



Fisheries and Oceans  
Canada

Pêches et Océans  
Canada

Canadian  
Coast Guard

Garde côtière  
canadienne



# Canadian Coast Guard

*Saluti Primum, Auxilio Semper*  
*Safety First, Service Always*

## 2006-2007 FLEET ANNUAL REPORT



Canada 

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## List of Acronyms

ACV	Air Cushion Vehicle	MS	Maritime Security
AWS	Aids and Waterways Services	MSET	Maritime Security Enforcement Team
C&A	Central and Arctic Region	NAFO	Northwest Atlantic Fisheries Organization
CCG	Canadian Coast Guard	NCC	National Coordination Centre
CCGC	CCG Cutter	NL	Newfoundland and Labrador Region
CCGS	CCG Ship	OGD	Other Government Departments and Agencies
DFO	Department of Fisheries and Oceans	PA	Pacific Region
DND	Department of National Defence	QC	Quebec Region
ER	Environmental Response	RCMP	Royal Canadian Mounted Police
FAM	Fisheries and Aquaculture Management	ROC	Regional Operations Centre
JRCC	Joint Rescue Coordination Centre	SAR	Search and Rescue
MA	Maritimes Region	SSMS	Safety and Security Management System
MCTS	Marine Communications and Traffic Services		

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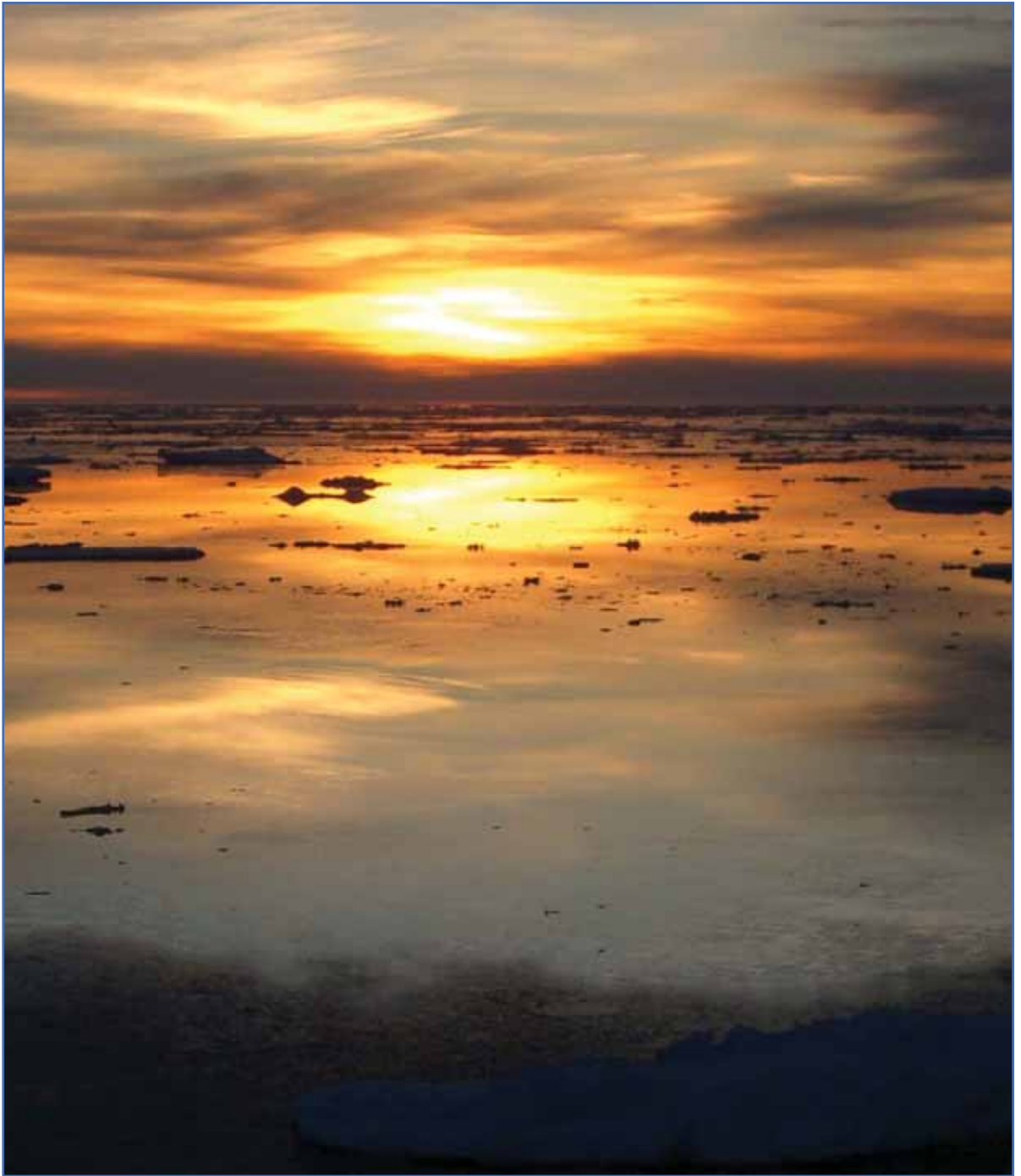
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CCGS Cape Hurd, Specialty Vessel

Photo: C&A Region





Breathtaking Arctic sunset





# MESSAGE FROM THE DIRECTOR GENERAL, FLEET, CANADIAN COAST GUARD



Welcome to the Canadian Coast Guard Fleet's first Annual Report. Within these pages you will find basic information about the Coast Guard Fleet and its services. Our people are the single most important element in delivering these services in some of the world's most difficult environmental and operational conditions. Risk is the nature of our business. This report is our attempt to account for the effectiveness of the services we provide to our clients on behalf of Canadians and the Government of Canada, and we hope it will provide a sound basis for comparison in subsequent years.

Due to the wide variety of clients we serve, the Fleet - by design - must be a highly flexible organization. We operate in a dynamic environment, adapting to tides and changing weather conditions, and responding to the maritime needs of our clients. In recent years, faced with an increasingly globalized economy, heightened security concern, and climate change, the broader context in which we operate has become ever more dynamic, making our presence on Canadian waters and the work we perform that much more important.



Gary B. Sidock  
Director General, Fleet  
Canadian Coast Guard

As much as Canadians appreciate the important work of the Coast Guard, during the course of 2006-2007 the Special Operating Agency was the subject of some pointed criticism. The most important of these were made by the Auditor General of Canada in a report tabled earlier this year. Other criticisms were in the form of concerns from the public, but the Agency also examined itself closely, conducting an extensive A-Base Review to provide an in-depth assessment of the financial and operating status of the entire organization.

2006-2007 Fleet Statistics	or...
Provided 31,719 operational days	Worked 87 years
Sailed 1,178,186 nautical miles	Travelled 54 times around the Earth's circumference
Consumed 56,202,000 litres of ship fuel	Fuelled 1,124,040 compact cars

While such censure and self-examination are difficult, it is being used constructively. We are taking aggressive steps to transform the Coast Guard into a truly national institution, renewing our fleet, modernizing our operations and management practices, and ensuring our resources are aligned with Coast Guard and Government priorities and within resource levels. We have already made significant progress on key fronts:

- The implementation of our priorities presented in the Business Plan for 2007-2010 will improve the focus, efficiency and effectiveness of our services;
- We have received recent financial commitments to begin the renewal of our fleet through the Federal Budget 2007; and
- A maritime security component, fully developed and operational, is being added to our services, with on-water armed patrols for the Great Lakes and St. Lawrence Seaway, conducted jointly with the Royal Canadian Mounted Police.

During the past year, we have also established plans to participate in some key international efforts. In 2007, the Coast Guard Fleet will support seven on-water Arctic projects under the auspices of the International Polar Year -

the largest-ever international program of scientific research focused on Arctic regions. The Fleet will also continue to support on-water research in the Arctic Ocean being conducted 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.

I hope you will find this first Fleet Annual Report an informative document. As we move forward, we expect demand for our services to both grow and change, as demonstrated by the International Polar Year and enhanced maritime security operations. We are prepared to adapt to the evolving needs of the people and the Government of Canada in this complex and changing world. As always, our people will be our key to success.

Safety First, Service Always,



Gary B. Sidock  
Director General, Fleet  
Canadian Coast Guard





*CCGC Cap Tourmente, SAR Lifeboat*  
Photo: QC 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-kilometre Canadian Exclusive Economic Zone with its incumbent management responsibilities. As such, the importance to Canada of having responsive and operationally ready federal maritime presence, 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 waters.

CCG has a long history of delivering maritime services on behalf of the Government of Canada and has well-defined programs and services. In a typical day, the CCG:

- Saves eight 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;
- Escorts four commercial vessels through ice;

- Carries out 12 fishery patrols, supports eight science surveys and three hydrographic missions;
- Deals with three reported pollution events; and
- Surveys five kilometres of navigation channel bottom.

## 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* give the Agency its specific mandate.

The *Oceans Act* confers on the Minister of Fisheries and Oceans Canada 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 confers on the Minister responsibility for search and rescue, pollution response and support for other government departments, boards and agencies through the provision of ships, helicopters, and other services.

The *Canada Shipping Act* confers on the Minister of Fisheries and Oceans Canada 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.



The Fleet Headquarters and Regional Operational Services Directorates (Fleet) manage and operate the fleet which serves as a visible symbol of the Canadian identity. CCG vessels and helicopters, with their distinctive red and white hulls, and the uniformed officers and crew, provide Canadians with an immediate sense of federal presence and 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 operationally ready 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 civilian fleet of Canada, the Fleet supports Canada and Canadians on four equally important levels:

- Providing CCG services related to aids to navigation (Aids and Waterways), icebreaking, search and rescue (SAR), Maritime Security, pollution response (Environmental Response), and marine communications and traffic services (MCTS);
- Supporting Fisheries and Oceans Canada (DFO) programs by providing vessels and maritime professionals to support the department's science activities (DFO Science) and to help manage and protect fisheries resources (DFO Fisheries and Aquaculture Management (FAM));
- Supporting non-military activities of Other Government Departments and Agencies (OGDs); and
- Serving the broader Canadian interest by responding to federal maritime priorities and natural or man-made emergencies.

Graph 1 illustrates the relative use of fleet assets according to client usage. Close to three quarters of our services are delivered in support



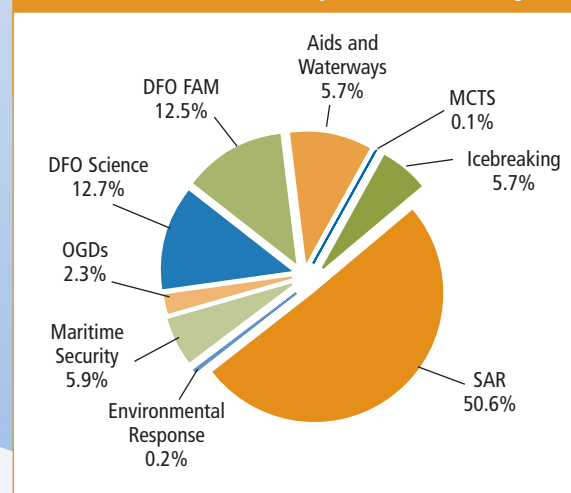
Helicopter C-GCHW tasked to Icebreaking and SAR Patrol  
Photo: NL Region

of CCG services; 51% for the provision of search and rescue services (arguably the most important of the services that the CCG provides), and 5.9% for Maritime Security.

Services to DFO represent one quarter of all services delivered by Fleet, while the OGDs represent just over 2%.

The services dedicated to each client is further analysed in Section 4.

**Graph 1: Distribution of Fleet Clients, 2006-2007 (% of Operational Days)**



## 1.2 OUR OPERATIONS

The Fleet effectively manages its diverse and numerous responsibilities by being versatile and highly adaptable. It operates out of five regions (see Figure 1), with Regional Operations Centres (ROCs) tasking and deploying vessels and maritime professionals to meet service needs, with a National Coordination Centre (NCC) facilitating national Fleet management and an integrated national response when needed.

The Fleet has established national operating procedures and policies for all aspects of its operations, including the implementation of its Safety and Security Management System (SSMS). On a daily basis, professionals in the field and at sea respect this national framework and perform on-the-scene analysis to make the most appropriate operational decisions in any given circumstance. At this level, the key is in balancing the needs of the clients with safe operations and other factors, such as weather and risk.

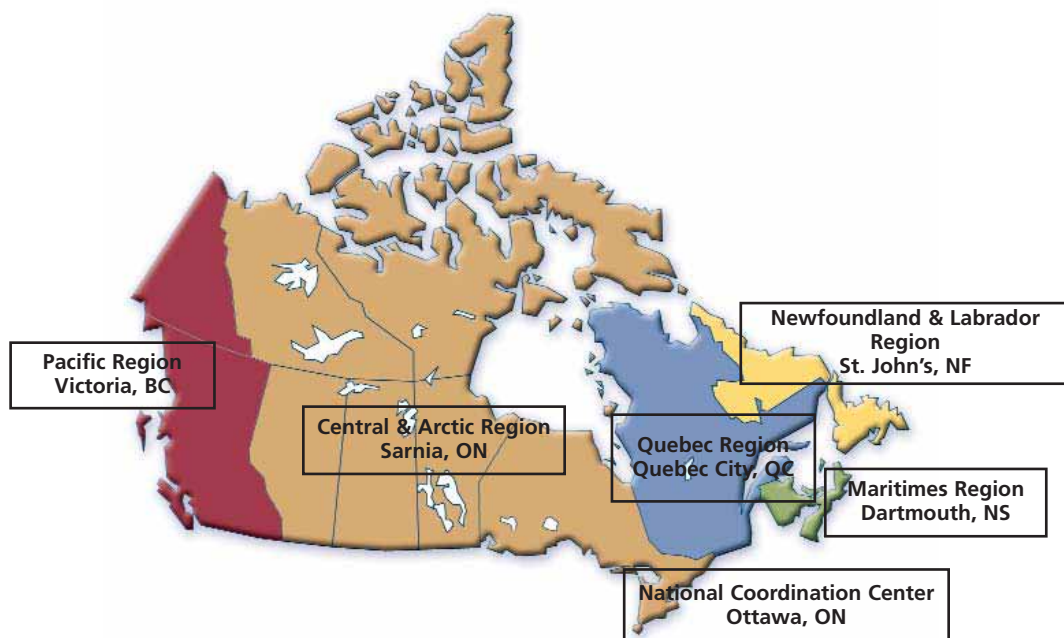
### Canadian Coast Guard National Coordination Centre

The terrorist attacks of 9/11 and natural disasters such as Hurricane Katrina in 2005 emphasize the need for an integrated, multidisciplinary government response. CCG operations are managed and coordinated primarily in the regions through the ROCs.

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 decision-making.

It is in this context that the CCG established the NCC.

Figure 1: Fleet Regional Operations Centres



In the case of search and rescue, CCG vessels are tasked directly from a Joint Rescue Coordination Centre (JRCC) or a Maritime Rescue Sub-Centre, in line with international practice. These situations are managed jointly by the Canadian Forces and the CCG, which dictate the mission and response, resulting in the tasking of any available vessel or helicopter. In order to provide adequate SAR, other mission coverage and response preparedness, Coast Guard vessels are assigned areas of patrol by the ROCs. The ROCs and the NCC are connected to the operations centres of OGDs 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.

In recent years, maritime security concerns have underscored the importance of such coordination and integrated command and control. In 2006-2007, the CCG worked to improve its structure for better analysis and decision making in support of these activities. These efforts have enhanced CCG's ongoing collaboration with partners, improving and leveraging overall Government of Canada effectiveness.

The Maritime Security Enforcement Teams (MSET) Program is a prime example of effective interagency cooperation, with the Fleet and the RCMP conducting joint armed patrols of the Great Lakes - St. Lawrence Seaway system, enhancing Canada's maritime security and border integrity.

## Improving Ship-to-Shore Communications: E-mail at Sea Project

Most Canadians take e-mail access for granted. Not so for ship officers and crew aboard CCG vessels. The e-mail at sea project began with a pilot installation on the *CCGS Sir William Alexander* during the summer of 2006. The installation was successfully completed on 12 vessels this year.

The project was primarily designed to facilitate personal communications from the vessels and has increased morale among crews at sea for extended periods of time. While the system was never intended as complete administrative system for the CCG vessels, the system does speed up the delivery of ice charts and allows vessels to occasionally provide shore staff public information, providing better situational awareness. Due to the success of this project, it will be expanded to include the installation on a total of 38 vessels.



*CCGS Edward Cornwallis*, High Endurance Multitasked Vessel/Light Icebreaker

Photo: MA Region

### 1.3 OUR ENVIRONMENT

The pace of change has accelerated over the last decade and did not abate in 2006-2007.

Demand for CCG services overall has continued to increase, due to the following factors:

- Rising levels of global ship traffic, leading to greater risk of maritime accidents and oil spills;
- Climate change, notably in the Arctic, which may extend the duration of the commercial shipping season, and may intensify the demand for marine science activities support;
- Growing awareness relating to maritime security activities and monitoring;
- Increased potential for migrant smuggling and the need for border integrity; and
- Enhanced awareness of environmental issues and growing concern for clean water and a clean environment.

In addition, Canadians have raised their expectation for Government's readiness 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 ready fleet, with 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 private institutions.



*CCGS Martha L. Black*, High Endurance Multitasked Vessel/Light Icebreaker

Photo: QC Region

#### Improving Safety Aboard Helicopters

This past year, a CCG/Transport Canada working group was established to improve helicopter passenger safety aboard our CCG helicopters.

The working group introduced a number of standards that greatly exceed regulatory requirements and are now standard operating procedures for the CCG Fleet. These include:

- Helmets for front-seat passengers for the duration of all flights;
- Mandatory personal flares on personal flotation devices;
- Mandatory Personal Locator Beacons in addition to the locator beacons installed on the helicopters;
- Suggested wearing of helicopter immersion suits for flights over water;
- Available in-depth safety training for "frequent flyers"; and
- Available increased safety training in every region.



*CCGS Terry Fox*, Heavy Icebreaker  
Photo: MA Region



## OUR PEOPLE



CCG has the confidence of Canadians primarily because of its professional, dedicated workforce. The recent emphasis on human resource planning in the Agency's Business Plan 2007-2010 is helping to ensure that Fleet has the skilled and professional seagoing personnel it needs to deliver its services into the future.

The majority of CCG employees are seagoing personnel, serving Canadians at sea, while the remaining work in operational positions ashore. In addition to the 2,485 seagoing personnel within Fleet, some 180 (7%) provide shore-based operational support and management services in the ROCs, regional offices and headquarters (see Table 1 for Seagoing Personnel Statistics).

**Table 1: Snapshot of the Seagoing Personnel Statistics as of October 2006**

	NL	MA	C&A	QC	PA	Nationally
<b>SHIP OFFICERS (SO)</b>						
On Strength (FTE <sup>1</sup> )	171	238	103	158	178	848
On Strength (Term)	2	4	4	18	11	39
<b>Total SO's On-Strength</b>	<b>173</b>	<b>242</b>	<b>107</b>	<b>176</b>	<b>189</b>	<b>887</b>
Average Age (FTE)	44	47	43	44	45	45
Males	165	222	92	146	161	786
Females	6	16	11	12	17	62
Aged 45 to 54	72	108	40	67	81	368
Aged 55 to 59	10	34	13	15	19	91
Aged 60 or Greater	6	10	2	3	5	26
<b>SHIP CREWS (SC)</b>						
On Strength (FTE)	285	349	142	210	276	1262
On Strength (Term)	102	57	26	60	91	336
<b>Total SC's On Strength</b>	<b>387</b>	<b>406</b>	<b>168</b>	<b>270</b>	<b>367</b>	<b>1,598</b>
Average Age (FTE)	49	49	46	49	45	48
Males	269	336	135	182	250	1,172
Females	16	13	7	28	26	90
Aged 45 to 54	126	194	65	125	111	621
Aged 55 to 59	56	47	17	39	34	193
Aged 60 or Greater	20	25	5	3	14	67
<b>TOTAL</b>	<b>560</b>	<b>648</b>	<b>275</b>	<b>446</b>	<b>556</b>	<b>2,485</b>

<sup>1</sup> Full-time equivalent





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

- A high percentage of Fleet’s most experienced personnel are eligible to retire or are nearing retirement eligibility;
- Canada’s marine industry is highly competitive. Trained Fleet personnel can be lured to the private sector and recruitment competition has heightened in recent years (although our attrition rate of only 2.4% is very low by industry standards);
- Fleet continues to strive to meet its employment equity and official languages targets among seagoing personnel;
- For the average Canadian, there are many other options than a career at sea. The Fleet needs to be seen as a professional workplace that is committed to staff development; and
- Seagoing personnel must adapt to the evolving role of the Fleet as it responds to changing client needs, new technologies and environmental changes.

In the context of these challenges, Fleet is focusing its human resource efforts in three main areas: recruitment, retention and training.

The Coast Guard College in Sydney, Nova Scotia is instrumental in helping CCG develop the professionally trained staff needed to satisfy program and service requirements. It delivers the Coast Guard Officer Training Program, which is the primary source of ships’ officers recruits. In addition, it delivers a career program in MCTS Training, as well as highly specialized training in the areas of SAR, environmental response, and marine maintenance and equipment training.

The Fleet and the Coast Guard College are working together to develop a national Ships’ Crew Recruitment Framework to meet future crewing requirements. The present and future challenges in workforce recruitment, retention, and training will require ongoing collaboration, and must be guided by a framework based on long-term needs assessment and effective planning and delivery, while continuing to meet training needs as they arise.



Maritime professionals delivering equipment to Langara Island, off the Queen Charlotte Islands

Photo: PA Region

## Employee Awarded Cross of Valour

In 2006, First Officer Leslie Arthur Palmer was awarded the Cross of Valour by Her Excellency the Right Honourable Michaëlle Jean, Governor General of Canada. This award, which has been presented to only 20 people since it was created in 1972, recognizes “acts of the most conspicuous courage in circumstances of extreme peril.”

First Officer Palmer received Canada’s highest civilian bravery award for his courageous actions on the stormy night of December 27, 2004. Two fishermen were stranded along the shores of British Columbia’s Grenville Channel after their fishing trawler capsized. The *CCGC Point Henry* responded to the distress call. The crew spotted a light flashing through the winter storm, and Palmer used a small rubber boat to reach the channel’s shore. The breaking surf and winds gusting up to a hundred knots (185 km/h) forced him to land a half-kilometre away from the survivors. Palmer braved the cold, ice, and wind, walking for an hour in the hip-deep snow until he reached the two men, who were huddled inside a life raft.

After assessing the situation, Palmer retrieved vital survival gear and medical equipment from the *CCGC Point Henry*, and returned to the barely responsive victims. He worked courageously to keep the two fishermen warm and alive for another four hours, before medical help could reach them. This was one of 700 rescues in which Palmer has been involved over the course of his career.



*CCGS Samuel Risley*, High Endurance Multitasked Vessel/Light Icebreaker

Photo: C&A Region



Captain Lise Marchand and Helmsman Claudiu Caoda

Photo: QC Region



# OUR VESSELS AND HELICOPTERS



To fulfil its role, the CCG needs an adaptable fleet that can deliver a variety of services in a safe and secure, effective and efficiently manner. In 2006-2007, the Fleet operated 110 vessels, four air cushion vehicles (ACVs) and 22 helicopters (See Table 2). Many of these assets are equipped to support the provision of two or more simultaneous tasks (multitasked), allowing them to efficiently support multiple clients during a single mission. Other assets have more specialized capabilities required to satisfy particular client or program requirements, such as DFO Science marine research requirements.

Today's fleet is significantly smaller than that of 12 years ago, when 198 vessels were operating. In making the 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 the CCG has a strong, modern, flexible fleet, capable of delivering cost-effective and reliable service to Canadians well into the future. In order to remain current, the Plan is regularly reviewed and adjusted to changing priorities and projected demands.

Fleet Renewal Plan goals are to procure new vessels, to improve maintenance of existing vessels through life-cycle management, and to manage the fleet more effectively through better planning and management processes. Significant progress was made during 2006-2007. Between February 2005 and March 2007, funding of \$669 million was provided to the Fleet for the procurement of a total of 16 new vessels: one offshore oceanographic science vessel, three offshore fishery science vessels, and 12 midshore patrol vessels.

**Table 2: Number of Vessels and Helicopters by type in 2006-2007**

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 NavAids Vessels	2
SAR Lifeboats	38
Hydrographic Survey Vessels	5
Channel Survey and Sounding Vessels	2
Near-Shore Fishery Research Vessels	6
Speciality Vessels	22
<b>Vessel Total</b>	<b>114</b>
<b>Helicopter Total</b>	<b>22</b>

Overall, four of the new vessels are additions to the fleet and 12 will replace existing vessels nearing the end of their life expectancies. Fleet Renewal Plan is a multi-year undertaking, with the first vessels approved in Phases I and II scheduled for delivery in 2010 and the last for 2014. The CCG also plans to build a high-speed air cushion vehicle that will be used primarily for search and rescue, maintenance to navigational aids, and icebreaking for flood control and St. Lawrence Seaway operations in the Quebec Region.

In the meantime, the existing fleet must be kept as operationally ready as possible. Additional annual funding has been allocated for vessel refits for existing vessels; however, this additional funding is being eroded over time due to higher than anticipated repair costs, especially since more than half of the large vessel fleet (vessels greater than 33m in length) are more than 25 years old. Maximizing the use of capital funds for repairs 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 aging fleet as a bridge to the arrival of the newly constructed vessels (see Table 3).



B212, a twin engine helicopter

**Table 3: Age of CCG Vessels in 2006-2007**

Vessels	Current Number	Vessels Over 25 Years Old	Vessels 15 to 25 Years Old	Vessels Under 15 Years Old
<b>LARGE VESSEL FLEET</b>				
Large Ships (over 88m) Design Life - 30 years	7	5	2	0
Medium Ships (48 to 87m) Design Life - 30 years	28	13	15	0
Smaller Ships (33 to 47m) Design Life - 15 to 20 years	5	4	1	0
<b>TOTAL Large Fleet</b>	<b>40</b>	<b>22</b>	<b>18</b>	<b>0</b>
<b>SMALL VESSEL FLEET</b>				
Small Vessels and ACVs (up to 33m) Design Life - 15 to 20 years	36	12	16	8
SAR Lifeboats Design Life - 15 years	38	0	2	36
<b>TOTAL Small Fleet</b>	<b>74</b>	<b>12</b>	<b>18</b>	<b>44</b>
<b>TOTAL FLEET</b>	<b>114</b>	<b>34</b>	<b>36</b>	<b>44</b>

# 4

## OUR SERVICES TO CLIENTS



*The following sub-sections outline the services provided to each client in terms of the planned and actual days provided. It must be kept in mind however, that the number of operational days that are planned and delivered are as much a function of the available budget as they are of the availability of vessels.*

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



Providing SAR Services

Photo: QC Region



## 4.1 CANADIAN COAST GUARD

### 4.1.1 Aids and Waterways Services

Aids and Waterways Services (AWS) ensures the safety and viability of shipping channels and the protection of the public right to navigation. The Fleet supports the AWS by placing, lifting, checking, and maintaining an extensive system of floating and fixed aids to navigation (both afloat and ashore).

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 aids to navigational aids; and
- 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 maritime 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.



CCGS F.C.G. Smith, Channel Survey and Sounding Vessel

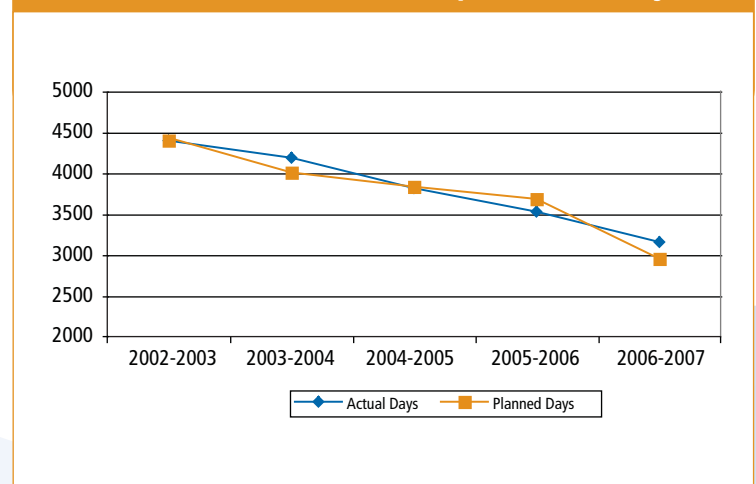
Photo: QC Region

### **Fleet's Performance**

In 2006-2007, some 3,154 operational days were delivered, of which 75% were in the main commercial maritime route in Canada, the Great Lakes – St. Lawrence Seaway.

Graph 2 illustrates the service trend from 2002-2003 to 2006-2007. Over this period, the Fleet has delivered a level of service close to that planned, with an average of 91%. Also, the planned operational days decreased by 33% and actual days delivered decreased by 28%.

**Graph 2: Service to Aids and Waterways, 2002-2003 to 2006-2007 (# Operational Days)**



The key reason for this downward trend in demand for Fleet services related to this activity is a combination of reduced budgets, introduction of new technologies, and service efficiency improvements (including the use of contractors), all of which have combine to reduce the need for Fleet services over this time period.

#### 4.1.2 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. The 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.

Canada has two icebreaking seasons: from December to April in the south, from the Great Lakes to Newfoundland and Labrador Coasts, including the St. Lawrence Seaway and Gulf; and in the Arctic, both Western and Eastern Arctic, from June to November. The Pacific Coast has no icebreaking activities due to its clement weather. Beginning of June, seven icebreakers are deployed from the southern regions, after completing their winter season operation, to the Arctic for the summer season.

#### ***Fleet's Performance***

During 2006-2007, some 1,813 operational days were delivered by the Fleet (or 78% of the planned service) for icebreaking, principally driven by:

- In the Arctic, a significant increase in dedicated as opposed to opportunity science, particularly for OGDs, such as Environment Canada, and Canadian universities;

#### **Bringing the Media Spotlight to the Arctic**

Media interest in the Government of Canada's presence in the Arctic has increased recently, primarily as a result of climate change and Arctic sovereignty discussions.

The *CCGS Louis S. St-Laurent* helped the Coast Guard showcase its involvement in Arctic activities when the ship hosted the first live satellite broadcast ever done from a vessel. CBC's *The National* was televised live from August 1 to the 4, 2006, as the *CCGS Louis S. St-Laurent* made its way through the Northwest Passage.

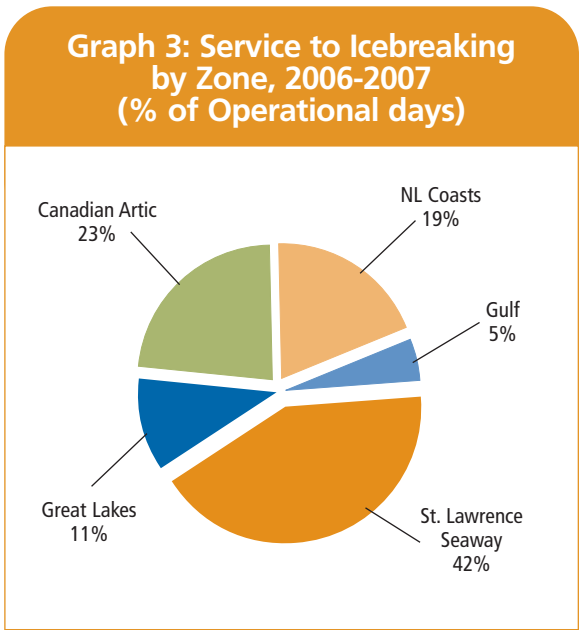
As Canada's most powerful icebreaker and as its most versatile Arctic research vessel, the *CCGS Louis S. St-Laurent* was an obvious choice for the assignment. Throughout the CBC broadcasts, the ship demonstrated its effectiveness as an instrument of federal presence in the Canadian Arctic while continuing to deliver its full suite of routine on-water missions.



- In the South, lighter than expected ice conditions allowed more maintenance time for the large icebreakers. For example, *CCGS Louis S. St-Laurent* preparation for the International Polar Year; and
- Icebreakers responded to Search and Rescue and Environmental Response incidents.

The two first reasons explain in part why both planned and delivered service decreased by approximately 7% over the past three fiscal years.

Graph 3 illustrates time dedicated to icebreaking services by zone, with 42% of service delivered in the St. Lawrence Seaway and 23% in the Canadian Arctic.



*CCGS Des Groseilliers*, Medium Icebreaker

Photo: QC Region

### 4.1.3 Search and Rescue Services

Canada's Search and Rescue program is a cooperative effort of federal, provincial, territorial, and municipal governments. The CCG's SAR service, delivered in conjunction with its partner the Canadian Coast Guard Auxiliary, is responsible for approximately 5.3 million square kilometres, beginning 800 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 their 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 to the 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;
- Transferring injured persons to shore, helicopters, or to vessels;
- Providing shelter, amenities and advance first aid to survivors.
- 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 life; and
- Providing towing or other services to vessels in need of assistance when life is threatened.

### Immediate Response Saves Lives

Shortly after midnight on March 22, 2006, B.C. Ferry's *Queen of the North* ran aground while en route from Prince Rupert to Port Hardy. The Captain gave orders to abandon ship, and issued a distress call. CCG MCTS relayed the Mayday call and advised the JRCC in Victoria. Several resources were requested to assist in the SAR operation, and the *CCGS Sir Wilfrid Laurier*, the *CCGC Point Henry*, the *CCGS Ricker*, the *CCGC Kitimat II* and the *CCGS Vector* were promptly tasked.

When it received the distress call, the *CCGS Sir Wilfrid Laurier* was only 18 miles from the sinking ferry. What could have been an enormous tragedy was, for the most part, averted, with 99 of the 101 passengers safely recovered by local residents, and the Canadian Coast Guard Auxiliary and CCG.

Following the incident, the *CCGS Sir Wilfrid Laurier* headed toward Victoria for scheduled exercises. As it made its way south, the vessel responded to another SAR call, recovering 10 persons from an overturned boat. In port, officers met with investigators to report on the massive *Queen of the North* rescue effort.

The Minister of DFO personally called Captain Mark Taylor to thank him, the crew of the *CCGS Sir Wilfrid Laurier*, and all CCG staff involved for their efforts.

### **Fleet's Performance**

During 2006-2007, some 105% of operational days were delivered to SAR compared to planned days. Table 4 demonstrates that 92% of SAR time is for vessel availability in each SAR Zone and readiness to respond/react within a predetermined timeframe (30 minutes for primary SAR vessels). This vessel operational readiness is usually multitasked with another client. Other notable SAR-specific activities include 616 days on patrols, 417 days on incidents response, and 168 days on training and exercises.

Over the past five years, planned service has decreased by 32% (driven primarily by our ability to multitask SAR), while actual service increased by 7%. The Pacific Region accounts for the highest proportion of SAR time at 34%. This can be explained by the region's year-round navigation season and its larger geographical area.

**Table 4: : Days delivered and Percentage of Service by SAR Activity, 2006-2007**

SAR Activities	#	%
Available and Ready to Respond	14,851	92
Patrols	616	4
Incidents Response	417	3
Training and Exercises	168	1
<b>Total</b>	<b>16,052</b>	<b>100</b>



CCGC Westport, SAR Lifeboat and DND Cormorant Helicopter

Photo: MA Region

### **4.1.4 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. For example, the CCG and RCMP have established the joint Maritime Security Enforcement Teams 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 personnel on board.

Four midshore patrol vessels are being built specifically for the MSET program on the Great Lakes – St. Lawrence Seaway, the first of which is expected to be operational in 2010. Until CCG takes delivery of the four midshore patrol vessels, CCG has dedicated four vessels to the program; in winter, teams operate from icebreakers where and when required.



CCGS Louis M. Lauzier, Mid-Shore Patrol Vessel

Photo: QC Region

Seagoing personnel perform a variety of duties in support of Maritime Security services. These include:

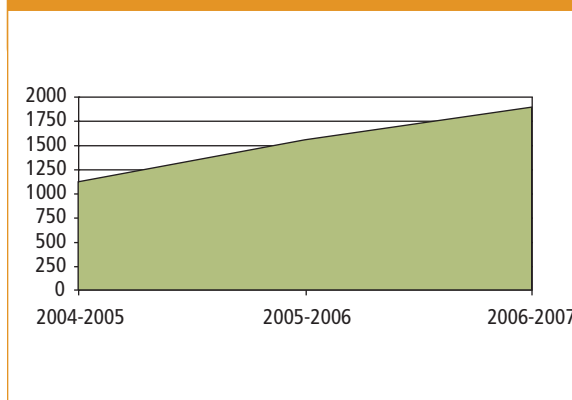
- Observing, reporting and recording on maritime security events and organized crime activities;
- Monitoring and patrolling vast areas of ocean, including the Great Lakes – St. Lawrence Seaway, coastal and international waters, and discouraging threats and illegal activities;
- Patrolling closed and 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 any 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 2006-2007, some 1,886 operational days were delivered, representing 92% of the number planned. For fiscal years 2003-2004 through 2006-2007, additional funding to support this role was provided to the Fleet as an interim measure. As a result of this additional funding, the security services delivered increased by 41%, in response to client demand (see Graph 4).

**Graph 4: Service to Maritime Security, 2004-2005 to 2006-2007 (# of Operational Days)**



#### 4.1.5 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 the 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 actual containment and recovery operations. Above the North of 60°N latitude, CCG is the primary responder.

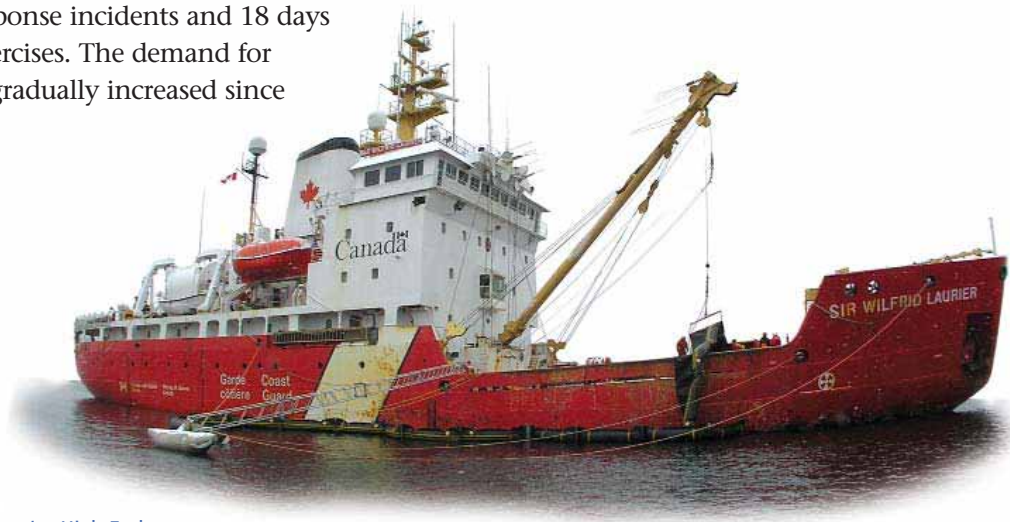
#### ***Fleet's Performance***

In 2006-2007, some 155% of the planned Fleet service was delivered. Even though this percentage seems quite high, this represents only 68 out of 44 planned operational days. Twenty-two days were dedicated to environmental response incidents and 18 days to training and exercises. The demand for these services has gradually increased since 2002-2003.

#### Responding to an Oil Spill

Following a spill notification, a crew uses specialized pollution countermeasure equipment in a response. A crane lowers an oil containment boom, as shown in the picture of *CCGS Sir Wilfrid Laurier*. Made of heavy gauge rubber, the boom is designed to float on one side while an underwire curtain with small weights and heavy wire on the other side keeps the boom upright.

The ship also has a small floating pod on a boom on the starboard side. This supports one end of the oil containment boom away from the vessel so that the ship can slowly move through an oil slick and surround it with the containment boom. Once the slick is surrounded, and oil dispersal is prevented, clean up can commence. "Slick-lickers" mounted on barges reach over the containment boom, remove the oil, and transfer it to barrels on board the barges.



*CCGS Sir Wilfrid Laurier*, High Endurance Multi-tasked Vessels/Light Icebreaker

Photo: PA Region

#### 4.1.6 Marine Communications and Traffic Services

The Marine Communications and Traffic Services provide 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 has a generally limited role in support of MCTS as reflected in the number of operational days below, since the majority of MCTS sites can be accessed by land for regular maintenance and inspection. Seagoing personnel typically support MCTS by transferring materials and fuel from the ship to the repeater sites.

Fourteen of the British Columbia sites (into the Queen Charlotte Islands and central coastal areas) are exceptions as they are in the mountains and accessible only by helicopter. Consequently, the *CCGS Sir Wilfrid Laurier* and one helicopter Bell 212-1 are used most often. Fleet also supports remote communications site activation and deactivation in the Arctic.

##### ***Fleet's Performance***

In 2006-2007, some 37 operational days were delivered, representing 105% of the operational days planned. Over the five years from 2002-2003 to 2006-2007, actual operational days have tended to exceed planned days.



A Bell 212-1 supporting MCTS remote areas

Photo: PA Region

## 4.2 DEPARTMENT OF FISHERIES AND OCEANS

### 4.2.1 Science

The 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:

- 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;
- 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***

From 2002-2003 to 2006-2007, planned service decreased by 17%, while actual service delivered decreased by only 7%. Over this period, Fleet delivered over 18,000 operational days in support of on-water science.

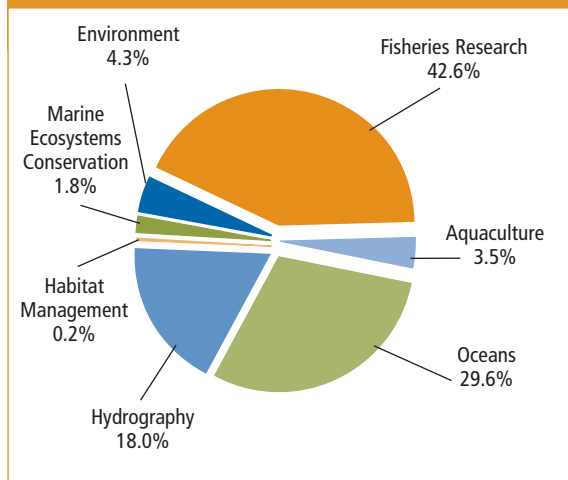
During 2006-2007, most of the Science research supported fisheries (42%) and oceans (30%), followed by hydrography (18%), as shown in Graph 5.

### Discoveries in the Bay of Fundy

In July 2006, the *CCGS Hudson* carried a team of scientific experts on a voyage of discovery that revealed new life in the deepest reaches of the Gulf of Maine. A stretch of ocean approximately 400 kilometres from Halifax and 200 kilometres off Cape Sable Island was studied.

The goal was to help scientists gain a better understanding of the organisms that inhabit various marine environments, particularly at deeper depths. As a result of the work done on the *CCGS Hudson*, scientists discovered deep-sea fauna that had never before been observed. Even more incredible was the discovery of a potentially new species that has yet to be identified.

**Graph 5: Service by Science Programs, 2006-2007  
(% of Operational Days)**





A Remotely-Operated Platform for Oceans Science (ROPOS) is used to explore the ocean floor as deep as 2,500 meters beneath the surface

Photo: MA Region

In total, 96% of planned services in 2006-2007 were delivered, compared to 76% in 2004-2005 and 2005-2006, during which extended equipment failures were experienced. Since stock assessments can only be carried out from dedicated trawlers, and three of these are in the process of being replaced<sup>2</sup>, lost time cannot be made up for from other CCG Vessels.

Of 90 resource surveys conducted during the period 2001-2006 in the Atlantic Zone, only two were not done; the 2006 3Ps survey<sup>3</sup> was not carried out due to potable water problems on the *CCGS Teleost* and *CCGS Wilfred*

*Templeman*, and the 2003 Gulf multi-species survey was not carried out due to a fire on the *CCGS Alfred Needler*. In fact, during the same period, 33 of the 90 resource surveys were affected by mechanical breakdowns, most of which resulted in reduced sets and increased stock assessment uncertainty.

In order to stabilize the situation, CCG has begun the procurement process for three trawlers, and, as a bridging mechanism, while awaiting arrival of the new trawlers:

- Commenced a vessel life extension refit of one trawler;
- Delayed the decommissioning of another trawler; and
- Increased refit and maintenance spending, as well as planned maintenance periods, on all trawlers.

Clearly, given that these unique vessels are beyond their life expectancy, replacement is the only real solution, as presented in Section 3.

#### 4.2.2. Fisheries and Aquaculture Management

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's (NAFO), to stop illegal fishing by foreign fleets in international waters, on the 282,500 square-kilometre Grand Banks of Newfoundland.

<sup>2</sup> The trawlers, medium ships, are more than 25 years old (see Table 3 on Age of Fleet Vessels).

<sup>3</sup> The 3Ps survey consists of stock assessing fish (for example, cod or with founder) in the 3Ps sub-division of Northern Atlantic Fisheries Organisation, off southern Newfoundland.



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 jurisdiction;
- 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, 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.



*CCGS Leonard J. Cowley facing storm with winds of 70 knots and seas of 47 feet.*

Photo: NL Region

### The *CCGS Arrow Post* Foils Poachers

On the morning of February 17, 2006, the *CCGS Arrow Post* was conducting a Species at Risk Act patrol in the southern Queen Charlotte Islands. The crew conducted an inspection aboard a suspected abalone poaching vessel.

The CCG officers reported their suspicions to DFO officials. Three days later, abalone was transferred from the suspected vessel to a pick-up truck in Port Edward, B.C. The vehicle was stopped and suspects arrested.

With 11,000 endangered northern abalones caught, this poaching arrest is the largest ever in Canada for these primitive marine molluscs, and the penalties handed down to the three suspects is the stiffest for abalone poaching in Canada's history.

### ***Fleet's Performance***

During 2006-2007, some 3,957 operational days were delivered. A consistent trend has been maintained from 2002-2003, with an average of 85% of planned service being delivered. This shortfall can be explained primarily by almost 600 additional days in maintenance and refit. Two offshore patrol vessels and three midshore patrol vessels, dedicated to Fisheries and Aquaculture Management, are more than 25 years old and identified for replacement as a priority (see Section 3).

Table 5 indicates the various patrols undertaken in 2006-2007, mostly in Canadian waters, and in NAFO regulatory areas. 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. The demand for fleet support is intensifying primarily in support of NAFO patrols, with an increase of the equivalent of one full year over the past four years.

**Table 5: Service to FAM by Patrol Type, 2006-2007 (% of Operational Days)**

Canadian Waters	57.8
NAFO	34.1
Other Patrol	5.4
Administrative (including court appearances)	1.8
International Waters <sup>4</sup>	0.8
Aboriginal Fisheries	0.1



*CCGS Cygnus*, an Offshore Patrol Vessel, with a European Union Vessel, the *Jean Charcot*, during a NAFO Patrol.

Photo: NL Region

<sup>4</sup> Off Pacific and Maritimes Coasts

### 4.3 OTHER GOVERNMENT DEPARTMENTS AND AGENCIES

The Fleet provides maritime services (vessels, helicopters, expertise, personnel and infrastructure) on behalf of, or in support of OGDs in the achievement of their specific maritime priorities. These include the Canada Border Services Agency, the Natural Science and Engineering Research Council (NSERC), Environment Canada (EC), Natural Resources Canada (NRCan), the Department of National Defence (DND), the Royal Canadian Mounted Police, the Department of Foreign Affairs and International Trade, Transport Canada (TC) and others.

Client requirements dictate the type of vessel needed. For example, EC, the NSERC and NRCan need scientific vessels to support their activities, while the RCMP uses a variety of vessels, such as icebreakers and air cushion vessels. Fleet is responsible for on-water operations in the support of OGDs.



*CCGS Des Groseillers* during the annual resupply mission to EC's Eureka Weather Station, located on the west coast of Ellesmere Island, some 600 miles south of the North Pole



*CCGS Teleost*, Offshore Fisheries Science Vessel  
Photo: NL Region

### ***Fleet's Performance***

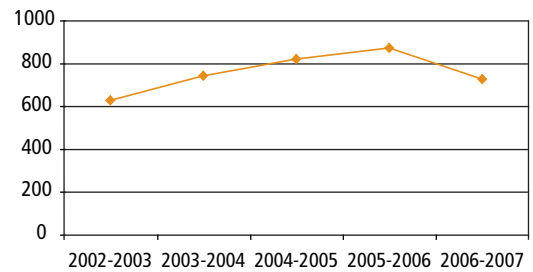
During 2006-2007, some 724 operational days delivered were 10% more than originally planned due primarily to urgent unplanned requirements, at the request of the clients.

Graph 6 shows that the service increased annually from 2002-2003 to 2006-2007 by an average of 10%, with a sudden decline in 2006-2007. This decrease is due mainly to lower demand, particularly from the Natural Science and Engineering Research Council which, over four years, reduced its requested operational days from 140 to 80. Service delivered to Environment Canada, the second highest user, remained stable at an average of 56 days.

Other service categories include the Canada Border Services Agency, the RCMP, DND, TC, provincial and territorial governments, and

the St. Lawrence Seaway. In total, this group received an average of 206 operational days over the last five fiscal years.

**Graph 6: Service to Other Government Departments and Agencies, 2002-2003 to 2006-2007 (# of Operational Days)**



Fast Rescue Craft

## Operation Lancaster

Operation Lancaster, a Canadian sovereignty operation, took place in Canada's Eastern Arctic from August 12 to 25, 2006. It was directed by DND's Canada Command and executed by Joint Task Force North, with the participation of other DND commands and OGDs. The combined land and sea operations included an integrated fisheries patrol in the Davis Strait that concluded in Iqaluit and was conducted by the Canadian Navy and Fisheries and Oceans Canada. The *CCGS Henry Larsen* played a major role in the operation, including serving as host ship for the Prime Minister, the Chief of Defence Staff and the Commissioner of the Canadian Coast Guard.



*CCGS Henry Larsen* with the *HMCS Montreal*, a Canadian Navy Vessel

Photo: C&A Region



# MEASURING PERFORMANCE



*Whether supporting the Canadian Coast Guard, Fisheries and Oceans Canada, or other government departments and 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 the service by client, Section 5 looks at the overall performance of the Fleet, with measures endorsed by the Fleet Executive Board (the management and governance Board for the Fleet, consisting of the Headquarters Fleet Directors, Regional Directors, Operational Services, and led by the Director General, Fleet).*

*As new evaluation factors become further required, performance measures will also evolve to ensure that Fleet has meaningful, timely, and accurate information for decision-making and reporting to Canadians.*

## 5.1 SAFE AND SECURE DELIVERY

The Fleet operates in a significantly risk-based maritime environment with our personnel, our vessels, air cushion vehicles, helicopters and 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, scientists, and passengers is paramount. Fleet manages these risks through its Safety and Security Management System. Twenty-five full time personnel work with seagoing personnel and shore-based fleet leadership to promote and operationalize a safety and security culture on a daily basis.

### Becoming a Maritime Industry Leader in Safety and Security

CCG has positioned itself as a marine industry leader by developing and implementing its Safety and Security Management System, which complies with the *International Management Code for Safe Operations of Ships and for the Prevention of Pollution*. Created in 1998, the system is being expanded to include small vessels and also includes an independent, external audit function.

In 2006, it was expanded to include all vessels over 15 gross registered tons, all 114 of CCG's major vessels. An additional security requirement has also been added in line with the *International Ship and Port Facility Security Code* – all vessels over 100 gross registered tons must now develop security plans and comply with all international security requirements.



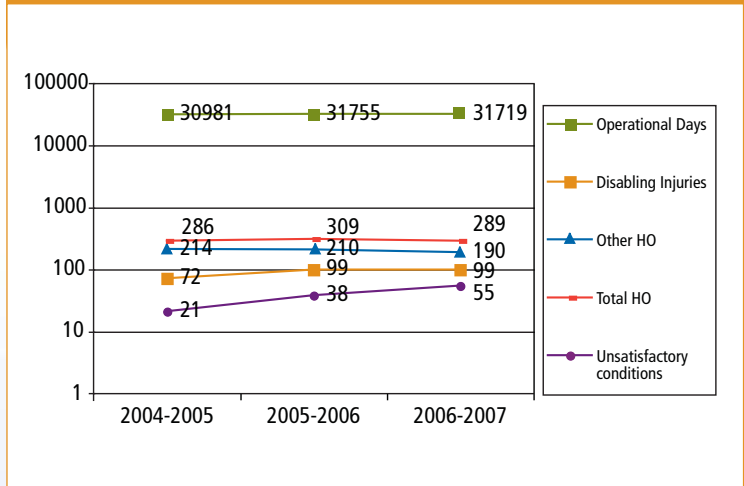
At the onset of the program, reporting hazards and incidents was the prime focus, with reported incidents rising steadily. With this understanding, Fleet's focus shifted to mitigation and prevention measures. Since inception, a wide variety of programs and initiatives have been put in place to improve overall safety and security.

With increased acceptance by seagoing personnel, system sophistication improved as did our analytical capability, allowing for a greater focus on behavioural analysis from a methodological perspective.

While the total of hazardous occurrences (Total HO) has been slowly decreasing, Fleet leadership has been encouraging the reporting of preventable incidents by all seagoing personnel, referred to as 'unsatisfactory conditions', as illustrated in Graph 7. It is hoped this initiative will further reduce hazardous occurrences and mitigate risks at sea. Hazardous occurrences are comprised of disabling injuries, and others incidents such as groundings, propulsion failures and pollution (Other HO).

In subsequent years, the SSMS will be used as a building block for human factor development, focusing on unit and individual capabilities (including competency profiles) crossing over into human resources management areas.

**Graph 7: Trend of Reported Incidents by 365 Days, 2004-2005 to 2006-2007 (# of Operational Days)**



*CCG Penac, an Air Cushion Vehicle*

Photo: PA Region

## 5.2 EFFECTIVE DELIVERY

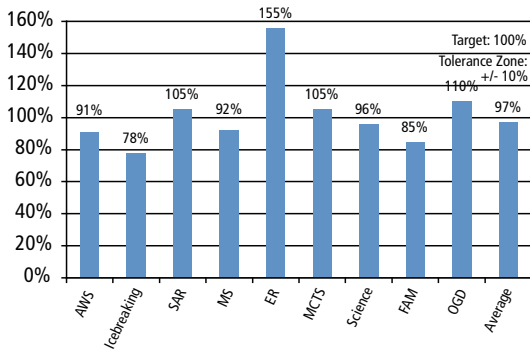
Effectiveness is used to assess the extent to which an organization is meeting its expected results.

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

Service delivered compared to the plan gives an appreciation of its effective delivery. Where values exceed 100%, service demands in year were actually higher, and consequently more 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 zone is plus or minus 10%, given operational and environmental fluidity.

As illustrated by Graph 8, some 97% of all the operational days planned were delivered. Clients such as Aids and Waterways Services, Search and Rescue, Maritime Security, Marine Communication and Traffic Services, Science, and OGDs generally received a satisfactory number of operational days compared to planned, with results varying from 91% to 110%.

**Graph 8: Service Delivered versus Planned by Fleet Clients 2006-2007 (%)**



As seen in Section 4, Environmental Response Services received 155% of the service planned, which represent only 68 operational days. Also, the Icebreaking Services received less service due to lighter ice conditions, an increase in dedicated scientific activities for OGDs aboard icebreakers, and response to SAR and ER incidents. Finally, Fisheries and Aquaculture Management received 85% due to extended maintenance and refit periods.

Another means of assessing fleet effectiveness is to measure operational delays, and is comprised of the time a vessel is available but delayed for reasons such as weather, waiting for equipment or personnel, equipment breakdown, administrative reasons, etc. Table 6 shows the five main reasons for operational delays, including weather and environmental conditions. Excluded from these figures are the delays leading to long-term vessel unavailability, delays due to vessel or helicopter breakdown, and delays in maintenance and refit.

**Table 6: Top 5 of Reasons for Operational Delays, 2006-2007**

1	Weather/tide
2	Equipment Breakdown/Limitation
3	Other Delay
4	Waiting for Material and Equipment
5	Ice Conditions

There has been a steady year-to-year decrease in time lost, from 3.7% of all service delivered in 2003-2004 to 2.5% this year (from 1,005 to 790 lost days). The three clients are mostly affected by the delays are DFO Fisheries and Aquaculture Management, DFO Science, and Aids and Waterways Services.



With these two relative measures, we can conclude that the fleet was generally effective in 2006-2007, with the service delivered comparing as close as 97% to the service planned, and delay time represents less than 2.5% of all service time, excluding long-term unavailability.



Contributing to Canadian Sovereignty by re-supplying remote communities.

Photo: NL Region

### 5.3 EFFICIENT DELIVERY

Efficiency is the extent to which an organization produces outputs (in this case, operational days) in relation to resources used (i.e. vessels). To measure the fleet efficiency, performance measures have been developed, two of which are presented below: vessel availability and multitasking.

A vessel is available when it is ready to be assigned to a mission or client, and unavailable when it is in winterization and lay-up time, or in extended planned and unplanned maintenance. Table 7 shows the operational state of vessels.

In 2006-2007, when available, vessels were predominantly assigned to clients (67%) and rarely unassigned (1%). When vessels were not available, they were mostly in winterization (20%) in four of five regions, except in the Pacific Region, where navigation occurs year-round. The fleet also spent time in maintenance, both planned (9%) and unplanned (2%). This table shows the reality of an increasingly aging fleet and the associated maintenance problems, unexpected breakdowns and consequent service delivery shortfalls.

**Table 7: Operational State of Vessels, 2006-2007 (%)**

Available				Unavailable				Sub-total	Total
Assigned	Unassigned	Planned Maintenance	Sub-total	Winterization / Lay-up	Planned Maintenance	Unplanned Maintenance	Other		
67%	1%	0%	68%	20%	9%	2%	1%	32%	100%

**Table 8: Unplanned Maintenance of vessels, 2002-2003 to 2006-2007**

	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007
Number of Actual Days in Unplanned Maintenance (breakdowns)	427	472	675	593	533
% of Planned Service	3.7%	4.6%	5.9%	5.6%	5.1%

The 40 largest vessels in the fleet are also CCG's oldest. These ships provide an average of 9,500 operational days to clients each year, the vast majority of which are at sea as a function of client and mission requirements. Unfortunately, breakdowns do occur, causing 4-6% of operational days planned lost, as shown with Table 8.

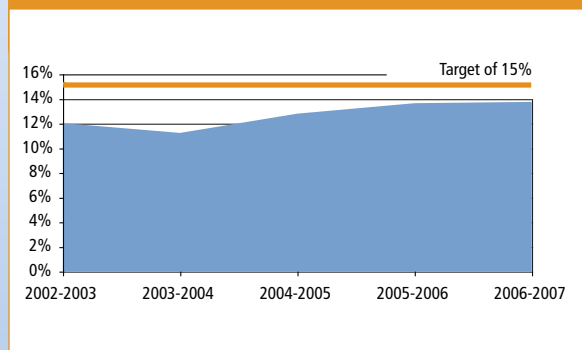
Although it is too early to state definitely that stabilisation in operational days lost is directly attributable to increased spending on refit, maintenance and vessel life extensions, it is a hopeful sign and clearly an important and appropriate investment.

The second relative measure of efficiency is multitasking, i.e., in which a vessel performs two or more tasks simultaneously. Icebreakers, for example, can be tasked to Icebreaking while providing SAR coverage, or they can perform Observe, Report and Record functions, or support Maritime Security, or conduct pollution monitoring and/or response. Thus, with one vessel, within the limits of geography, time, availability, and capability, simultaneous missions can often be conducted.



Night-time marine species research

**Graph 9: Multitasking Trend, 2002-2003 to 2006-2007 (%)**





CCGS *Louis S. St-Laurent*, our largest icebreaker, near Cambridge Bay in Nunavut  
Photo: C&A Region

This calculation is derived by comparing the total time a vessel was multitasked to the total time it was assigned. Graph 9 demonstrates the multitasking trend over the last five fiscal years. In 2006-2007, with 13.7% of multitasking accomplished, the fleet is slowly approaching its target of 15%. This moderate change is due in part, to better planning and the migration towards more multitaskable fleet configurations.

Given the results of these two relative measures, we can consider our fleet generally efficient with a high rate of assignment and an acceptable rate of multitasking, although breakdowns remain problematic. A more sophisticated, multi-mission fleet, with fewer vessel type configurations, as presented in Section 3, will result in increased multitasking ability, thus enhancing Fleet's overall efficiency.



## OUR OPERATIONAL AND FINANCIAL PLANNING



Recent experiences such as the response to Hurricane Katrina and increased support to security issues underscore the importance of CCG's ability to deliver on public expectations of operational readiness and integrated contingency planning. To accomplish this, CCG employs a variety of planning methods to ensure it is prepared to conduct missions – with vessels in place, fuel on board, highly trained and adaptable crews ready – and strategic planning methods in place to make sure that business and management practices, as well as funds are in place to operate, procure, and maintain the vessels and helicopters needed to satisfy existing and future challenges.

During 2006-2007, CCG developed the concept of Fleet Operational Readiness as the foundation for determining its longer term capacity requirements. This reorientation will enable the CCG to evolve from a narrow short-term approach driven by client requirements and funding to a more holistic long-term approach in which the Agency is positioned as Canada's "whole of government" civilian maritime solution, ready to operationally respond in times of need. This new approach will ensure the fleet is equipped and available when needed and that it provides safe and

secure, efficient, and effective services. The readiness concept, and the development of a corresponding business framework, will make the financial resources required to operate the fleet more transparent to clients, that is, those resources required to ensure an operationally ready fleet versus those resources only needed to deliver services at sea, so that more effective service agreements and practices can be established and formalized.

Each year, clients are required to define their needs that are used to develop the national Fleet Operations Plan, which includes specific vessel schedules and missions, as well as the cost of delivering those services. The financial basis for the planning of client needs is the National Fleet Costing Model. CCG's financial resources are fixed each year at the beginning of the budgetary cycle, while demand for some of its services is often variable and unpredictable, causing in-year adjustments. When unanticipated service demands arise after the annual planning cycle has been completed, efforts expended in other areas are, of necessity, modified accordingly after review of priorities and risks.

**Table 9: Fleet National Budget, 2006-2007 (\$000s)**

	Salaries	Operations and Maintenance (O&M)	Fuel	Sub Total	Minor Capital	Total
Fleet	141,611	26,071	39,016	206,699	0	206,699
Helicopters	*	14,020	**	14,020	0	14,020
Sub Total	141,611	40,092	39,016	220,719	0	220,719
Shore	17,321	7,311		24,633	438	25,071
<b>Total</b>	<b>158,933</b>	<b>47,404</b>	<b>39,016</b>	<b>245,353</b>	<b>438</b>	<b>245,791</b>

Table 9 summarizes the Fleet’s national level budget for 2006-2007. During this fiscal year, the CCG began its move to activity-based budgeting under the Fleet Operational Readiness concept, ensuring more transparency, making the costs of service clearer to Canadians, and improving accountability.

A transitional CCG methodology was used to allocate the fiscal year 2006-2007 budget utilizing primarily historical expenditure information. During the year, a new Fleet Financial Framework was produced that will guide the development of the Fleet Financial Plan for 2007-2008. This framework uses the concept of specially controlled and targeted budget allotments for operational and non-operational expenditures, and further introduces standard and non-standard budgetary items. This plan will become a model for introduction CCG-wide.

As a consequence of this change, beginning in 2007-2008, CCG managers and employees will see more clearly defined links between the way funds are appropriated from Parliament, internal planning and budget allocations, and year-end reporting to Parliament. It is also expected that activity-based budgeting will better facilitate operational and financial performance reporting and monitoring.



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

\* Helicopters Pilots are Transport Canada employees and not CCG employees.

\*\* Fuel is included in O&M.



## LOOKING FORWARD



**W**e understand our challenges: responding to increasing and evolving service demands; adapting ourselves in a changing and complex environment; providing a great workplace to our personnel; and managing our capital intensive assets in an appropriate manner. We have also enjoyed solid relationships with our internal and external clients, and are focusing on trying to better understand their particular needs and provide them with the best service possible.

Through 2006-2007, Fleet has made significant improvements to its planning and budgeting processes. As part of what it means to be a national maritime service organization, we will continue to focus on a full suite of management practices improvements, in effect operationalizing what it truly means to be an Agency.

We believe that we are well on our way to incorporating the recommendations of the Auditor General's report and the internal A-Base Review. In addition, Fleet has established performance measures to regularly assess its safety and security, effectiveness, and efficiency.

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 operationally ready civilian maritime service provider has never been more important, or more demanding. Again, we would like to stress the importance of our people, both ashore and afloat, who have dedicated themselves to serving our clients and Canadians.

Should you have comments or observations regarding this first Fleet Annual Report, you are encouraged to contact any of the persons named in Section 8. We welcome your suggestions for improvement.



Fast Rescue Craft at night

Photo: C&A Region



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