

CANADIAN
CONSERVATION
INSTITUTE



INSTITUT
CANADIEN DE
CONSERVATION

Annual Report

2003-2004



Canadian Patrimoine
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Canada

CCI Mission Statement

“We are committed to preserving Canadian heritage and supporting conservation and heritage institutions in Canada by creating and disseminating conservation knowledge and providing expert services.”

We ensure client satisfaction through:

- providing high-quality, reliable services, advice, assistance and information on:
 - new conservation knowledge and practices
 - care of collections and preventive conservation
 - treatment of artifacts and works of art in Canadian museums, art galleries, archives and libraries
 - materials or condition of heritage objects to improve the understanding of collections
 - museum facilities and planning
 - transportation for fine arts and artifacts

- collaborating with regional, provincial, territorial, national and international cultural communities, institutions and related agencies including conservation associations and the private heritage sector

For additional copies or for further information
about CCI services or programs, please contact

Client Services
Canadian Conservation Institute
1030 Innes Road
Ottawa ON K1A 0M5
Canada
Tel.: (613) 998-3721
Fax: (613) 998-4721
E-mail: cci-icc_services@pch.gc.ca

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Cover: CCI provided numerous services to the heritage community during 2003–2004 including (clockwise from the right): Alex Colville's *Horse and Train*, shown here being inspected by the artist himself, was treated for the Art Gallery of Hamilton; a wide range of materials were analysed using the recently acquired scanning electron microscope; a 3-week Preventive Conservation Summer School was hosted in partnership with ICCROM to offer a unique hands-on learning experience to 22 conservation professionals from around the world; 176 exhibits were safely transported for 127 heritage institutions by Exhibit Transportation Services.

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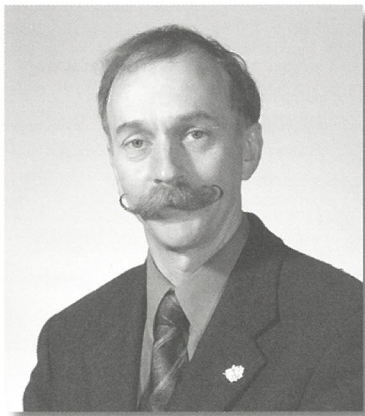


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Director General's Message

In the 2003–2004 fiscal year, the Canadian Conservation Institute (CCI) faced two significant challenges: one related to the building infrastructure, and the other to a change in senior-level leadership.



The issue of infrastructure related to the presence of mould in the perimeter wall cavities in the main building at 1030 Innes Road in Ottawa. Mould remediation was fully underway in the 2003–2004 fiscal year. To minimize the impact on clients, many activities continued in other locations. Among these were research and analysis work, treatments, writing/editing, workshops, and consultations. Some conservation treatment work continued, thanks to the generosity of Parks Canada, which allowed CCI to use some

of its laboratory space. Some research activities were relocated off-site, and several key scientific instruments were relocated within the main building so that scientific examination and analysis services could be maintained.

During Phase I of the rehabilitation and retrofitting of the building, much-needed upgrades to the library and office space were undertaken. Phase II of the rehabilitation project will continue throughout 2004–2005 and 2005–2006, and will focus on upgrading the laboratories.

CCI's second challenge related to the departure of Director General Bill Peters, who retired in May 2003 after an illustrious 37-year career in the Public Service of Canada, including 8 years at CCI. As a result of Bill's well-earned retirement, many staff members were called upon to act in different positions for extended periods of time, often while maintaining some responsibility for their

original tasks. This opportunity gave many CCI staff the chance to expand their professional capacities in different areas; however, it also called upon their professionalism, flexibility, and, on occasion, sense of humour and camaraderie as they remained committed, throughout the year, to delivering exemplary service to clients.

This was definitely not a "business-as-usual" year! However, projects and activities continued, or were initiated by staff, notwithstanding the construction work that took place all around them. First, a highly successful Preventive Conservation Summer School was delivered over a 3-week period in June 2003 in partnership with ICCROM (International Centre for the Study of the Preservation and Restoration of Cultural Property). In addition, "Symposium 2003 - Preservation of Electronic Records: New Knowledge and Decision-making" was delivered over a full week in September in partnership with Library and Archives Canada and the Canadian Heritage Information Network and with the assistance of the Canada Science and Technology Museum. Both of these events were wonderful achievements; the fact that they were delivered under the exigent circumstances of the building renovations and when staff were often assuming responsibility for other more challenging tasks is a tribute to the level of professional commitment that exists throughout the organization.

A handwritten signature in cursive script, reading "Charles Costain".

Charles Costain
Acting Director General
and Chief Operating Officer
Canadian Conservation Institute

Our Organization

CCI is a Special Operating Agency (SOA) within the Department of Canadian Heritage (PCH). A national centre of excellence in heritage preservation, the Institute is committed to preserving Canada's rich material cultural heritage and supporting conservation and heritage practices and institutions across Canada. It was created in 1972 to promote the proper care and preservation of Canada's moveable cultural property and to advance the practice, science, and technology of conservation.

The Director General and Chief Operating Officer of CCI is accountable to the Deputy Minister of PCH through the Executive Director of Heritage and the Assistant Deputy Minister, Citizenship and Heritage.

CCI is the Government of Canada's principal program for research and service delivery in the field of heritage conservation. As a part of PCH, it contributes primarily to the achievement of one of the Department's four strategic objectives: to promote the creation, dissemination, and preservation of diverse Canadian cultural works, stories, and symbols reflective of our values and aspirations.

CCI's research, expert services, and capacity building efforts contribute to two of PCH's key planned results: Canada's diverse cultural and natural heritage is preserved for Canadians now and in the future, and Canadian content is available and accessible in domestic and international markets.

The Institute offers a wide range of conservation and preservation services to clients that encompass heritage institutions (museums, art galleries, libraries, and archives); museum, archival, archaeological, and conservation associations; heritage agencies; university and college conservation and museology training programs; and public authorities and religious organizations with collections accessible to the public.

As an SOA, CCI is financed through appropriations received from PCH and through revenues generated by fees for services. Many services are provided free-of-charge; some are provided for a nominal fee (negotiated on a project-by-project basis) in recognition of the public benefit associated with the service; others are offered on the basis of full cost recovery.

Highlights in 2003–2004

"Symposium 2003 - Preservation of Electronic Records: New Knowledge and Decision-making" was presented in Ottawa in September 2003. Co-hosted by Library and Archives Canada and the Canadian Heritage Information Network, this international event was attended by more than 350 delegates. Twenty-nine papers were presented on topics such as storage media, longevity, developing preservation strategies, authenticity, and appraisal issues. A half-day event called "Preservation Quest: How to preserve your home movies, CDs, videos and more" was attended by more than 400 members of the general public.

In June 2003, 22 conservation professionals from around the world assembled in Ottawa for a 3-week **Preventive**

Conservation Summer School organized by CCI in partnership with ICCROM.

Conservation workshops were offered to conservators, museum staff, and volunteers in 22 locations across Canada on topics that included: Aboriginal facilities development, emergency and disaster preparedness, and environmental standards for collection preservation.

CCI participated in a **preservation study of the Declaration of Independence, Constitution, and Bill of Rights of the United States of America**. Analysis of these parchment documents led to the development of an accurate technique for quantifying deterioration, measuring the effects of treatments, and monitoring artifacts to ensure long-term preservation.



Delegates of Symposium 2003 had a chance to view examples of the material held in the Music Division, Library and Archives Canada.

The Art Gallery of Hamilton sought the advice of CCI to examine, assess, and treat **Alex Colville's *Horse and Train*** further to concerns about its stability. The analysis of this icon of Canadian

art will contribute considerably to knowledge available about one of Canada's most important painters.

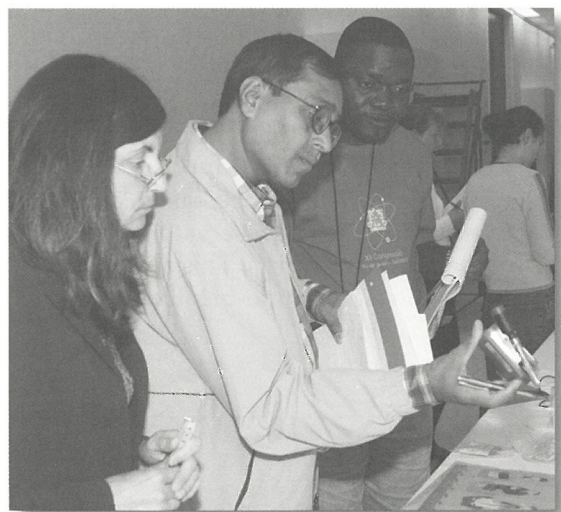
Scientific analysis was performed on **paints from the Yukon Ice Patch Collection**. These paints, still present on artifacts recovered from melting alpine ice patches in southern Yukon, date from more than 7000 years ago.

The artifacts are extremely well preserved and yield valuable information on the material culture of the First Nations people who hunted there.

CCI professionals continued to participate as expert technical advisors in the restoration of the **Parliamentary Precinct** to ensure the

preservation of the heritage architectural features, fine art, and collections of the Parliament Buildings built in 1862.

Exhibit Transportation Services safely transported 176 exhibits for 127 heritage institutions and handled more than 8564 individual artifacts.



Conservation professionals from around the world attended the Preventive Conservation Summer School at CCI.

The number of visitors to the **CCI Web site** grew by 28% to 269 285, with visitors from about 150 countries. The "**Preserving my Heritage**" Web site received 184 129 visits.

The **CCI Library** added about 350 new titles to its collection of more than 10 000 books and 400 journal subscriptions — one of the largest museology and conservation collections in the world.

CCI publications are known and respected around the world. This year CCI processed 914 publications orders: Canadian clients accounted for 34% of the orders; American clients 41%; clients from other countries 25%.

CCI staff carried out **site visits** for facility assessments at 68 heritage institutions and Aboriginal facilities in seven provinces and two territories.

Client Services responded to 1323 requests for information or services.

International collaboration continued as CCI represented PCH at the Third Experts' meeting on the Iraqi cultural heritage organized by the UNESCO/Agency for Cultural Affairs of Japan to discuss two assessment missions and recommend ways to coordinate international efforts to safeguard Iraq's heritage.

Since the 1998–1999 fiscal year, CCI has conducted surveys to measure **client satisfaction** with its treatments, analyses, site visits, reports, and workshops. Satisfaction rates have been consistently above 90% for all criteria surveyed, with an overall satisfaction rating of 98.2% in 2003–2004.

As part of its **knowledge transfer** function, CCI experts presented their research and shared their expertise at eight national and international conferences and through numerous national and international publications.

Our Services



This hand-held X-ray fluorescence spectrometer can be used on site to test artifacts for the presence of pesticide residues and to analyse alloys in artifacts.

The exceptional strength of CCI as a world-renowned conservation facility is based on its scientific research and analysis, its treatment of significant works of art or artifacts, its publications, and its outreach activities. CCI's active scientific research program, as well as the analytical work carried out on heritage objects,

provides the basis for increasingly relevant and practical treatment techniques and information about artifacts.

(1) Research

CCI laboratories carry out scientific research and scientific services on two categories of materials: those used in conservation work such as adhesives, resins, and packing or storage materials; and those that actually constitute artifacts such as paper, plant fibres, textiles, wood, collagen (i.e. skin or leather), metals, and, increasingly, various kinds of plastics. Artifact materials usually show deterioration — hence CCI's materials research often focusses on the measurement, characterization, and mitigation of deterioration. This research provides the essential underpinning for both conservation treatments and the environmental recommendations provided to museums and archives.

The CCI research program emphasizes special Canadian expertise as well as conservation challenges specific to the heritage community from coast to coast. Special attention is paid to the challenges of Canadian geography, climate, or history. The 24 current research activities span extensive and varied areas that include:

- Aboriginal collections
- modern information carriers (CDs, videos, etc.)

- environmental assessments
- Canadian artists

More complete information on the 2003–2004 research activities can be found on pp. 11 and 12.

(2) Expert Services

CCI's professional staff offer an extensive array of expert services to clients, ranging from treatment and analysis of artifacts to assessment of museum facilities.

Treatments

A key component of CCI's mandate is the treatment of significant cultural objects held in museums, art galleries, archives, and libraries across Canada. The Institute strives to improve the condition of — and continued conservation of — these treasured objects that represent Canada's diverse cultures.

Expertise is available in fine arts, textiles, objects, furniture and decorative arts, archaeological items, works on paper, and industrial collections. CCI offers treatment and architectural services, develops new treatment methods and equipment, provides consulting services, and delivers specialized training.

CCI's multidisciplinary approach combines the knowledge, talent, and experience of both conservators and conservation scientists. This approach has resulted in ground-breaking research





Gas chromatography mass spectrometry is one of many techniques CCI uses to conduct chemical analysis of materials.

and innovative treatments leading to practical solutions to many challenges faced by heritage organizations.

Some of the interesting and unusual treatments that were carried out during 2003–2004 are highlighted on p. 13.

Field Work

CCI professionals also work extensively outside the Institute at sites in all parts of Canada. These

site visits range from conservation work on the interiors of heritage buildings to conservation and treatment at archaeological sites. Some 2003–2004 field projects are outlined on p. 14.

An Innov-X hand-held X-ray fluorescence spectrometer was purchased in 2003–2004. This instrument will be used during site visits to test artifacts for the presence of pesticide residues containing elements such as arsenic, mercury, and lead, frequently found in natural history collections. This knowledge will increase the capacity of institutions to handle and care for these artifacts safely. The Innov-X system can also be used for analysing alloys in museum artifacts.

Scientific Documentation and Analysis

CCI undertakes chemical and physical analyses of the materials and structure of objects, scientific documentation of treatments, and scientific research and analysis. Staff provide expertise related to the analysis of the materials and structure of artifacts and works of art, including analysis of extraneous products and materials that may contribute to the degradation of objects. More than 90 analytical projects were completed in 2003–2004 for Canadian and foreign

clients. Several types of objects were studied such as:

- the materials and techniques of *Portrait of Henry VIII* attributed to the circle of Hans Holbein The Younger in the collection of the Art Gallery of Ontario
- the type of corrosion on an Egyptian situla from the collection of the Royal Ontario Museum
- the metal fibres from the “Bannière de Ste-Anne de Caraquet” for the Musée acadien de Caraquet
- the deposits on Plexiglas glazing of a painting for the Solomon R. Guggenheim Museum

All objects that come to CCI for treatment or analysis undergo photodocumentation using 35 mm and other film types. Scientific documentation that includes X-radiography and examination using infrared and ultraviolet radiation is performed as part of the scientific examination of objects. Scientific documentation and analysis is also carried out in the field (see p. 14 for examples).

Facilities Assessments

CCI undertakes technical assessments of facilities in support of the requirements of other PCH programs such as the Museums Assistance Program, the Moveable Cultural Property Program, Cultural Spaces Canada, and the Indemnification Program. CCI reviews facilities to:

- ensure applicants to these programs are conforming to technical standards for fire, safety, the environment, etc.
- provide advice on how to upgrade facilities to certain professional standards and ensure the risk of damage to works of art or artifacts is minimal
- increase the capacity of heritage institutions nationwide

Site visits are also conducted to provide assistance concerning the planning and design of new or retrofitted cultural heritage buildings and related management issues (such as moving collections). They help ensure that collection preservation and public access issues are taken into consideration at



CCI shares the results of its research and knowledge of conservation with heritage institutions nationwide.

the beginning of a capital project and that collections are adequately protected.

In Revelstoke, British Columbia, CCI facilitated a meeting of local heritage institutions (the Revelstoke Museum and Archives, the BC Interior Forestry Museum, the Revelstoke Railway Museum, and the Visual Arts Centre) to consider planning and preservation issues and how

challenges might be resolved jointly. It led to an analysis of Revelstoke's market and a review of potential central services to improve collections preservation.

A map of the site visits for facilities and collections assessments made in 2003–2004 is provided on p. 7.

Exhibit Transportation Services (ETS)

ETS increases access to works of art, stories, and knowledge that build understanding and pride in Canada by providing specialized transportation services and storage facilities for Canada's museums, archives, and galleries. Based in Gatineau, Quebec, ETS provides this service on a cost-recovery basis.

The ETS vehicles logged about 525 698 km across Canada and the United States in 2003–2004. Transportation services were provided to numerous museums including:

- the National Gallery of Canada for the "Post-Impressionist Masterworks" exhibition that travelled to the Art Gallery of Nova Scotia and the Winnipeg Art Gallery
- the Glenbow Museum for "The Group of Seven in Western Canada"

exhibition that travelled to the Winnipeg Art Gallery, the Art Gallery of Greater Victoria, and the National Gallery of Canada

- the Canadian War Museum for the "Canvas of War" exhibition that travelled to the Glenbow Museum, the Art Gallery of Nova Scotia, the McCord Museum, and the Vancouver Art Gallery

(3) Capacity Building and Knowledge Transfer

As a knowledge-based institution, CCI shares the results of its research and knowledge of conservation with heritage institutions nationwide in order to build the capacity required to ensure the preservation of Canada's cultural heritage.

Symposia and Workshops

Training activities encompass learning opportunities such as symposia and workshops, conference presentations, and lectures. Symposia and workshops are offered to professionals and volunteers in the heritage community. For example, a major international symposium dealing with the preservation of electronic records (see p. 2 for more information) was presented, a two-day colloquium "Computerization of Artifact Condition Surveys" was offered in collaboration with the Canadian Museum of Nature, and numerous workshops were conducted for provincial museums associations across Canada.

A more complete list of CCI's 2003–2004 training activities is provided on pp. 15–17.

Interns and Fellows

Most of CCI's laboratories were closed in 2003–2004 due to building renovations. Thus, CCI was unable to receive conservation interns or fellows over the past year. However, one fellow was accommodated through a collaboration with NSERC (the Natural Sciences and

- Binet House, Mayo
- Carcross-Tagish First Nation Interpretation Centre, Carcross
- Danaja Zho Cultural Centre, Dawson City
- George Johnson Museum, Teslin
- Keno City Mining Museum, Keno
- Old Log Church Museum, Whitehorse
- Tlingit Heritage Centre, Teslin

- Hay River Museum, Hay River
- Métis Cultural Institute and the Northern Life Museum, Fort Smith
- Mining Museum, Yellowknife
- Ndilo Cultural Interpretive Centre and Heritage Mining Society, Yellowknife
- Northern Life Museum, Fort Smith
- Prince of Wales Northern Heritage Centre, Yellowknife

- Alberni Valley Museum, Port Alberni
- Art Gallery of Greater Victoria, Victoria
- BC Interior Forestry Museum, Revelstoke
- Canadian Museum of Rail Travel, Cranbrook
- Entertainment and Media Arts Society, Vancouver
- Nelson and District Museum, Art Gallery and Archives, Nelson

- Colony of Avalon archaeological site, Ferryland

- Alberta Foundation for the Arts, Edmonton
- Edmonton Art Gallery, Edmonton
- Glenbow Museum, Calgary
- Medicine Hat Museum and Art Gallery, Medicine Hat
- Naval Museum of Alberta, Calgary
- Provincial Museum of Alberta, Edmonton
- Sir Alexander Galt Museum & Archives, Lethbridge
- Wetaskawin and District Museum, Wetaskawin

- MacKenzie Art Gallery, Regina
- Museums Association of Saskatchewan, Regina
- RCMP Centennial Museum, Regina
- Royal Saskatchewan Museum, Regina

- Agnes Etherington Art Centre, Kingston
- Art Gallery of Ontario, Toronto
- Billings Estate, Ottawa
- Fulford Place, Brockville
- Grimsby Public Art Gallery, Grimsby
- Markham Museum and Historic Village, Markham
- Museum of Contemporary Canadian Art, Toronto
- Nepean Museum, Ottawa
- Ontario Jewish Archives, Toronto
- Ontario Provincial Police Museum, Orillia
- Parliament Hill, Ottawa
- Peterborough Centennial Museum and Archives, Peterborough
- PowerPlant Gallery, Toronto
- Supreme Court of Canada, Ottawa
- Wallaceburg and District Museum, Wallaceburg
- Whata Museum, Bala
- Wikwemikong Cultural Centre, Manitoulin Island

- Abenaki Museum, Pierreville
- Bagotville Air Defence Museum, Bagotville
- Canadian Aviation Heritage Centre, Montreal
- Centre de conservation du Québec (CCQ), Quebec
- McCord Museum of Canadian History, Montreal
- Montreal Museum Directors Storage Facility, Montreal
- Musée régimentaire les Fusiliers de Sherbrooke, Sherbrooke
- Redpath Museum, Montreal
- Royal 22nd Regiment Museum, Quebec
- Wyandot Huron First Nation Museum, Quebec

- United States**
- Calvert Marine Museum, Solomons, MD
 - Carlisle Residential School Museum, Carlisle, PA
 - Chataqua Institute, Chataqua, NY
 - Chesapeake Bay Maritime Museum, St. Michaels, MD
 - Cultural Resource Center of the Smithsonian's National Museum of the American Indian, Washington, DC



Engineering Research Council). As CCI's first research fellow, she is carrying out research on the use of adhesives on textiles.

Collaboration with Educational Institutions

CCI maintains close contact with the educational institutions in Canada who train students in the field of conservation. In addition to providing lectures and workshops to these programs, CCI sits on the advisory committee for the conservation program at Sir Sandford Fleming College in Peterborough, Ontario.

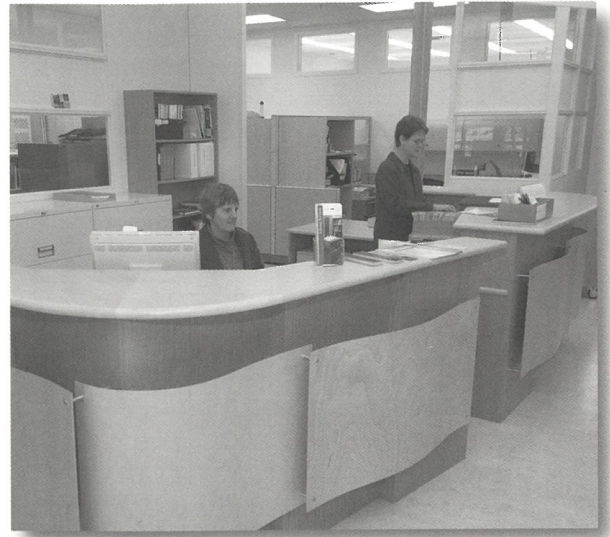
Publications and Articles

CCI's publication program includes the production of books, CCI Notes, and Technical Bulletins that are designed to provide up-to-date practical information for conservation professionals and collections managers.

CCI Notes continued to be the most popular product in 2003–2004: 263 complete sets of Notes were sold as well as 3366 individual Notes. This year also saw an increase in the overall percentage of orders placed through the online Bookstore (from 37% to 45%).

Publication highlights for 2003–2004 include:

- *Mould Prevention and Collection Recovery: Guidelines for Heritage Collections* (Technical Bulletin No. 26), which provides guidance to institutions coping with mould that can damage artifacts and contaminate environments
- *Airborne Pollutants in Museums, Galleries, and Archives: Risk Assessment, Control Strategies, and Preservation Management*, which identifies key airborne pollutants for indoor museum environments and provides some basic tools to assess the risk to collections
- *The Gentle Art of Applied Pressure*, which is designed to meet the needs of anyone undertaking conservation treatments that require joining things together or reshaping them



The CCI Library houses one of the largest conservation and museology collections in the world.

CCI staff also publish the results of treatments and research in external books and journals. A selection of these 2003–2004 publications can be found on p. 18.

Library Services

The CCI Library has one of the largest conservation and museology collections in the world. This year the library's holdings were successfully added to AMICUS, the union catalogue database of Library and Archives Canada, further facilitating access to the Institute's information resources. A new CCI Library Home Page was also developed for use by both CCI staff and library visitors. The redesigned, database-driven page offers quick access to key links, and can be used by CCI staff to do Internet research as well as make inter-library loan and new purchase requests.

More than 1200 new records were contributed to the bibliographic databases BCIN (www.bcin.gc.ca) and BMUSE (under "Reference Library" at www.chin.gc.ca).

International Presence

CCI continued to maintain a strong presence in the international heritage community through collaborative projects, training, publications, and specialized services.

Many CCI staff members were active participants on the boards of directors and various committees associated with the operation of ICCROM (International Centre for the Study of the Preservation and Restoration of Cultural Property).

CCI research is recognized as making a major contribution to international conservation efforts. Major accomplishments or contributions in 2003–2004 include the following.

- *ICOM News*, Vol. 56, No. 2, 2003. CCI was largely responsible for the

production of this entire thematic issue on conservation. As the official newsletter of ICOM (the International Council of Museums), it was received by more than 20 000 museum professionals worldwide.

- CCI's Acting Director General attended the ICCROM General Assembly and Council meetings as Alternate Delegate for Canada. During the General Assembly, as Chairperson of the outgoing Council, he presented a report on the activities of Council 2001–2003. He was re-elected to ICCROM Council for 2003–2007 and was re-elected as Chairperson of Council for the next 2 years.

More examples of CCI's international activities in the 2003–2004 fiscal year are provided on pp. 18 and 19.

Reaching Out

The CCI Web site (www.cci-icc.gc.ca) continued to be a well-used source of information for conservators, collections managers, and others working in heritage institutions around the world. The "Preserving my Heritage" site (www.preservation.gc.ca) also proved to be a useful resource following its first full year online. This site provides information about how to care for family treasures, heirlooms, and works of art. It also features conservation career profiles, a before-and-after treatment gallery, and little-known facts about artifact conservation.

Attendance at trade shows enables the Institute to showcase its publications and activities as well as providing an opportunity for face-to-face discussions about issues of common interest. In 2003–2004, the Institute exhibited at the trade shows of the annual conferences of the following associations: the Canadian Museums Association; the Canadian Association for Conservation of Cultural Property; the American Institute for

Conservation of Historic and Artistic Works; the Society for American Archaeology; and the American Association of Museums.

Requests for information originated primarily in Canada, but enquiries were also received from more than 20 other countries. Almost 50% of inquiries came by e-mail. The most commonly asked questions related to paper objects, books, training and career advice, referrals to suppliers of conservation services and products, conservation of objects, publications, and the safe use of conservation materials.

The Institute responded to requests from a number of Canadian institutions experiencing emergencies. Advice provided included protocols for cleaning artifacts following a flood, drying library books after a deluge of water, cleaning fire extinguisher residue following an act of vandalism, and removing the odour of smoke following a fire.

Building an Effective Organization

Through a re-allocation of departmental funds in 2003–2004, CCI received a permanent increase of \$3.7M to its budget. In the short term, a significant portion of this increase has had to be redirected to the building renovations. These funds were also used to offset salary and operating deficits, and replace obsolete scientific and conservation equipment.

The renovations to the CCI headquarters building in 2003–2004 were required to remove toxigenic mould from the walls,

to ensure the building met current codes with regard to fume extraction, and to provide staff with office accommodations that met Government of Canada standards. The challenge of providing staff with alternate accommodations, computer access, and telephone service, as well as managing their legitimate issues

and concerns at a time when the building and the staff were in a state of upheaval, was considerable.

The CCI Occupational Safety and Health Committee promotes and ensures a safe work environment. This involves the provision of training for all directors and managers in the dictates of the Canada Labour Code Part II as well as in the responsibility for workplace inspection. The Committee reviewed and undertook such safety issues as inspections, provision of training, and responding to staff enquiries and concerns — particularly important as construction work continued.

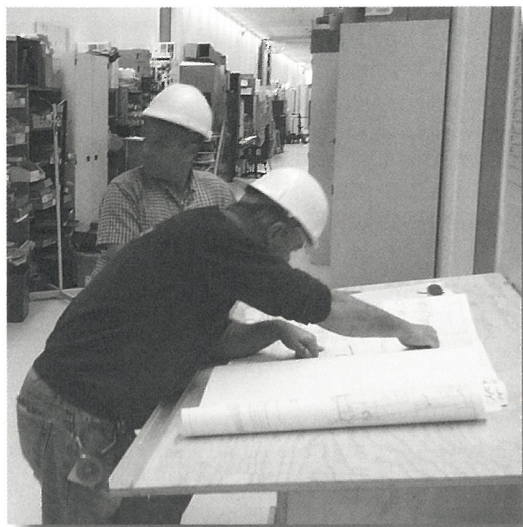
CCI also has an ongoing program of training staff in first aid, CPR (cardiopulmonary resuscitation), and WHMIS (Workplace Hazardous Materials Information System). This year, specific training in fall protection, scaffold safety, and laboratory inspections was also provided to those staff members for whom it would be most useful.

In 2003–2004, CCI continued the development of a new database system to capture information on all projects undertaken by staff. In addition to improving internal processes, the new business management system will be linked to the e-Services component (currently under development) of CCI's Web site, and provide up-to-date information on the status of client projects. The new system will become fully functional in 2005.

Staff Achievements

Departmental Awards — Within the Department of Canadian Heritage, Deputy Minister's awards were presented to David Grattan for his work as Chair of the ICOM Conservation Committee, and the team of Charlie Costain, Renée Dancause, Bruce Gordon, David Grattan, Colette Landry, Linda Leclerc, Joy Patel, Lise Perron-Croteau, Tom Stone, and Season Tse for their work on the CCI Competencies Project. People Management awards were presented to Charlie Costain (Director of Conservation and Scientific Services Directorate) and Bill Peters (then Director General of CCI).

CCI Awards — Internal recognition awards for individuals were received by Carole Lapointe and Jane Sirois, and an internal team recognition award was received by Joe Balan, Richard Bédard, Jean Bisson, Charles Laberge, Craig Lauber, Joseph Lee, and Robert McRae.



The CCI headquarters building in Ottawa underwent extensive renovations in 2003–2004.

Selected Projects and Activities

Research Activities 2003–2004

Aboriginal Collections

- research into the preservation of waterlogged basketry from Aboriginal sites on the West Coast of Canada to develop a better method of conservation and to increase understanding of the materials and techniques
- investigation of the pesticides in Aboriginal and natural history collections to increase knowledge about how to care for and identify artifacts that have been treated with chemicals in ways that will ensure their protection as well as the health and safety of their custodians

Canadian Artists

- assessment of the materials and techniques of David Milne, Jean-Paul Riopelle, Cornelius Kreighoff, Louis Dulongpre, and Yves Gaucher to gain knowledge that will enable Canadian institutions to better understand the techniques of different Canadian artists, to resolve attribution problems, to identify fakes and forgeries, and to undertake conservation of their works of art

Documents

- study of the significance of iron gall ink documents in Canadian collections (with the aid of the Canadian Council of Archives) and the application of recent European research results to better preserve Canadian collections (the presence of iron gall ink is a major issue in the preservation of paper archives due to its corrosive characteristics and its tendency to fade)
- exploration of the effect of aging on treated iron gall ink documents by treating them with one of eight test treatments, artificially aging them by heat, light, and humidity, and then documenting the changes in appearance using a MuSIS camera, scanners, a digital camera, and a Minolta spectrophotometer
- testing and evaluation of the long-term effectiveness of a commercial mass deacidification system to ensure the ongoing preservation of Canada's archival and published heritage
- examination of the effect of simmering on the chemical and mechanical properties of paper to provide Canadian institutions with information that will be helpful in the care of paper collections

Modern Information Carriers

- investigation of the compatibility and stability of modern information carriers such as optical discs, CDs, and CD-ROMs and determination of the causes of deterioration, procedures to increase their stability, and a means of remedying damage in order to ensure the long-term preservation of electronic data

Sculptures/Objects

- investigation of the materials of 12 Chinese polychrome sculptures owned by the Royal Ontario Museum to assist with treatment decisions and to document materials for historical research (this was an opportunity to expand CCI's knowledge of Chinese material culture)
- exploration of the properties of lead and iron objects to determine the best ways to preserve, care for, and handle them as well as to become familiar with the health and safety issues related to their use

Research Activities 2003–2004 (*continued*)

Textiles

- study of the use of high performance size exclusion chromatography in the analysis of silk and cellulose textile samples in an adhesive interaction study to develop techniques to better understand the stages of deterioration of silk and cellulosic textiles so that steps may be taken to increase their longevity
- investigation of the use of phytic acid for the removal of iron stains from textiles (silk and cellulose) to increase the longevity and restore the appearance of textiles
- determination of the effectiveness of bathophenanthroline test strips for identifying Fe(II) stains on cotton, linen, silk, and wool textiles to find a low-tech means of minimizing the risk of damage to organic materials and to improve collection survey techniques
- study of the effect of alum-gelatin sizing on deterioration of Chinese silk (used in oriental paintings) using high performance liquid chromatography analyses

Archaeology

- examination of amber from Canadian archaeological sites to increase understanding about whether or not amber from different Canadian sites can be distinguished

Environment

- updating and refinement of guidelines for the museum environment (light levels, ultraviolet exposure, pollutants, humidity levels) to contribute to the ongoing conservation of Canadian collections held in heritage institutions

Risk Assessment

- ongoing development of a Web-based software package to provide heritage institutions and individuals with the ability to undertake self assessments of the risks to their collections, and to provide them with guidelines on how to minimize the risks

Pests

- review of CO₂ fumigation efficiency, applications, and material interactions to resolve pest infestation problems without resorting to the use of toxic chemicals
- review of the efficiency of anoxic environments as a pest management tool for Canadian heritage institutions
- investigation of thermal methods of pest control to develop simpler, non-toxic technologies to increase the protection of artifacts in heritage institutions

Storage and Transport

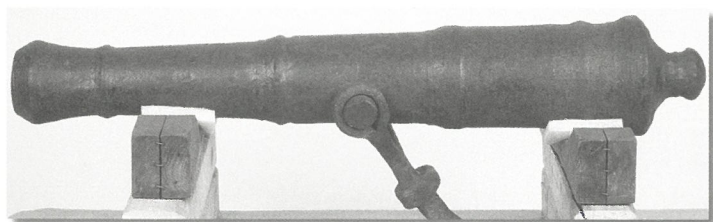
- development of aluminum travelling and storage frames to provide a stable, lightweight alternative to large wooden frames, which will increase the capacity of Canadians to share their cultural heritage with others nationwide
- testing of storage materials for silver coin blanks for the Royal Canadian Mint and preparation of guidelines for future selection protocols

Adhesives

- testing of cyanoacrylate adhesives to determine their suitability for dinosaur fossil reconstruction in Canadian museums
- examination of the effect of heat versus solvent reactivation on the peel strength of fabric laminates to find a better solution for labelling objects in Canadian museums

Selected Treatment Projects 2003–2004

The **Southampton swivel gun** was recovered in 2002 on the beach at Southampton, Ontario on Lake Huron. It has been tentatively identified as an artifact from *The Weasel*, a ship that sank in 1798. The gun was covered with a thick encrustation of iron corrosion mixed with sand, beach pebbles, and iron spokes and nails. Treatment consisted of removal of the concretion layers which revealed an even, hard surface with many details still visible including an inscription. The gun is currently on display at the Bruce County Museum, Southampton, Ontario.



The Southampton swivel gun before (top) and after (bottom) treatment.

Descent from the Cross, a mosaic from the MacKenzie Art Gallery, required re-attachment of glass tiles to the original support. It provided an opportunity for collaboration between CCI and a private-sector conservator.

Descente de croix, a 16th-century panel painting from the Monastère des Augustines, was conserved for an exhibition of paintings from Nouvelle France scheduled to open in the spring of 2004 at the Canadian Museum of Civilization (CMC). Its treatment revealed interesting information about techniques used in this period. Information concerning this treatment will be posted on the CCI Web site to co-ordinate with the CMC exhibition.

Six drawings by Lt. Col. John Oldfield, belonging to the City of St. John's Archives, are unique and historically significant works of art documenting the city and harbour of St. John's in 1831. They were severely stained and their treatment involved washing and local bleaching with a specialized suction device designed at CCI.

Bird's Eye View of Kentville, owned by the Art Gallery of Nova Scotia, is an extremely rare panoramic map that is the only extant impression of the 1879 lithograph by Thaddeus M. Fowler. Treatment involved backing removal, washing, bleaching, repairs, and inpainting.

A **drawing by Robert Arneson**, dated 1968, from the collection of the MacKenzie Art Gallery was created on heavily coated paper, likely used in the printing/photography industry, that had stuck to the framing glass. The removal of coated paper from glass, without damaging the paper, was a challenging treatment problem. Research and testing of various treatment options were required before the work could successfully proceed.

Other treatments of note included the conservation of the extremely fragile paint surface of a **250-year-old long case clock**, the re-assembling of a thin stone top of a **slate top table**, and some innovative metal work to replicate missing parts of a **19th-century music stand**.

Field Work 2003–2004



Federal (Dominion Public) Building, Winnipeg

Built in 1937 in a modern gothic style, the Federal Building retains much of its original historic grandeur. However, previous repairs had masked the decorative elements of the main lobby ceiling. Investigative work and colour analysis undertaken by CCI determined the original colours and pattern of decorative stencilled panels, identified pigments and media, and re-examined the stability of the plaster.

Archaeological Sites

At Igloolik in Nunavut, CCI worked in partnership with the Government of Nunavut and the University of Waterloo to complete excavation of Pre-Dorset sites located at the end of Igloolik airport. The sites were excavated to allow for future expansion of the airport. CCI staff provided conservation support in the field as well as treatment of the artifacts.

CCI worked on a 17th-century English colonial site “Lord Baltimore’s colony of Avalon” through an agreement with the province of Newfoundland and Labrador as represented by Memorial University. CCI staff provided on-site artifact stabilization and documentation, and extensive conservation treatment.

Analysis of Collections

Natural history collections and collections composed of organic materials such as skin, feathers, and fur were surveyed in the following institutions for the presence of pesticide residues: McCord Museum (Montreal), Redpath Museum (Montreal), Royal Saskatchewan Museum (Regina), and Glenbow Museum (Calgary). Portable X-ray fluorescence spectrometry was used to detect elements such as arsenic, mercury, and lead. Micro-vacuum samples of particulate material were taken from the objects’ surfaces for further analysis at CCI.



CCI participated in the excavation of Pre-Dorset sites at the end of the airport in Igloolik, Nunavut (top); following the excavation, the recovered artifacts were exhibited for the community (bottom).

CCI used infrared reflectography to document underdrawings in four works at the Art Gallery of Ontario: *Portrait of King Henry VIII* (circle of Hans Holbein the Younger); *The Madonna and Child with Infant Saint John and Children* (workshop of Andrea del Sarto); *The Peasants’ Wedding Dance* (Pieter Brueghel the Younger); and *Descent from the Cross* (attributed to Hans Schuchlin).

National Conferences and Lectures 2003–2004

CCI staff regularly participate in and present lectures to meetings of professional groups and associations.

Conferences/Meetings

- “What is Valued,” University of British Columbia, Vancouver, BC — CCI participated in a discussion of work done on totem or crest poles during the last two decades at CCI and the Canadian Museum of Civilization.
- Roundtable on African Canadian Heritage, Ottawa, ON — CCI participated in a meeting comprising some 50 participants from organizations involved in the promotion and protection of African Canadian Heritage, and senior officials from PCH and portfolio agencies.
- Society for American Archaeology Conference, Montreal, QC — CCI presented “Learning through Conserving: Filling in the Picture through Collaboration” (co-authored with Memorial University of Newfoundland).
- Canadian Association for Conservation of Cultural Property 29th Annual Conference, Victoria, BC — CCI presented “Mould Growth in Heritage Collections — Collection Recovery”; “Rehabilitation of Judges Chairs and Bench, Supreme Court of Canada”; and “Examination of Materials from the Studio of Yves Gaucher.”
- York Region Funders Forum, Newmarket, ON — CCI presented “The Importance of Conservation to Cultural Communities.”
- National Historic Sites Alliance for Ontario Meeting, Sharon, ON — CCI presented “The Science of Wood — Three Things to Remember about the Wood in Your Site.”
- National Association for Corrosion Engineers (NACE International — The Corrosion Society) Conference, Ottawa, ON — CCI presented “The Analysis of Outdoor Bronze Sculptures from the Assemblée nationale in Québec City, Canada.”

Lectures

- “Metals and Corrosion” was presented at Sir Sandford Fleming College in Peterborough, ON, to students in the Collections Conservation and Management program.
- “Time Capsules: Longevity and Security” was presented to the Rideau Township Historical Society in North Gower, ON.
- “Reasons Why Archaeological Iron and Lead Corrode during Storage” was presented at the Memorial University of Newfoundland in St. John’s, NL, to staff and students in the Archaeology Unit of the Department of Anthropology.
- “The Historic Musical Instrument: To Play or to Preserve?” was presented at the University of Ottawa in Ottawa, ON, to students in the Department of Music.
- “Current Research Projects: An Analytical Potpourri” was presented at Queen’s University in Kingston, ON, to students in the Master of Art Conservation program.
- “Conservation and Community — Archaeology and Stewardship” was presented at Queen’s University in Kingston, ON, to students in the Master of Art Conservation program.
- “From Pigments to Colours: The Change in Artists’ Oil Painting Materials 1840–1900” and “Historically Accurate Oil Paint Reconstructions” were presented at the National Gallery of Canada in Ottawa, ON.
- “The Scientific Examination of the Sanders Portrait of William Shakespeare” was presented at the Art Gallery of Peterborough, Peterborough, ON.

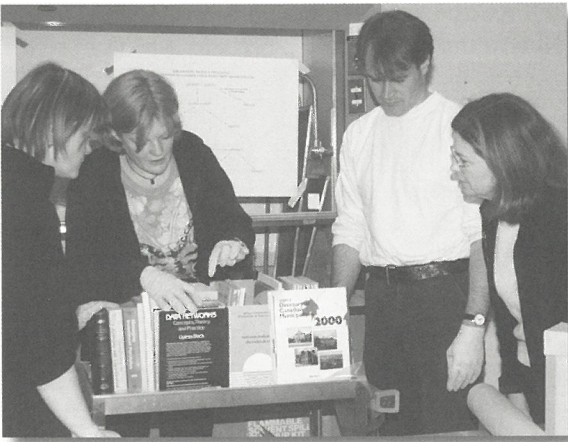
Canadian Workshops 2003–2004

British Columbia

- *Emergency and Disaster Preparedness for Cultural Institutions* was presented for the Archival Association of British Columbia at the Maritime Museum of British Columbia in Victoria.
- *Care of Collections* was presented to students in the Cultural Resource Management program at the University of Victoria.

Alberta

- *Care and Preservation of Musical Instruments* was presented at the Cantos Music Museum in Calgary.
- *Storage Planning for Cultural Facilities* was presented for Museums Alberta at the St. Albert Heritage Museum in St. Albert.



CCI presents workshops across the country to professionals and volunteers in the heritage community.

Manitoba

- *Mount-making for Museum Objects* was presented for the Association of Manitoba Museums in Winnipeg.

Saskatchewan

- *Preservation of Modern Information Carriers* was presented for the Saskatchewan Council for Archives and Archivists in Regina.
- *Archaeological Conservation Field Techniques* was presented for the Saskatchewan Association of Professional Archaeologists at the University of Saskatchewan, Saskatoon.

Ontario

- *Aboriginal Facilities Development* was presented for the Ontario Museum Association in Manitoulin Island.
- *Storage Planning for Cultural Facilities* was presented for the Ontario Museum Association and the Ontario Historic Society in Minesing.
- *Plastics in Museums* and *Mount-making for Museum Objects* were presented to students in the Master of Art Conservation program at Queen's University in Kingston.
- *Packaging Ceramics and Glass for Travel* was presented at the Burlington Art Centre, Burlington.
- *Emergency and Disaster Preparedness for Cultural Institutions* was presented for the Ontario Association of Art Galleries at the Tom Thomson Memorial Art Gallery, Owen Sound.
- *Emergency Planning* was presented to representatives of the City of Ottawa museums at the Ben Franklin Centre in Ottawa (Nepean).

Canadian Workshops 2003–2004 (*continued*)



Quebec

- *Les supports de présentation des objets de musée* was presented for the Société des musées québécois at the David M. Stewart Museum in Montreal.
- *New Environmental Standards for Collection Preservation* was presented at the Library and Archives Canada Gatineau Preservation Centre in Gatineau.

Nova Scotia

- *Artifacts in Aboriginal Cultural Centres* was presented for the Mi'kmaq College Institute at the University College of Cape Breton, Sydney.
- *Permanence of Artists' Materials* was presented at the Art Gallery of Nova Scotia in Halifax.

Newfoundland and Labrador

- *Construction of Mannequins for Historic Costumes* was presented for the Museum Association of Newfoundland and Labrador in Bird Cove.



Prince Edward Island

- *Preservation of Historical Furniture* was presented for the Prince Edward Island Museum and Heritage Foundation in Charlottetown.

Northwest Territories

- *Artifacts in Aboriginal Cultural Centres* was presented at the Prince of Wales Northern Heritage Centre in Yellowknife.

Yukon

- *Artifacts in Aboriginal Cultural Centres* was presented at the Yukon Arts Centre, Whitehorse.

CCI workshops provide a hands-on learning experience to all participants.

External Publications 2003–2004

- “Removal of Chloride and Iron Ions from Archaeological Wrought Iron with Sodium Hydroxide and Ethylenediamine Solutions” (accepted for publication in *Studies in Conservation*).
- “A Preliminary Study of a Micro Extraction Technique for Measuring the pH of Textiles” (published in the *ICOM Textile Working Group Newsletter* Vol. 19, January 2004).
- “Purple Fluorite, Paper, and a German Portrait of a Nobleman” (published in collaboration with the National Gallery of Canada in *National Gallery of Canada Review* Vol. IV, 2003).
- “Laser Yellowing: Myth or Reality?” (published in collaboration with Laboratoire de recherche des monuments historiques in Champs-sur-Marne, France, in *Journal of Cultural Heritage* Vol. 4, Suppl. 1, 2003).
- “The Analysis of Outdoor Bronze Sculptures from the Assemblée nationale in Québec City, Canada” (prepared in collaboration with the Centre de conservation du Québec for the Northern Area Eastern Conference 2003, Canadian National Capital Section, Conference Proceedings, Ottawa).
- “Beva 371 and Its Use as an Adhesive for Skin and Leather Repairs: Background and a Review of Treatments” (published in collaboration with the American Museum of Natural History and the Peabody Museum at Harvard in *Journal of the American Institute for Conservation* Vol. 42, No. 2, 2003).
- CCI staff also serve as co-editors of both the *Bulletin* and the *Journal* of the Canadian Association for Conservation.

International Activities 2003–2004

Workshops

- *CCI Adhesive Research* — presented at the American Museum of Natural History in New York, NY, and at the Weissman Preservation Center, Harvard University Library in Cambridge, MA.
- *Mount-making for Museum Objects* — presented at the Helsingborg Museum, Sweden.
- *The Treatment of Waterlogged Wood* — presented at the Wetland Archaeology Research Project meeting in Olympia, WA.
- *CCI's PVAC, Acrylic and VAE Adhesive Research and Some Aspects of Skin and Leather Bonding* — presented at the Adhesive and Leather Symposium hosted by the Library of Congress in partnership with the Folger Shakespeare Library in Washington, DC.
- *X-ray Fluorescence for Tribes and Museums* — presented at the University of Arizona, Tucson, AZ (CCI contributed to this workshop to share CCI knowledge in this area and learn more about these techniques from others).

Conference Presentations

- “Tales in the Textile: The Conservation of Flags and Other Symbolic Textiles” — presented at the Fourth Biennial North American Textile Conservation Conference (NATCC), New York State Museum, Albany, NY.

International Activities 2003–2004 (*continued*)

- “Outcome Determines Treatment — An Approach to the Treatment of Waterlogged Wood” — presented at the Wetland Archaeology Research Project meeting entitled “Wet Sites Connections,” Olympia, WA.
- “Applications of X-ray Diffraction in Conservation Science and Archaeometry” — presented at the X-ray Studies of Art and Archaeological Objects plenary session of the 52nd Denver X-ray Conference, Denver, CO.
- “Analysis of the Materials for Several Canadian Artists using Fourier Transform Infrared Spectroscopy” — presented at the Infrared and Raman Users Group Conference, Florence, Italy.
- “A Closer Look at the Gentle Art of Applied Pressure” — presented at the American Institute for Conservation of Historic and Artistic Works 31st Annual Meeting, Arlington, VA.
- “Cleaning of Soiled White Feathers Using the Nd:YAG Laser and Traditional Methods” — presented at the 5th International Conference on Lasers in the Conservation of Artworks (LACONA V), Osnabrueck, Germany, in collaboration with staff of the Hong Kong Museums, the L.A. County Museum of Art, and a private-sector conservator from Germany.
- “CCI Research on Paper” — this overview of CCI research on paper was presented at the Andrew W. Mellon Foundation, NY, where CCI also participated in a discussion (“Science in conservation for libraries and archives”) on major outstanding issues in the area of paper research.

Special Projects

- CURRIC LEONARDO Final Partners’ Meeting, Budapest, Hungary (the CURRIC LEONARDO project is aimed at addressing the lack of training for scientists interested in specializing in the conservation field, by developing, testing, assessing, and disseminating innovative post-graduate curricula for conservation scientists) — CCI participated as an Evaluator.
- “Comment jouer les instruments des musées” — CCI participated in this public round-table discussion at Cité de la musique, Paris.
- Historical oil painting techniques — CCI continues to participate in this four-year project at the Netherlands Organization for Applied Scientific Research.

Publications

CCI staff serve on the editorial committees and assist in the production of a number of international publications:

- member of the Editorial Committee (French translation sub-committee) of the *Journal of the American Institute for Conservation*
- co-editor of the *ICOM Textile Working Group Newsletter*
- member of the Board of Directors of the North American Textile Conservation Conference (NATCC)
- member of the Board of Editors of *Studies in Conservation*
- production of *Tales in the Textile, The Conservation of Flags and Other Symbolic Textiles*, the preprints for the 2003 NATCC meeting
- co-author of presentation “Investigation of Alum in Gelatin Sizing of Far Eastern Paintings on Silk” at the Forbes Symposium at Freer Gallery
- contributor to the Editorial Committee meeting for the proposed book *Readings in Conservation at the University College London, England* (a meeting organized by the Getty Conservation Institute)

Financial Statement 2003–2004

Appropriation		7,867,439
Treasury Board (TB) Transfer for CCI Mould Remediation and Retrofit		2,770,372
Vote-netted Revenue (VNR) ¹		1,855,000
Total Operating Budget		12,492,811
Earned Revenues		
Publications and Special Products	97,126	
Conservation and Scientific Services	438,946	
Library Services	764	
Exhibit Transportation Services ²	1,010,767	
Total Earned Revenues		1,547,603
Total Operating Budget and Earned Revenues		14,040,414
Expenditures		
Salaries		5,687,353
Postage and Freight	80,327	
Communications	87,565	
Information and Printing	172,840	
Professional and Special Services ³	1,132,307	
Construction — CCI Mould Remediation and Retrofit ⁴	3,056,903	
Travel ⁵	270,219	
Rentals	80,296	
Repair and Maintenance	141,977	
Utilities, Materials, and Supplies	1,287,718	
Acquisition of Machinery and Equipment	320,250	
Canada's Membership Fee to ICCROM	72,629	
Other Subsidies and Payments	5,085	6,708,116
Total Expenditures		12,395,469
Reimbursement of VNR		1,855,000
Total Expenditures and Reimbursement of VNR		14,250,469
Sub-Total		(210,055)
Part of the expenses related to VNR absorbed by the Citizenship and Heritage Sector		210,055
Balance		0

1. Vote-netted revenue (VNR) is a financial mechanism used by the Government of Canada to provide a draw on projected earned revenue.
2. The Financial Statement includes the Exhibit Transportation Services.
3. Professional and Special Services include contractual work, consulting and advisory contracts.
4. The funding for CCI Mould Remediation and Retrofit comprises \$2.7M that was approved through TB decision #831190 and \$1.2M that was contributed by CCI through a transfer from its appropriations.
5. Travel includes museum and site visits, conference attendance, professional association business, and travel for training and emergency services.