaker to replace the *CCGS Louis S. St-Laurent*, which is scheduled for decommissioning in 2017. This brings the total new investment in Fleet recapitalization to \$1.4 billion since February 2006. In addition to the icebreaker, this funding will be used to acquire:

Table 3: Number of Operational Vessels and Helicopters by Class (2007-2008)

Vessel and Helicopter Types	Number
Polar Icebreakers	0
Heavy Icebreakers	2
Medium Icebreakers	4
High Endurance Multitasked Vessels / Light Icebreakers	7
Medium Endurance Multitasked Vessels	5
Offshore Patrol Vessels	4
Midshore Patrol Vessels	7
Offshore Oceanographic Science Vessels	2
Offshore Fishery Science Vessels	4
Air Cushion Vehicles	4
Special Nav aids Vessels	3
SAR Lifeboats	39
Hydrographic Survey Vessels	5
Channel Survey and Sounding Vessels	2
Near-Shore Fishery Research Vessels	6
Speciality Vessels	20
Vessel Total	114
Helicopter Total	22

- Eight mid-shore patrol vessels that will be multitasked, and used primarily for fisheries conservation and protection duties in the Maritimes, Quebec and Pacific regions.
- Four mid-shore patrol vessels that will be used for maritime security duties on the Great Lakes and St. Lawrence Seaway System.

- Three state-of-the-art offshore fishery science vessels based in the Pacific, Maritimes and Newfoundland and Labrador regions.
- One offshore oceanographic science vessel based in Maritimes Region.

Moving toward a strong, modern, flexible fleet...

- The Fleet Renewal Plan is a multi-year plan for the procurement of new vessels to gradually replace Coast Guard's ageing fleet. Fleet Renewal also looks towards the continuous improvement of maintenance of the existing fleet.
- The Fleet Long-Term Capital Plan is a five-year plan for the investment in CCG vessels, hovercraft, helicopters, and other Fleet-managed capital assets. It is updated regularly and is composed of ongoing and planned projects which are prioritized based on need and the benefits of projects to CCG and the Department. The Long Term Capital Plan is becoming more aligned to the Fleet Renewal Plan. In the future, it is expected that the Long Term Capital Plan will have to become flexible in response to constantly changing needs and the relative scarcity of resources.

In addition, Fleet is funding internally the following projects through its Long-Term Capital Plan:

- Constructing a replacement for the *CCGS Shark*, a vessel which operates on the Great Lakes and is essential to fisheries research, ecosystem monitoring and other core science program activities. It will be delivered in early 2009.

- Replacing the Maritimes-based *CCGS J.L. Hart* using a design-for-build approach.
- Replacing an existing high-speed air cushion vehicle in the Quebec Region, which is used primarily for SAR, maintenance of navigational aids and icebreaking for flood control and Seaway operations, delivery is expected in early 2009.

Equally important are efforts to keep the existing fleet as operationally ready as possible. Increased funding has been allocated for vessel refits, however, higher than anticipated repair costs, especially on the large vessel fleet, over half of which is more than 25 years old, is eroding the buying power of this funding. Maximizing the use of capital funds for repair of these vessels will be a significant challenge in the coming years and success in this area is critical to optimizing the availability and reliability of the ageing fleet as a bridge to the arrival of the newly constructed vessels (see Table 4).



CCG Helicopter MBB - 105

Photo: National Photo Library

Table 4: Age of CCG Vessels in 2007-2008

Vessels	Current Number	Vessels Over 25 Years Old	Vessels 15 to 24 Years Old	Vessels Under 14 Years Old
LARGE VESSEL FLEET				
Large Ships (over 88m) Design Life - 30 years	7	5	2	0
Medium Ships (48 to 87m) Design Life - 30 years	27	12	15	0
Smaller Ships (33 to 47m) Design Life - 15 to 20 years	6	5	1	0
TOTAL Large Fleet	40	22	18	0
SMALL VESSEL FLEET				
Small Vessels and ACVs (up to 33m) Design Life - 15 to 20 years	36	15	14	7
SAR Lifeboats Design Life - 15 years	38	0	2	36
TOTAL Small Fleet	74	15	16	43
TOTAL FLEET	114	38	33	43



CCG Bell 212 helicopter



CCGS Terry Fox, Heavy Icebreaker

Photo: Above and Beyond Magazine

Redeployment of the *CCGS Terry Fox* and the *CCGS Louis S. St-Laurent*

A decision was made to deploy the Fleet's two heavy icebreakers, the *CCGS Terry Fox* and the *CCGS Louis S. St-Laurent* from the Maritimes Region to the Newfoundland and Labrador Region. This decision was made to avoid the significant additional infrastructure costs associated with keeping the vessels in the Maritimes, as there is no operational need to base them there and sufficient infrastructure exists in Newfoundland. The vessels will also be closer to the Arctic and Gulf of St-Lawrence and Newfoundland East Coast work sites. The deployment is being accomplished without employees currently assigned to the vessels losing their jobs or being forced to move. The *Fox* was deployed April 1, 2008 and the *St-Laurent* will be deployed April 1, 2009.



OUR SERVICES



The following sub-sections outline the services provided to each client in terms of planned and actual days provided. It is important to note that the numbers of operational days planned and delivered are a function of various factors, including: availability, budget, breakdowns, priority overrides, weather, unforeseen circumstances, etc.

It must also be noted that the information in the following sections represents the support provided to these clients by Fleet only and should not be interpreted as representative of the entire suite of services that a particular client receives. For example, in some cases it is more efficient for Aids and Waterways Services to be delivered by contractors and these services do not form part of the information provided.

4.1 SPOTLIGHT ON THE ARCTIC

Coast Guard plays a unique role in Canada's Arctic region, delivering a wide variety of maritime services and strengthening Canada's sovereignty through the presence of its icebreakers. During 2007-2008, on-water icebreaker support to International Polar Year and United Nations Convention on the Law of the Sea (UNCLOS) research was a priority.

From late June to mid-November, the Fleet operates seven icebreakers in the Arctic – they are generally the first vessels to arrive and the last to leave. They provide a full range of services including ice escort to commercial ships, harbour breakout, search and rescue, marine response to oil spills, aids to



CCGS Louis S. St-Laurent,
Heavy Icebreaker
Photo: C&A Region

navigation, communications tower activation and de-activation, and support to science, maritime security and Canadian sovereignty. CCG vessels and helicopters are often the only Government of Canada marine presence for thousands of miles and, as such, support any and all pressing needs.

As the signs of climate change in the Arctic become more apparent, with measurable shrinkage in the multi-year ice cover and decline in the extent of summer ice coupled with increased inter-seasonal variability, demands for Coast Guard services in the Arctic are increasing.

UNCLOS

UNCLOS was adopted in 1982 and is often referred to as the “Constitution of the Seas.” It entered into force in 1994 after ratification by 60 countries. Canada ratified UNCLOS in 2003.

UNCLOS recognizes coastal states’ sovereign rights to the water column and seabed up to 200 nautical miles (the Exclusive Economic Zone or EEZ) from shore and to the seabed beyond under special circumstances. Any such claim must be supported by scientific data, and must be made within 10 years of ratification.

Using the *CCGS Louis S. St-Laurent* as a primary platform, Canada is conducting seismic and bathymetric surveys in the Arctic to support its claim that Canadian sovereignty should extend well beyond the 200 nautical mile limit. Analysis of this field work must be complete by 2012 to meet the November 2013 submission deadline. The consequences of this initiative for Canada could be extraordinarily significant.



CBS News science and technology correspondent Daniel Sieberg (centre) is reporting from *CCGS Louis S. St-Laurent*. Sieberg is pictured here with Chief Scientist Dr. John Nelson (left) and Captain Andrew McNeill.

Photo: Paul Gallpeau

Louis Helps Bring the Arctic to the World

In July 2007, the *CCGS Louis S. St-Laurent* departed on its mission to the Arctic. Joining the crew and scientists was a special guest able to provide a window for the world.

Daniel Sieberg, the CBS Evening News science and technology correspondent, filed stories via satellite, giving American viewers a first hand look at climate change in the Arctic. CBS also dedicated a web page to the photos, video, podcasts and blog that detail how climate change has affected the Arctic, and the potential impacts for the global community.

The stories also spoke to the challenges, routines and traditions of sailing aboard a CCG icebreaker operating in the Arctic. One which caught the imagination of the CBS crew is the time-honoured tradition of a “crossing ceremony” for those crossing the Arctic Circle for the first time.



CCGS Amundsen, Medium Icebreaker

Photo: HQ & NCC

The trip was significant to Daniel Sieberg for more than professional reasons – he was joining his father, Doug, a DFO scientist who has been working in the Arctic for 30 years.

International Polar Year

International Polar Year (IPY) marks the largest-ever international program of scientific research focused on the Arctic and Antarctic regions. Thousands of scientists and researchers from more than 60 nations participated. It presented Canada with a

valuable opportunity to work with international experts and created a more complete scientific understanding of the North.

Dozens of Canadian science research projects were selected for IPY 2007-2008 funding from a variety of sources including the federal government, territorial governments, granting agencies and foundations. The Government of Canada's research program focuses in two areas: climate change impacts and adaptation, and the health and well-being of northern



A bit of exercise after a hard day's work

Photo: HQ & NCC

communities. The fulfilment of IPY required, amongst other things, the deployment of the *CCGS Amundsen* for a period of fifteen months. The Circumpolar Flaw Lead (CFL) mission, which itself covered a 10-month period, was unquestionably the mission with the most significant challenge, as the vessel had to spend the entire winter of 2007-2008 operating in the Western Arctic. A Canadian icebreaker operating in the winter in the Canadian Arctic was a historical first. The program supported and funded a total of 44 science research programs, consistent with the six international research themes of:

- Current state of polar environment;
- Change in the polar regions;
- Polar-global linkages and interactions;
- Investigating new frontiers;
- Polar regions and vantage points; and
- Circumpolar human societies.



A supporting member of the science mission.

A Day in the Life of a Commanding Officer

Captain Lise Marchand, Commanding Officer of the *CCGS Amundsen*, was looking for a career that would satisfy her love of travel and feed her desire for knowledge when she joined the Coast Guard in 1977.

She has never tired of life at sea, commenting that “all regions, all seasons have their charm” – although admits that difficult weather in any season makes life on board that much more challenging.

Captain Marchand performed a variety of duties prior to landing on the *CCGS Amundsen* where she worked on the International Polar Year project. After graduating from the CCG College she started on the Great Lakes as a Junior Officer, advanced to Watchkeeping Officer, then worked her way to become the Commanding Officer on the *CCGS Spindrift* and the *CCGS Cape Hurd*. Later on she moved to become the Chief Officer on the *CCGS Bartlett*. As well, Captain Marchand had the opportunity to work ashore on a variety of tasks: a coordinator in JRCC Trenton, Ontario’s SAR centre; in human resources at headquarters; and participated in training at the Canadian Coast Guard College. She has also worked on a number of ships in various capacities in Quebec Region. She has spent the majority of her career at sea.



Captain Lise Marchand, Commanding Officer of the *CCGS Amundsen*.

Photo: J. Beardsell, DFO

As the *CCGS Amundsen* Commanding Officer, Captain Marchand is responsible for the daily operations and safety of the ship and crew. She must respond to changing environmental conditions and make any necessary adjustments to the day’s work plan, ensuring that she has the necessary personnel and equipment for the tasks and missions planned with the client. A good part of her work also includes reporting and analysing the day’s activities and planning subsequent operations.

In terms of experience, Captain Marchand says the most important part of her work for the CCG is the human aspect, where teamwork is fundamental. She says that working well with people and knowing one’s strengths while having developed the appropriate competencies are key to a satisfying career.



4.2 CANADIAN COAST GUARD

4.2.1 Aids to Navigation and Waterways Services

The Aids to Navigation Services Program and the Waterways Management Program ensure the safety and viability of shipping channels and the protection of the public right to navigation.

The Aids to Navigation Services Program provides more than 17,000 short-range marine aids, including visual aids (lighthouses and buoys), sound aids (fog horns), radar aids (reflectors and beacons) and long-range marine aids such as the Differential Global Positioning System.

The Waterways Management Program sustains navigable channels in the Great Lakes and St. Lawrence Seaway, reduces marine navigation risks and supports environmental protection.

It monitors channel bathymetry (depth of water) and contributes to international control of water levels.

The fleet supports these programs by placing, lifting, checking and maintaining an extensive system of floating and fixed aids to navigation, both afloat and ashore and by carrying out surveying operations.

A variety of large and small multitasked vessels and helicopters maintain this network. Some aids are year-round, while others are seasonal, which means the aids are lifted for the winter season to prevent damage by ice and are repositioned at the beginning of the navigational season. The fleet must be capable of:

- Reaching aids in restricted, shallow and ice-infested waters;
- Serving as a platform to carry and service buoys and related equipment, and for construction of navigational aids; and



Removing a buoy

Photo: S. Boniecki

- Supplying air capability to reach aids not accessible by boat or road, especially in remote areas of the Arctic.

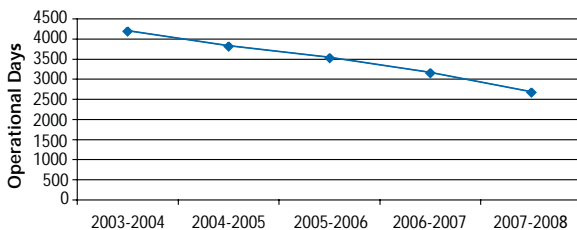
The success of this activity is highly dependent on competent marine professionals. Accurate navigation is key, as placing aids often requires vessels to manoeuvre close to shoals, rocks and reefs. For this reason, extensive local knowledge and specific training are required. Seagoing personnel also deploy, recover and maintain aids, verify the positions and operation of floating aids, keep records of operations, update data on positions and characteristics of aids as required, and conduct maintenance on fixed and floating aids.

Fleet's Performance

Aids to navigation is generally a seasonally based program, with aids installed or winter buoys replaced by summer buoys in the spring and de-commissioned or replaced by winter buoys from mid-November to late December. (Note that service days devoted to waterways management are now captured under Science.) While actual service delivered was 82% of that planned, all floating, fixed and long-range aids were successfully placed for the navigation season and removed or replaced before winter.

The under-delivery of service compared to plan is due in part to the program cancelling the placement of 70 buoys in the St. Lawrence Seaway, and the decision to stop placing buoys in waters of less than 1.80 metres in depth. Limited human resource capacity on some specialty vessels, more maintenance than planned for the air cushion vehicle and program prioritisation are other reasons that explain the 18% gap in service delivery. The operational days delivered to Aids to Navigation continue on a downward trend, from 4,188 days in 2002-2003 to 2,674 in 2007-2008.⁵ This is due mostly to service efficiency improvements such as the use of contractors and the introduction of new technologies.

Graph 2: Service to Aids to Navigation, 2003-2004 to 2007-2008 (# of Operational Days)



Removing a buoy

Photo: S. Boniecki.

⁵ Operational Days are defined as calendar days of programming assigned to an individual client.



Fishing vessels being escorted by a CCG Icebreaker.
Photo: NL Region,

4.2.2 Icebreaking Services

CCG provides icebreaking and related services to facilitate the safe and timely movement of maritime traffic through and around ice-covered and ice-infested Canadian waters, for the benefit of industry and the Canadian economy.

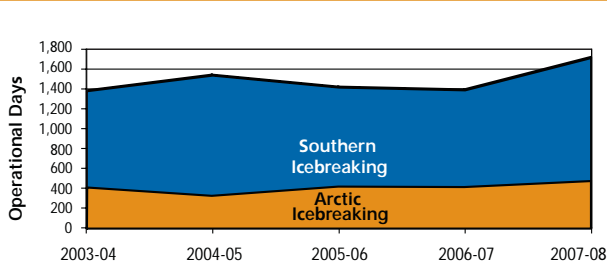
The Fleet provides crews trained to operate specialized and multitasked vessels in support of this vital service. Icebreakers must be able to escort ships through ice-covered waters, free vessels trapped in ice, allow access to ice-infested harbours, provide ice information and reduce the risk of flooding by both monitoring and breaking up ice jams. Icebreakers also carry helicopters which are forward deployed to conduct ice reconnaissance flights and to locate open water and leads for effective icebreaking operations.

International Cooperation along the Seaway

The St. Lawrence Seaway is an artery of commerce, a source of hydro power and a recreational resource for Canada and for the United States. The countries work together, through their Coast Guards and other agencies, to monitor, share, and protect this valuable, common marine environment. Severe ice conditions in March 2008 made enhanced cooperation essential to the opening of the shipping season.

On March 19, the *CCGS Martha L. Black* and the *USCG Penobscot Bay* started making their way up river from Montreal. The larger Canadian vessel led, with the American vessel trailing behind, widening the channel. Conditions varied from open water to complete ice coverage. Repeated passes were necessary to clear the accumulation of ice near and within each lock but, in the end, the open water served, as it does each year, as a sure sign of spring's arrival.

Graph 3: Trend of Southern and Arctic Icebreaking, 2003-04 to 2007-08 (# of Operational Days)



Canada has two icebreaking seasons: from December to April in the south, from the Great Lakes to the coasts of Newfoundland

and Labrador, including the St. Lawrence Seaway, River and Gulf; and in the western, eastern and high Arctic, from June to November. The Pacific coast has no icebreaking activities due to its clement weather. At the beginning of June, after completing their winter season operations, seven icebreakers are deployed from the southern regions to the Arctic for the summer season.

Fleet's Performance

The winter of 2007-2008 was difficult, leading to a significant increase in demand for icebreaking services in the south. This reverses a three-year trend of 7% decreases in overall icebreaking services.

A Day in the Life of a Boatswain

A resident of Charlottetown, Prince Edward Island, Steve Hughes is a boatswain on the *CCGS Earl Grey* which provides multitasked services, mainly Aids to Navigation Services, SAR and Icebreaking. He is the senior crew member in charge of deck operations.

On a typical day, he plans and supervises vessel maintenance – from cleaning, painting, minor repairs and woodworking to keeping the deck machinery in good working order. He also directs the deck crew while they perform routine seamanship duties. These include berthing, anchoring, maintaining and deploying marine aids, launching and recovering small craft, SAR operations, and loading and securing provisions.

After completing high school, Mr. Hughes studied electronics and pipe fitting at Holland College in P.E.I. He joined the Coast Guard as a steward on the *CCGS Wolfe* in 1977, transferring to the deck department of the *CCGS Tupper* in 1981. He worked on a number of other ships before joining the crew of the *CCGS Earl Grey* in 1986. He also worked for one year as a material assets coordinator in Charlottetown.

Mr. Hughes has benefited from a variety of training while a Coast Guard employee – from fast-rescue craft operation and basic oil spill response to staff relations. He is also a certified Rescue Specialist.

As a member of the Federal Public Service, he says he also appreciates the excellent health, dental and pension plans. In addition, the “layday” system of 28 days working followed by 28 days off is very attractive to Mr. Hughes, as it gives him time to operate a small, home-based computer and electronics business.



Steve Hughes



4.2.3 Search and Rescue Services

Canada's Search and Rescue Program is a cooperative effort of federal, provincial, territorial, and municipal governments. CCG's SAR service, delivered in conjunction with its partner the Canadian Coast Guard Auxiliary, is responsible for approximately 5.3 million square kilometers of coastal territory, beginning 800 nautical miles offshore in the Pacific, 1,000 nautical miles in the Atlantic, and stretching all the way from the Canada-U.S. border in the south to the North Pole.

The primary SAR service is delivered by vessels and maritime professionals dedicated to this purpose, positioned at various locations across Canada. These vessels are specially designed and constructed to meet the rigorous demands inherent to providing

marine SAR capabilities and response in Canadian waters. In addition, the entire fleet is multitasked to provide SAR response in addition to other duties.

Key SAR tasks conducted by seagoing personnel are:

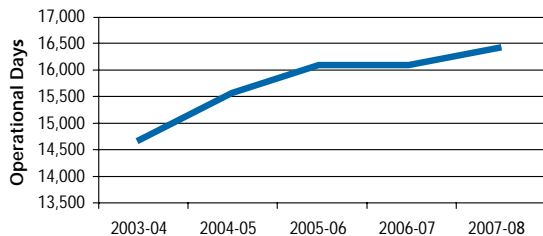
- Conducting visual and electronic searches for vessels and survivors, day and night, by air and by sea, in various weather conditions;
- Providing a platform for rescue personnel and vessels on-scene and allowing search operations to be conducted;
- Managing complex searches and acting as on-scene coordinators;
- Recovering survivors from other vessels, the sea or the shore and providing shelter, amenities and advance first aid to survivors;



SAR Lifeboat conducts training off Tofino, B.C.

Photo: David Ashurst

Graph 4: Operational Days Delivered to SAR, 2003-2004 to 2007-2008



- Providing radio communication facilities for emergency operations, and to enable vessels to communicate with shore-based radio stations, other vessels and rescue craft;
- Providing fire-fighting capability on board vessels and at shore facilities to save lives; and
- Providing towing or other services to vessels in need of assistance when life is at risk.

Fleet's Performance

Over the past five years, the actual service delivered to the SAR program has increased by 12%, from 14,703 days in 2003-2004 to 16,432 days in 2007-2008.



CCGS *Cap Nord*, SAR Lifeboat crew member and a Ground SAR team member rescue a canoeist during a SAR exercise. (Steve Harrie, from the Rescue Training Center).



CCG crew on board the *Cap Nord* fast rescue craft searches Malpeque Bay for lost canoeists during a SAR exercise.



The drifting *Houston* Barge, St. Georges Bay, Nova Scotia

Photo: NL Region,

Barge Rescued in Perilous Conditions

During the night of December 16, 2007, a fierce winter blizzard caused the tug *Eileen M. Roehrig* to lose its tow of the barge *Houston*, which was carrying 34,000 litres of diesel fuel, in St. Georges Bay, Nova Scotia. The extreme weather made recovery impossible.

The Coast Guard was contacted and the *CCGS Terry Fox* and *CCGS Edward Cornwallis* went immediately to the scene. The barge, drifting rapidly, was located. Three *Edward Cornwallis* crew members executed a daring climb aboard the barge from a fast rescue craft. While they tried to secure the barge, two colleagues manned the fast rescue craft for three hours on the cold, heaving ocean.

In gale force winds, high seas, and freezing temperatures, the three tried to deploy the barge's emergency tow line to prevent the *Houston* from grounding and causing an environmental incident. But the line could not be connected, and the barge continued to drift dangerously toward shore. They were forced to drop anchor about a half mile out.

With deteriorating conditions and impending darkness, CCG crew aboard the *Houston* were evacuated by DND helicopter. The *CCGS Edward Cornwallis* crew returned the next day and remained on the scene until December 19. If not for the seamanship, professionalism and bravery of the Fleet personnel, the barge would have been badly damaged or grounded on the Cape Breton shore. The employees involved were awarded Commissioner's Commendations and the DFO Prix d'Excellence.

4.2.4 Maritime Security Services

The Fleet supports the Government of Canada's maritime security priorities by providing platforms and maritime expertise to security and law enforcement agencies across the country. In particular, the CCG and RCMP have established the joint Marine Security Enforcement Teams (MSET) Program with armed on-water patrols on the Great Lakes and St. Lawrence Seaway, where the CCG manages, maintains, and operates the vessels while the RCMP provides law enforcement expertise and on-board personnel.

Four mid-shore patrol vessels are being built specifically for the MSET Program. During 2007-2008, CCG dedicated three vessels in support of the MSET program and next year's plan calls for the use of four CCG vessels in support of this program on an interim basis until the four new mid-shore patrol vessels are delivered. In winter, teams operate from icebreakers where and when required.

Marine personnel perform a variety of duties in support of maritime security services. These include:

- Observing, reporting and recording on maritime security events and organized crime activities;
- Monitoring and patrolling the Great Lakes, the St. Lawrence Seaway and vast areas of ocean, including coastal and international waters, and discouraging threats and illegal activities;



CCGS Louis M. Lauzier, Mid-Shore Patrol Vessel

Photo: QC Region

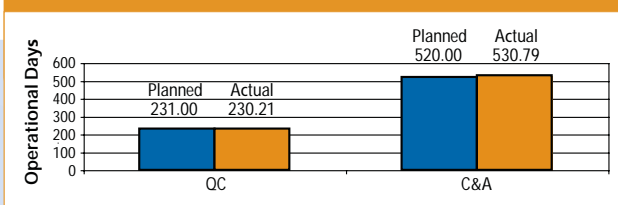
- Patrolling closed and boundary areas and conducting inspections at sea with our partners to ensure compliance with all regulations;
- Serving as a command platform and secure communications hub for officers in charge of marine enforcement activity;
- Conducting routine intervention of vessels from rigid hull inflatable boats carried on board; and
- Providing an operationally ready response capability for maritime security incidents.

Fleet's Performance

In 2007-2008 the three ships dedicated to the MSET Program were fully operational from May until November. From December to April, icebreakers replace the dedicated vessels in the Great Lakes and St. Lawrence Seaway due to winter conditions. Actual delivery was slightly higher than planned as shown in Graph 5.

MSET vessels are poised to respond quickly as required in the Great Lakes and St. Lawrence Seaway. 7% of the capacity available to support the MSET Program was lost due to delays primarily associated to equipment breakdowns. Additionally, CCG supports police agencies in numerous interdiction or contingency based operations each year across the country. In 2007-2008, 128 days were delivered in support of these activities, the majority of which are not planned.

Graph 5: Service Planned and Delivered to MSET, by Region, 2007-2008 (# of Operational Days)





CCG ships conducting an environmental response exercise.

Photo: Integrated Business Management Services

4.2.5 Environmental Response Services

CCG is the lead federal agency for ship-source oil spill response; its role consists of mitigating marine pollution and oil spills, and demonstrating due diligence by the Canadian and global marine community in the prevention of pollution.

In Canada, south of 60°N latitude, the private sector is responsible for environmental response, with CCG providing federal monitoring, oversight and inspection roles. If the CCG determines that the private sector response is inadequate, CCG will assume control, coordinate the response and, if necessary, conduct containment and recovery operations. North of 60°N latitude, CCG is the primary responder.

Fleet's Performance

While 84 days were earmarked for environmental response services, only 37 were required. Fleet participated in three key pollution response incidents in the Newfoundland and Labrador Region – the sinking of the *Boatsmanns Hebron*, the *Labrador* and the *McNally*. As in 2006-2007, this year saw more environmental response incidents than previous years.

4.2.6 Marine Communications and Traffic Services

Marine Communications and Traffic Services (MCTS) provides maritime distress and safety communications, conducts vessel screenings, regulates vessel traffic movement, and provides information systems and public correspondence on a 24/7 basis. This service is delivered through a network of 22 centres and supporting communications towers across Canada.

Fleet's role in supporting MCTS is generally limited, since the majority of MCTS sites can be accessed by land for regular maintenance and inspection. Marine personnel typically support MCTS by transferring materials, fuel and maintenance staff from the ship to the repeater sites.

Fourteen of the British Columbia sites (in the Queen Charlotte Islands and central coastal areas) are exceptions as they are in mountains and accessible only by helicopter. Consequently, the *CCGS Sir Wilfrid Laurier*, one Bell 212 helicopter and one Sikorsky S-61N are most often used. Fleet also supports remote communications site activation and deactivation in the Arctic.

Fleet's Performance

In 2007-2008, 25 operational days were delivered, representing 89% of planned days. This is an acceptable percentage (see s. 5.3). The *CCGS Sir Wilfrid Laurier* was assisted by other ships with tasks such as radio frequency surveying to test range of MCTS services.



CCG MCTS employee



CCG and Conservation and Protection employees at work

Photo: S. Boniecki

4.3 DEPARTMENT OF FISHERIES AND OCEANS

4.3.1 Science

Fleet supports the Science Program of Fisheries and Oceans Canada, providing trained crews on board both specialized and multitasked vessels such as research trawlers, fishing vessels, hydrographic survey vessels, oceanographic vessels and icebreakers.

The crews support scientists and technicians in a variety of specialized areas such as:

- Research fishing for a variety of commercial species;
- Conducting surveys on acoustics, hydrography, geophysics, marine species stock assessment, and benthic habitats and organisms;
- Conducting marine mammal and seabird enumeration, identification, tracking and bioassessment;
- Collecting plankton, larvae and phytoplankton;
- Collecting water samples for marine chemistry studies;
- Taking bottom sediment samples and coring;



Hudson Voyage of Discovery

In July 2007 a team of researchers explored the ocean depths off Nova Scotia and Newfoundland aboard the *CCGS Hudson*. New species were discovered and scientists gained a better understanding of little-known ecosystems that are home to rare corals and fish.

During the voyage, the *CCGS Hudson* deployed a remotely-operated submersible to capture images of four areas along the continental slope off Nova Scotia at 2.5 kilometres of depth – far deeper than previous studies that had reached only 500 metres.

The team collected more than 3,000 digital images, hundreds of hours of video and dozens of live samples. They found new varieties of starfish, another species of pink bubblegum coral and, most significantly, a type of xenophyophore, a single-cell animal the size of a grapefruit that had previously been found only in the deepest part of the mid-Atlantic.

The data collected contributes to a more comprehensive record of life in the area, and can be used to measure the impact of climate change, fishing, or oil and gas activity in the area.

Around the Grand Banks, scientists found extensive evidence of the effects of bottom trawling. The floor was swept clean and large rocks had been overturned by the big nets that scoop up fish and everything else in their path. This data will help fisheries managers determine which marine areas should be closed off and protected.

- Collecting data verifying empirical models for water mass structure and circulation, currents and tidal propagation and prediction; and
- Conducting remote camera studies of benthic habitats and organisms.

Fleet's Performance

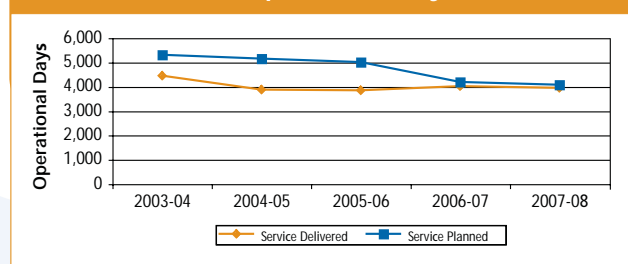
As shown in Graph 6, Fleet delivered services to Science almost on target for a second year in a row. In 2006-07, 96% of service was delivered as planned while this year 97% delivery was achieved. The major deviations from plan due to breakdowns were covered primarily through alternate means. The majority of scientific work was conducted in the Maritimes (34%) and the Pacific (25%) regions, followed by Newfoundland and Labrador (19%) and Quebec (19%).



CCGS Calanus II, Near-Shore Fisheries Research Vessel, Scientists at work

Photo: NL Region

Graph 6: Service Delivered versus Service Planned for Science, 2003-2004 to 2007-2008 (# of Operational Days)



2008 Seal Survey

A biennial survey of seal populations is conducted by DFO to gather information required to make sound scientific decisions on the size, health and viability of the seal herds and to ensure the continued success of the harvest which is important to the economy of Canada's east coast. At the request of the Minister of Fisheries and Oceans, the 2009 survey was moved forward to March 2008. CCG's Newfoundland and Labrador Region and helicopter staff worked closely with DFO to make it happen.

The *CCGS George R. Pearkes* was identified as the most suitable vessel to operate in heavy ice conditions and accommodate two helicopters, associated fuel and personnel, scientific personnel and their equipment. It was redeployed for eight days, with other vessels redeployed or doing double duty to fill its void.

All was working well until Mother Nature intervened, enveloping the east coast and Gulf of St. Lawrence with heavier than expected ice. With more redeployments and help from the Québec and Maritime Regions, shipping continued, operations were not compromised, and DFO gathered the information it needed to make sound scientific decisions on the size, health, and viability of the east coast harp seal herd.



CCGS George R. Pearkes, High Endurance Multitasked Vessel/Light Icebreaker

Photo: HQ & NCC



4.3.2 Fisheries and Aquaculture Management (FAM)

The Fleet provides significant support to DFO's Fisheries and Aquaculture Management Program, consisting of enforcement and surveillance activities in Canadian waters for the Conservation and Protection Program. It also provides enhanced presence at sea in the regulatory areas of the Northwest Atlantic Fisheries Organization (NAFO), to stop illegal fishing by foreign fleets on the 282,500 square kilometre Grand Banks of Newfoundland and in international waters.

Specialized fisheries patrol vessels (including armed vessels) are used in the near-shore and offshore areas of Canada. Multitasked vessels with helicopter support are provided as required. CCG maritime professionals support fisheries officers in performing enforcement duties, including:

- Monitoring and patrolling vast areas of coastline and providing a federal presence in Canadian waters, thereby deterring threats and illegal activities;
- Helping to ensure compliance with Canadian laws in Canadian jurisdictions;
- Supporting fisheries interdiction activities;
- Patrolling closed and boundary areas and conducting inspections at sea;
- Serving as a command platform and secure communications hub for Conservation and Protection enforcement activity;
- Conducting general and covert surveillance and monitoring various fisheries;
- Recovering, seizing and storing and transporting illegal fishing gear; and
- Checking licenses, logbooks, catch and gear. Activities may include inspections of fixed and mobile gear types, and disclosure of poaching and/or other means of illegal fishing.

Fleet's Performance

Table 5 indicates the various patrols undertaken in 2007-2008, mostly in Canadian waters, and in NAFO regulatory areas. 4,067 operational days were delivered. This continues a trend that began in 2002-2003, with approximately 85% of planned service days being delivered. 80% of the non-delivery occurred on the west coast mainly due to the requirement to respond to SAR cases and other service requirements. The remaining days undelivered were on the east coast due primarily to maintenance requirements of our ageing fleet. The administrative category includes all the time taken for preparing court files, such as compiling data, preparing enforcement patrol reports, written communications with crown counsel and court preparation and appearance.

Table 5: FAM Patrols Undertaken in 2007-2008

	# of days	% of total days
Patrol in Canadian Waters	2,335.66	57.4
NAFO Patrol	1,218.52	30.0
Resource Management	248.91	6.1
Other Patrol	187.45	4.6
Administrative	58.70	1.4
Patrol in International Waters*	16.10	0.4
Aboriginal Fisheries	1.64	0.0
Total	4,066.98	100.0

* Patrols off Pacific and Maritimes coasts.



CCGS Arrow Post, Mid-shore Patrol Vessel

4.4 OTHER GOVERNMENT DEPARTMENTS AND AGENCIES (OGD)

Fleet is responsible for on-water operations (vessels, helicopters, expertise, personnel and infrastructure) on behalf of, or in support of other government departments and agencies in the achievement of their specific maritime priorities. These include the Natural Science and Engineering Research Council (NSERC),

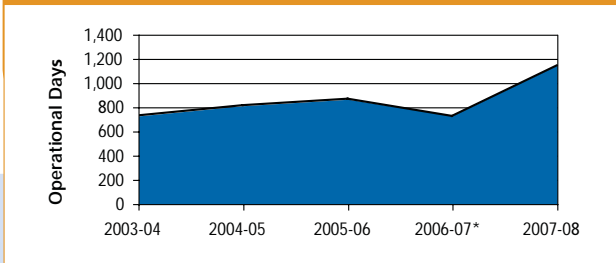
Environment Canada (EC), Natural Resources Canada (NRCan), the Department of National Defence (DND), the Department of Foreign Affairs and International Trade (DFAIT), Transport Canada (TC) and others.

Client requirements, mission and operational profiles dictate the type of support needed. For example, EC, the NSERC and NRCan need specifically designed scientific vessels to support their requirements.

Fleet's Performance

During 2007-2008, 1,144 operational days were delivered to other government departments. This is a significant increase over previous years, due primarily to increased science and research support in the Arctic, including support to UNCLOS and the International Polar Year.

Graph 7: Service to OGD, 2003-2004 to 2007-2008 (# of Operational Days)



* Data for 2006-2007 updated with last year's reported days in the Fleet Annual Report



Eureka – We Made It

One of Fleet's important annual missions is the delivery of fuel, food and other supplies to the Eureka meteorological station in Canada's High Arctic. Eureka is one of the world's most isolated meteorological stations at latitude 80°N. In September 2007, the weather and ice conditions encountered by the *CCGS Des Groseilliers* made the delivery particularly challenging.

The *Des Groseilliers* was loaded up with some 1,300 barrels of fuel, tons of equipment and food crates, and the ship was carrying an additional 701,000 litres of diesel fuel in its tanks to be later transferred directly into a pipeline at Eureka. As it made its way up north, the ice and weather conditions were difficult and worsening. On the bridge of the *Des Groseilliers*, Captain Sylvain Bertrand was on perpetual watch, constantly adjusting the vessel's position to avoid becoming trapped in ice.

The *CCGS Des Groseilliers* finally arrived into the fjord at Eureka, where barges were used to unload the supplies. They waited for the winds to diminish before they could consider the delicate operation of pumping off the diesel fuel. The *Des Groseilliers* then approached shore as close as possible, dropped both anchors and moored to two locations on shore to stabilize its position while the fuel line was hooked up. During the evolution, the *Des Groseilliers* was vulnerable as it could no longer take evasive action against the shifting ice. The *CCGS Terry Fox* was put to work to block large chunks of ice, with the ships' barges in charge of deflecting moving ice pans from bearing down on the fuel line stretched from the *Des Groseilliers* to the shore. The operation continued through the night and all the following day for the crew of the *Des Groseilliers* and their colleagues on the *Terry Fox*.



CCGS Des Groseilliers, Medium Icebreaker.
Photo: Department of Fisheries and Oceans

Operation Nanook 07

In August 2007, the Fleet supported a large-scale security and sovereignty exercise in Canada's northern waters – around Iqaluit, the Baffin Island coast and in Hudson Strait. Operation Nanook 07 involved approximately 600 members of the Canadian Forces, CCG personnel and RCMP members.

The exercise provided an excellent opportunity for military and civilian partners to work together in protecting and defending

these remote locations. They were able to practice inter-agency communication in the North and turn theoretical knowledge and skills into valuable experience.

As well as the sovereignty aspects of the exercise, Operation Nanook included an environmental training exercise led by CCG and a drug interdiction training exercise led by the RCMP.



CCGS Martha L. Black with the HMCS Fredericton during Operation Nanook in August 2007

Photo: C&A Region



CCG *Siyay*, an Air Cushion Vehicle



Rigid Hull Inflatable



MEASURING PERFORMANCE



Whether supporting Canadian Coast Guard programs, Fisheries and Oceans Canada, other government departments or agencies, or protecting broader Canadian interests, the goal of the Fleet is to provide safe and secure, effective and efficient services.

While Section 4 examined services by client, Section 5 looks at the accountability and overall performance of the Fleet, with measures endorsed by the Fleet Executive Board (this board is the management and governance authority for the Fleet, consisting of the headquarters Fleet Directors; Regional Directors, Fleet Operational Services; and is led by the Director General, Fleet).

As new evaluation factors are developed, performance measures will evolve to ensure that Fleet has meaningful, timely and accurate information on which to base decisions and report to Canadians.

5.1 ACCOUNTABILITY

Accountable to CCG Senior Management:

Coast Guard Fleet is managed through a clear national accountability structure based on the principles of openness, transparency, and national consistency. The Fleet Executive Board (FEB), a national body led by the Director General, Fleet, is accountable for promoting national consistency and leadership in the management of the fleet and its personnel in such matters as safety, security, operational and capital planning, financial management, performance and operation of CCG vessels and helicopters. FEB meets regularly to ensure effective overall management of the Fleet. The Regional

Directors Operational Services, reporting to their respective regional Assistant Commissioners, to the Commissioner, are accountable for the day to day operations, program delivery and associated financial and operational management, safety, security, overall management and leadership of the Fleet and its personnel.

Accountable to Program Clients:

Fleet is accountable to its clients in the ongoing provision of services primarily through the execution and delivery of its Fleet Operational Plan. More generally, however, accountability for the overall management of the fleet is governed by Coast Guard's comprehensive three-year Business Plan – this includes accountability for the outcomes of special initiatives designed to deliver on the priorities of the Coast Guard in its efforts to enhance its services, support its people, and maximize its efficiency.

Accountable to Canadians and Business Plan commitments:

The following table reflects the outcomes of Fleet 2007-2008 commitments in the CCG 2007-2010 Business Plan. It reflects what has already been reported in the 2007-2008 Business Plan Year-End Report:




-  The project or deliverables were completed as planned and/or decision/approval was obtained by April 30, 2008.
-  The project or deliverables are substantially incomplete.
-  The project or deliverables were not completed as planned due to external factors/or substantial progress has been made but the project or deliverables were not fully completed by April 30, 2008.



Table 6: 2007-2008 Fleet Commitments

What was Achieved in 2007-2008	
CCG Business Plan Priority: Support for Canada's Maritime Security Agenda	
Deliver enhanced Marine Security Enforcement Team (MSET) training to relevant CCG employees.	Complete. ✓ Enhanced Police Defensive Tactics and Law Enforcement Familiarization training, which included RCMP, delivered as planned.
CCG Business Plan Priority: Fleet Renewal	
Develop new charging model and performance indicators for internal clients based on the concept of operational readiness	To clearly demonstrate the full cost of having a Fleet capable of responding to Coast Guard needs and the maritime priorities of other government departments: <ul style="list-style-type: none"> ▶ the Fleet Operational Readiness program has been developed and approved by the Treasury Board Secretariat. ▶ a Fleet Financial Framework and national costing model has been introduced; ▶ a Service Level Agreement (SLA) working group has been established with DFO clients on service commitments, performance indicators, and the new charging model; and ▶ the timing of the finalization of the SLA will depend on obtaining full agreement of parties external to CCG.
Improve coding and business rules for the Fleet Activity Information System (FAIS) to meet Fleet and Client information requirements.	▶ Complete. ✓
Define requirements of Fleet Mission Readiness.	▶ Complete. ✓
Develop new Enhanced Fleet Planning Process integrated with Business Planning processes.	▶ Complete. ✓
Publish a Fleet Annual Report for 2006-2007 that clearly depicts quantitative and qualitative analysis of the Fleet's performance.	▶ Complete. ✓ To be published annually.
CCG Business Plan Priority: Focus on People	
Seagoing Personnel Career Development Initiative – Build capacity and program.	▶ Complete. ✓ The initiative is designed and tested but there are indications that some classification issues may arise during implementation.
Obtain approval of standard regional organizations (SRO) and migration strategy from CCG Management Board (all DGs and ACs are accountable).	▶ The standard regional organizations (SRO) have been approved. ▶ Principles have been developed to guide CCG's migration to the SRO over time. ▶ Next steps are discussions with bargaining agents and communication with staff.
Develop National Model Work Descriptions (NMWDs) for technical and seagoing positions.	▶ Seagoing NMWDs have been developed and submitted to classification.
Develop strategic frameworks for collective bargaining with Ships' Crews.	Complete. ✓ ▶ Negotiations ongoing.



Fleet commitments for fiscal year 2008-2009 are reflected in the CCG 2008-2011 Business Plan at <http://www.ccg-gcc.gc.ca/eng/CCG/Home>.

5.2 SAFE AND SECURE DELIVERY

The Canadian Coast Guard Fleet is an organization committed to safety, security and environmental protection in the delivery of quality services to its clients. The fleet operates in a significant risk-based maritime environment with our personnel, vessels, air cushion vehicles, helicopters and small boats conducting operations in some of the world's most remote locations under extreme environmental conditions.

The safety and security of our seagoing personnel, supernumeraries, support staff and scientists is paramount. Fleet manages these risks through its Safety and Security Management System (SSMS). Twenty-five full-time staff are dedicated to work with seagoing and shore-based Fleet personnel to promote a culture that puts safety and security first on a daily basis. These employees work to ensure safe and secure delivery of Coast guard programs through the promotion of a "safety culture" and a rigorous system of audits conducted on board all fleet vessels, monitoring the results of incidents, and developing mitigation policies and systems procedures to protect employees.



CCGS Jackman, SAR Lifeboat with DND Helicopter.

Photo: HQ & NCC



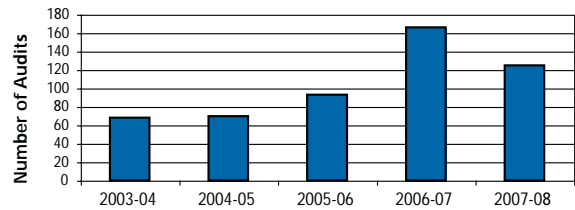
The number of audits conducted throughout the fleet has increased significantly since 2005, as vessels between 15 and 125 gross tonnes were introduced to the SSMS and vessels above 100 gross tonnes started to comply with the International Ship and Port Security (ISPS) Code. The initial introduction of these vessels resulted in a high number of audits in 2006-2007 as each of these vessels necessitated both a pre-certification audit as well as a certification audit.

Fleet Safety and Security tracks each reported shipboard incident. The number of reported incidents in the fleet increased in F/Y 2007-2008. This increase can be attributed to the introduction of vessels between 15 and 125 gross tonnes. As with the initial introduction of the SSMS onboard vessels above 125 gross tonnes, increased awareness of seagoing personnel of the importance of reporting all incidents leads to an increase in the number of incidents reported and causes an apparent increase in the number of hazardous occurrences. The increase in unsatisfactory conditions can also be attributed to this increased awareness of reporting potential incidents for prevention purposes. Additionally, breakdowns, reflective of an ageing fleet are also included in this category.

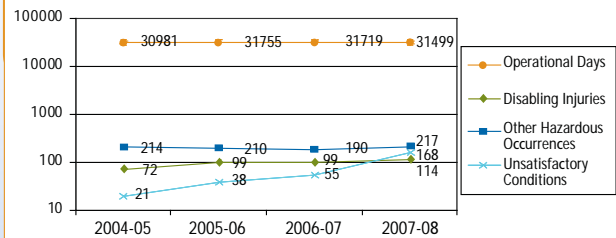
A number of initiatives are in progress across the country to reduce accidents and injuries to fleet personnel and better protect all employees. Some of these include:

- A National respiratory protection program has been developed and is being implemented Fleet-wide in 2008. The program, based on the CSA standard, provides mechanisms to reduce exposure to contaminants through improved ventilation, enclosure or isolation, or by substituting a less hazardous process or material and providing personal protective respiratory gear when needed. All Fleet

Graph 8: Number of SSMS Audits from 2003-2004 to 2007-2008



Graph 9: Trend of Reported Incidents, 2004-2005 to 2007-2008 (# of Operational Days)



personnel will receive specialized protective equipment and will be trained in identifying situations where protective gear is required, how to use it safely, and how to care for and maintain this equipment.

- Fleet Safety and Security has been working with DFO Occupational Safety and Health to increase awareness of proper lifting techniques to reduce the number of back related injuries to Fleet personnel.
- A survey of the Safety and Security Management System aimed at all seagoing and shore-based employees has been prepared to encourage feedback about the Safety and Security Management system.

- Fleet Safety and Security has been working closely with Integrated Technical Services to ensure that Fleet requirements are fulfilled in the Canadian Coast Guard Fall Protection Program.
- The Fleet Tackle Guide is being updated to reflect regulatory changes as a result of the introduction of *Canada Shipping Act, 2001*, effective 2007.
- A standard crewing profile has been developed for use on all fleet vessels to ensure safe and efficient delivery of all Coast Guard programs. Population of this crewing profile is expected to be completed in 2008.

Each of these initiatives is expected to have a positive impact on the safety and security of Fleet employees.

In light of Coast Guard's evolving role in law enforcement support, a new risk management methodology was developed for non-routine law enforcement boarding operations. The ship's Commanding Officer uses the newly developed procedures to assess the risk and formulate a mitigation strategy to reduce or avoid hazards.

5.3 EFFECTIVE DELIVERY

Effectiveness is used to assess the extent to which an organization is meeting its expected results.

Fleet has developed various measures to assess its effectiveness, two of which are: service delivered compared to service planned, and operational delays.

By comparing the service delivered to what had been planned for 2007-2008, CCG gains an appreciation of the effectiveness of service delivery. Where values exceed 100%, service demands were actually higher than anticipated, and consequently more

L'Acadien II – a Tragedy

The Fleet uses icebreakers and helicopters to support and monitor the annual seal harvest off the east coast of Canada, as well as providing search and rescue services as required. This activity is risk based. Over March 28 and 29, 2008, *L'Acadien II*, a fishing vessel, broke down in ice. Unfortunately while under tow by the icebreaker *CCGS Sir William Alexander*, the vessel capsized and three of *L'Acadien II* crew were lost with a fourth missing and presumed lost. CCG has completed a major independent investigation under the leadership of retired Rear Admiral Roger Girouard. CCG also actively supported the investigation by the Transportation Safety Board and a separate investigation by the RCMP. CCG will develop and implement a comprehensive Action Plan to prevent similar incidents in the future. Interim measures are already in place.

operational days were delivered than had been planned. Where values are less than 100%, fewer operational days were delivered than had been planned. The normal tolerance range is plus or minus 10%, given operational, environmental and program fluidity.



A Day in the Life of a Marine Engineer

After one year at Dalhousie University, Julia Murphy was uncertain about her future. That changed when she heard that the Canadian Coast Guard College was accepting applicants and she decided to apply to the engineering program. It was a perfect fit – she is now one of only a handful of women engineers in Canada with a First Class Marine Engineering Certificate of Competency.

Julia graduated with a Diploma in Marine Engineering and a Bachelor of Technology in Nautical Sciences. She spent six years working in Dartmouth in the Maritimes Region. Her first year was spent on the *CCGS Provo Wallis*, a small buoy tender. During her second year, she moved between the *CCGS Edward Cornwallis* and the *CCGS Terry Fox*, before settling for four years on the *CCGS Sir William Alexander*. In April 2008 she returned to the *CCGS Cornwallis* as Senior Engineer, and has since accepted an assignment at headquarters where she will be implementing a new maintenance management plan for ships across the country.



Marine Engineer
Julia Murphy

As a Senior Engineer on ships, Ms. Murphy's days started at 6 a.m. when she met with the watch engineer and the engineering staff to discuss and plan the day's events. As higher priorities arise, the engineers adapt their routines. As Murphy says, "There is the plan, and then there is what happens."

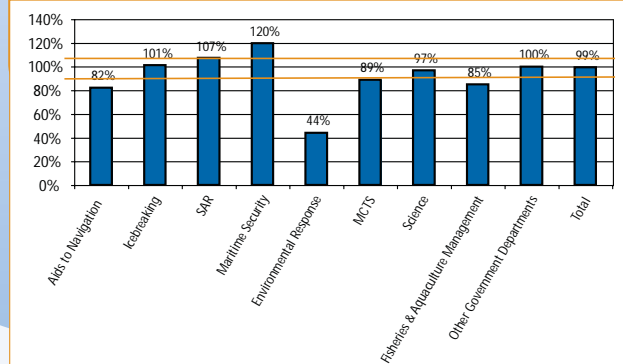
Ms. Murphy appreciates the fact that her job is never the same and is always challenging. As many vessel engineering systems are due for inspection every five years, she benefits from opportunities, as she states, "to work on something I've never seen torn apart before". Working with others to solve problems to ensure that the ship can continue with its program is truly rewarding to her.

Ms. Murphy is comfortable with the fact that, nine times out of 10, she is the only woman in the engine room. She says Coast Guard presents a great opportunity "the guys are always willing to help and that is who you learn from – far more than from text books – people are my best resource."

As illustrated in Graph 10, across all clients, a service delivery average of 99% was achieved although admittedly with substantive program variability. Services to Icebreaking, SAR, Science and OGD were all within the 10% tolerance range. Where the service was below or over the tolerance zone, reasons are explained in Section 4.

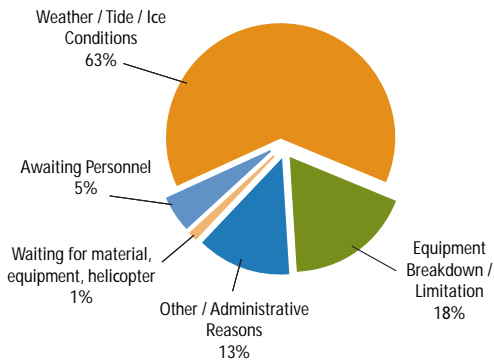
Another means of assessing fleet effectiveness is to measure operational delays, based on the time a vessel is available but experiences delays for reasons such as weather, waiting for equipment or personnel, equipment breakdown, administrative reasons, etc.

Graph 10: Service Delivered versus Planned by Fleet Clients 2007-2008



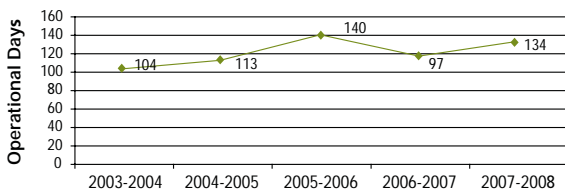
In 2007-2008, 820 days have been lost due to delays. The majority of delays were due to uncontrollable factors such as the weather, waiting for a favorable tide and difficult ice conditions (63%). Equipment breakdown accounted for 18% of delays and the remaining 19% were due to the late arrival of material, equipment and helicopter, and other reasons.

Graph 11: Reasons for Operational Delays, 2007-2008 (%)



Since 2003-2004, CCG equipment breakdowns have increased by 28.85% reflective of a continually ageing fleet (Graph 12). Significant single ship breakdowns, such as *CCGS W.E. Ricker* in 2005-2006, cause large annual variability in this statistic.

Graph 12: Delays Caused by CCG Equipment Breakdown, 2007-2008



5.4 EFFICIENT DELIVERY

To measure Fleet efficiency, performance measures have been developed, two of which are: vessel availability and multitasking.

A vessel is available when it is ready to be assigned to a mission or client, and is unavailable when in winterization or lay-up, or in extended planned or unplanned maintenance. Vessels in winterization are essentially unavailable for use by clients due to the seasonal nature of the program; this does not mean that CCG Fleet is restricting client access to the vessel, but reflects fleet operations in a northern climate. Similarly, planned and unplanned maintenance is arranged in consultation with program client needs, and also serves to provide confidence to the client that vessels are maintained to the best of CCG's ability, given competing requirements for scarce resources.



Leading Seaman Marlene Charbonneau at work
Photo: S. Julien, Fisheries and Oceans Canada



Table 7: Operational State of Vessels, 2007-2008 (%)

Available				Unavailable					Total
Assigned to client	Unassigned	Planned Maintenance	Sub-total	Lay-up / Winterization	Planned Maintenance	Unplanned Maintenance	Other	Sub-total	
67%	1%	0%	68%	19%	9%	3%	2%	32%	100%

Similar to last year, in 2007-2008, when available, vessels were predominantly assigned to clients (67%) and rarely unassigned (1%). When vessels were not available, they were most often in lay-up or winterization (19%), having scheduled maintenance (9%), or experiencing breakdowns/unplanned maintenance (3%). Even though vessels were unavailable more often than had been anticipated, the overall plan was effectively delivered to all programs and clients.

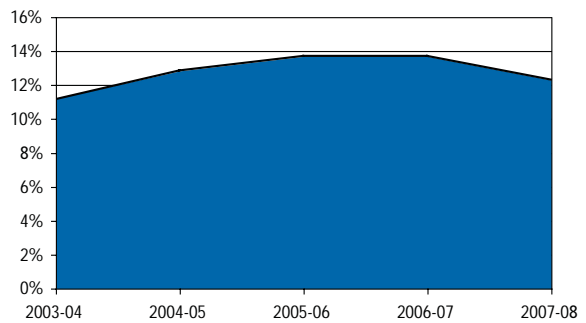
The second relative measure of efficiency is multitasking – when a vessel performs two or more tasks simultaneously. Icebreakers, for example, can provide a number of other services while icebreaking. These include SAR coverage, performing observe, report and record functions, supporting maritime security, or conducting pollution monitoring and/or response. Thus, with one vessel, within the limits of geography, time, availability, and capability, simultaneous missions can often be conducted.

In 2007-08, plans called for 7.2% of days to be spent multitasking; in fact, 12.3% of delivered days involved multitasking. This was in large part due to the impacts of the ice conditions encountered during the seal hunt when the operations of many vessels planned as single program platforms actually had to be redirected towards the escort of over 300 vessels off the northeast coast of Newfoundland.

The multitasking trend had been upward until 2006-2007, with a decrease in 2007-2008. This can be attributed to the dedicated assignments of the *CCGS Amundsen* (to

International Polar Year research) and of the *CCGS Louis S. St-Laurent* (to UNCLOS and IPY), which do not allow for multitasking, and to unplanned maintenance to the *CCGS Limnos*, which was replaced by the *CCGS Griffon*, reducing the time spent multitasking by both vessels.

Graph 13: Actual Multitasked, 2003-2004 to 2007-2008 (%)



CCGS Provo Wallis, Medium Endurance Multitasked Vessel

Photo: PA Region

5.5 FINANCIAL RESOURCES

Significant investments in Coast Guard over the past few years have enabled it to maintain service to Canadians and to make important asset re-investments. This will help CCG respond to increasing demands for its services, as more and more often the fleet is being tasked to respond to situations outside of planned programs. As is the case with all operational organizations, rising costs have had a significant impact on our ability to meet client expectations.

During fiscal year 2007-2008, the fleet consumed approximately 63 million litres of diesel fuel. This is reflective of increased programming in the Arctic (IPY and UNCLOS) and heavier than normal ice conditions. As a reference point, the Fleet had consumed, on average, approximately 57 million litres of diesel fuel annually, between 2003-2004 and 2006-2007. This increase over historical average, coupled with unprecedented fuel costs, created enormous financial pressures on Fleet in particular and on CCG as a whole. In 2007-2008 Fleet had planned an average cost per litre of 73¢ but actual cost averaged 83¢. This translated into greater than expected fuel expenditures for Fleet as well as restricting its ability to fuel up at year end due to budget constraints.

The effect of rising fuel costs...

An increase of \$.01 per litre =
\$630,000 per year for the fleet

The basic concepts underlying CCG's financial planning are operational readiness and integrated planning, including a more accurate and refined National Fleet Costing Model.

CCG Fleet Operational Readiness (now a separate program within the CCG Program Activity Architecture approved by Treasury Board Secretariat) has enabled the CCG Fleet to evolve from a narrow, short-term planning approach driven by client needs and an allocation based funding model, to a more holistic and integrated planning methodology reflective of Coast Guard's position as the Government of Canada's civilian fleet that must be ready to respond in times of need. An entirely new Fleet Financial Framework and a new budgeting process were introduced in 2007-2008 with many processes radically changed:

- The Fleet Financial Framework reflects the broader Government of Canada and CCG priorities, as well as those of Fleet clients. Transparency and relationships with clients are further improved by client service agreements, thereby ensuring that financial performance and program delivery are monitored and reported on a regular basis.
- The Fleet Fuel Management Policy introduced fuel forecasting and tools, such as sophisticated fuel inventory monitoring reports, to help Fleet and CCG management make financial decisions related to fuel use.
- Integrated planning means that clients at both the national and local levels are included in the Fleet planning process and are better able to plan their program results and budget more accurately for the services they receive. It also means that the maintenance needs of an ageing fleet are programmed in a more rigorous manner.

Table 8 shows the budgetary amount of operating dollars provided to CCG in the delivery of those programs that are included in Coast Guard's financial reference levels (which includes Science program and Fisheries and Aquaculture Management

program budgets for vessel use), but does not include additional program support to some government departments which are funded under separate arrangements. (The table below does not include capital funds provided for the refit or replacement of Fleet assets).

Table 8: Fleet National Budget, 2007-2008 (\$000s)

	Salaries	O&M	Fuel	Sub Total	Minor Capital	Total
Fleet	143,415	30,243	43,147	216,805	151	216,956
Helicopters	¹	11,818	²	11,818	-	11,818
Sub Total	143,415	42,061	43,147	228,623	151	228,774
Shore	17,795	6,874		24,669	1,046	25,715
Total	161,210	48,935	43,147	253,292	1,197	254,489

¹ Captured in O&M

² Captured in O&M



Three SAR Lifeboats, *Cape McKay, Cape Mudge and Cape Farewell*

Photo: PA Region



The Canadian Coast Guard is a national institution that provides important maritime programs and services to Canadians. The Coast Guard fleet, Canada's strong and visible presence, patrols the world's longest coastline, the largest freshwater system and the longest inland waterway. The professional and dedicated people who are committed to their jobs live by the motto *Safety First, Service Always*. They are the Fleet's core strength.

Our challenges in the coming years will be to:

- Satisfy increasing and evolving service demands;
- Attract and retain the best personnel; and
- Effectively manage our ageing fleet and oversee the construction of new vessels.

During 2007-2008, Fleet continued its efforts to improve planning and budgeting processes in the context of its Operational Readiness Framework. We are now better positioned to

satisfy current needs and future challenges that our changing and complex environment presents.

Fleet is proud to be part of the national institution that is the CCG and we look forward to meeting and exceeding clients' needs and expectations in the years to come. We recognize that our role as Canada's civilian maritime service provider has never been more important, or more demanding. Again, we would like to stress the importance of our people, ashore and afloat, who dedicate themselves to serving our clients and Canadians.

Should you have comments or observations regarding this publication, you are encouraged to contact any of the persons listed in Section 7.

We welcome your suggestions.



CCGS *Cape Rager*, Offshore Patrol Vessel

Photo: NL Region



Arctic Sunset
Photo: NL Region





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