

CANADIAN
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Canadian Patrimoine
Heritage canadien



About us

ABOUT US

OUR MANDATE

To promote the proper care and preservation of Canada's cultural heritage and to advance the practice, science, and technology of conservation.

OUR MISSION

Through expertise in conservation science, treatment, and preventive conservation, the Canadian Conservation Institute supports the heritage community in conserving Canada's heritage collections so they can be accessible to current and future generations.

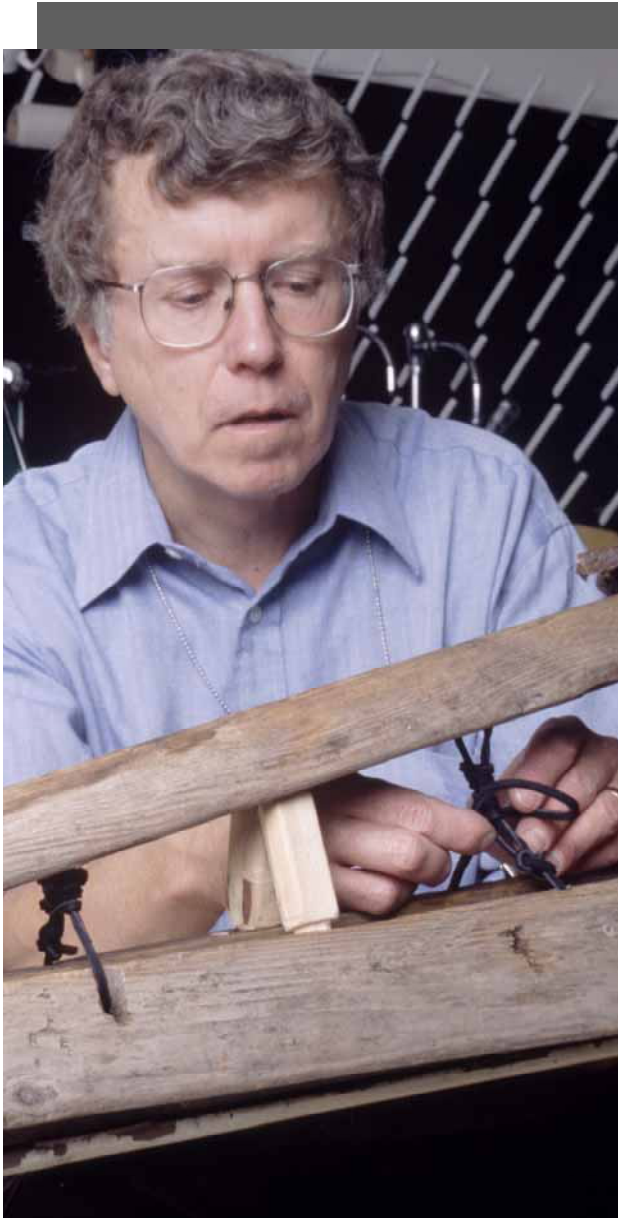
OUR VALUES

We bring

- excellence and expertise
- honesty and integrity
- respect
- responsibility and accountability to all that we do.



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Director General's Message



Looking back over 2005–2006, I am amazed at the variety of challenges — and opportunities — that present themselves at CCI on an almost daily basis.

Our biggest challenge — the renovation of our main facility — is nearing completion. Watch the CCI Web site (www.cci-icc.gc.ca) for news of our return to full function, a call for artifacts for conservation treatment and scientific analysis, and the reinstatement of our internship program.

While our labs have been closed, our conservators and scientists have been able to continue some of their work thanks to the generosity of Parks Canada and Library and Archives Canada, which have allowed us access to their laboratory facilities and equipment.

We have also taken this opportunity to work on other projects — to develop new publications and training workshops, to re-think our expert services, to consult CCI clients on their needs, and to do some internal housekeeping.

Many CCI conservators and conservation scientists have undertaken writing projects. The result is that you, our clients, will benefit from new Technical Bulletins, and a new publication, *Manual of Collection Preservation Management*, comprising the work of approximately 60 contributors (to be published in 2008). We also collaborated with the Prince of Wales Northern Heritage Centre on the updating of *Conservation Manual for Northern Archaeologists*, and launched a new workshop *Preservation Housekeeping for Historic House Museums*.

We have been redefining our approach to client services and developing an e-Services portal on our Web site. To be introduced April 1, 2007, the new services framework will clarify the types of institutions eligible for our services, the fee structure, the criteria for accepting service requests, and the service standards. e-Services will enable our clients to apply for services online, and will provide clients in Canada with free access to an electronic version of the CCI Notes.

We've begun to tackle our major human resource challenge — the pending retirements of many of our professional staff over the next five years. By developing and implementing a succession planning project, we are in a much better position to forecast retirements, engage in timely recruitment, and facilitate the transfer of knowledge from experienced staff to those more junior. An internal audit of our financial and procurement management was generally positive, and we have acted on the recommended improvements.



Throughout the year, many CCI staff and managers met with Canadian clients and stakeholders. Informal meetings involved a variety of different institutions — from the Prince of Wales Northern Heritage Centre in Yellowknife to the Royal Ontario Museum in Toronto to the New Brunswick Museum in Saint John. Some meetings provided an opportunity to consult with clients. A meeting with representatives of the Provincial Museum Associations helped us understand how we can better serve the needs of small and medium-sized museums, which have limited resources and few professional staff. A meeting with the executive of the Canadian Association for Conservation (CAC) and members of the Canadian Association of Professional Conservators allowed us to discuss ways in which CCI can meet their needs through publications and professional development, as well as work more effectively with conservators in the private sector.



One major consultation relates to the organization of CCI's next symposium, *Preserving Aboriginal Heritage: Technical and Traditional Approaches*, which will be held in Ottawa in September 2007. Given that the overall goal of the symposium is to provide an opportunity for Aboriginal people and conservation specialists to learn from one another, it is critical that we understand the needs of Aboriginal people in Canada regarding the conservation of their material culture. We therefore established a symposium advisory committee comprising 10 members representing First Nations, Metis, and Inuit communities across Canada. They have been invaluable in directing us, especially in relation to respect and understanding of Aboriginal traditions.

We also met with key international stakeholders to consolidate our partnerships with them, particularly in the areas of research and training. The knowledge we gain through these partnerships is shared with the Canadian heritage community through our services, training, and publications. One partnership, with the International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM) in Rome and the Netherlands Institute of Cultural Heritage in Amsterdam, is focussed on the development of a user-friendly risk-assessment tool. As part of another partnership with ICCROM, we conducted our second ICCROM–CCI international summer school on risk assessment, this time in Rome. We also attended and participated in the 14th triennial meeting of the International Council of Museums - Conservation Committee, held in The Hague, Netherlands.

As CCI returns to full operation, we will continue to work towards meeting your needs for information, services, and training in the conservation of your heritage collections.

A handwritten signature in black ink that reads "Jeanne E. Inch". The signature is stylized and cursive.

Jeanne E. Inch, Director General and Chief Operating Officer
Canadian Conservation Institute

Organization and Operation

The Canadian Conservation Institute (CCI) is a Special Operating Agency within the Department of Canadian Heritage. As a centre of excellence in conservation, CCI is committed to preserving Canada's rich material cultural heritage and supporting conservation and heritage practices and institutions across Canada. Its activities support the attainment of two of the Department's strategic priorities: Canada's diverse heritage is preserved for Canadians now and in the future, and Canadians have access to and participate in a diverse range of Canadian cultural experiences.

The Institute was created in 1972 to promote the proper care and preservation of Canada's moveable cultural heritage and to advance the practice, science, and technology of conservation. CCI serves the heritage community in Canada through conservation research, expert services, and the dissemination of knowledge.

CCI plays a leading role internationally in conservation research, specifically in the study of structures and materials of historic and contemporary cultural objects, and in the development of innovative conservation techniques and of cost-effective solutions for the preservation of collections. Through collaborative

research projects and partnerships with leading conservation institutions and organizations around the world, CCI conservators and scientists gain new knowledge which, in turn, is shared with the Canadian heritage community through services, training, and publications.

CCI provides a wide range of services to the heritage community in Canada. With its staff of conservators and conservation scientists, its scientific and conservation laboratories, and its specialized equipment, CCI brings a multi-disciplinary approach to conservation challenges and opportunities. CCI services range from scientific analysis to conservation treatments to assessments and advice on heritage facilities. Through the Exhibit Transportation Services, CCI provides safe transport of artifacts and exhibitions to all parts of Canada.

CCI's primary clients are Canadian museums, art galleries, archives, libraries, and historic sites, whose primary role is to acquire, conserve, research, communicate, and exhibit (for purposes of study, education, and enjoyment) permanent heritage collections that are accessible to the Canadian



public. The Institute also provides services to museum, archival, archaeological, and conservation associations; to university and college conservation and museology training programs; and to public authorities with heritage collections.

CCI's end goal is the dissemination of conservation knowledge to the heritage community to provide them with the information, data, tools, and skills to care for the collections which have been entrusted to them. In support of this goal, the CCI Library is one of the largest conservation and museology collections in the world. The CCI Bookstore allows clients around the world to purchase both technical and scientific books as well as a range of publications on care of collections and preventive conservation. A myriad of conservation information is freely available through the CCI Web site, as well as the "Preserving my Heritage" site. CCI also provides Learning Opportunities, including basic workshops on care of collections, professional development for conservators, and internships for new graduates.

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



As a Special Operating Agency of the Government of Canada, CCI is financed through appropriations received through the Department and through revenue generation. The Institute is required to recover some costs of delivering services and training so that it can maintain current levels of service and develop and introduce new services to address emerging challenges of conservation and preventive conservation. The fee structure is based on the category of client and the type of service. Fees range from no charge to partial cost recovery for primary clients, to partial or full cost recovery for other public organizations and institutions in the heritage community in Canada, to full cost recovery for services to the private sector and international clients.



Our Foundation is Research



CCI collaborates on research with conservators and conservation scientists around the world, and shares its knowledge through scientific papers, presentations, and workshops in Canada and internationally. The Institute's primary research focus is to develop realistic solutions for conservation issues in Canadian collections.

Our Strategic Research and Development Framework outlines four types of interrelated and mutually supportive research:

- **Supporting research** results in the new knowledge or techniques that are the building blocks for other types

of research at CCI. Work at this level is frequently triggered by questions that are raised by research at another level and is carried out by scientists using laboratory techniques.

- **Applied scientific research** involves the investigation of the composition, structure, and materials of objects to provide answers to conservation questions. It results in new knowledge of treatments or collections based on an accumulation and interpretation of scientific data. The majority of CCI research falls into this category.
- **Treatment and methods development**, normally led by conservators, is aimed at developing practical solutions to challenges with conservation methods or artifact preservation.
- **Collections preservation research** is performed by both conservators and scientists, who develop frameworks, tools, or standards that enhance the preservation of heritage collections. Often referred to as preventive conservation, this area of research results in improved decision-making and cost-effective management of heritage collections to minimize deterioration.

EXAMPLES OF RESEARCH PROJECTS CARRIED OUT IN 2005–2006 INCLUDE:

The materials and techniques of Jean-Paul Riopelle (1923–2002)

Jean-Paul Riopelle is one of the most renowned 20th-century artists in Canada and internationally. Studying his materials and techniques will create a database of information that will assist in devising treatments and selecting appropriate display and storage conditions for his works. Our ongoing analysis of samples from his paintings was aided this year when a selection of painting materials from his studio in France was obtained with the help of his daughter, Yseult Riopelle. These new acquisitions will enable us to learn more about the artist's original paints.

The materials and techniques of Jean-Antoine Aide-Créquy (1749–1780)

Jean-Antoine Aide-Créquy created his works in Canada shortly after the English Conquest of 1759. During this time period, it was impossible to import artwork from France, and a style of local painting

emerged. Studying the materials and techniques used by Aide-Créquy will enhance understanding of this important period in the history of Canadian art. In collaboration with the Centre de conservation du Québec, CCI examined and sampled paintings by Aide-Créquy at the Monastère des Ursulines de Québec and the Monastère des Augustines de l'Hôtel-Dieu de Québec in Quebec City.

The materials and techniques of Norval Morrisseau (1932–)

The National Gallery of Canada's retrospective exhibition *Norval Morrisseau, Shaman Artist* (February 3 to April 30, 2006) provided the opportunity to initiate a research project on the painting materials and techniques of Morrisseau, one of Canada's best-known First Nations' artists. The project includes examination, documentation, and sampling of a representative selection of Morrisseau's works, including paintings on paper, birchbark, plywood, and canvas. Approximately 150 samples were obtained from 23 works belonging to seven institutional collections. The results will assist in devising suitable treatments and selecting appropriate storage and display conditions for the works of this artist. The project will also provide reference analyses for paintings for which the attribution is uncertain.

An investigation into the causes of indoor bronze sculpture corrosion: A case study

The study focussed on assessing the possible sources of corrosion identified on indoor bronze sculptures. Forty bronze sculptures in the collection of the National Gallery of Canada were analysed using handheld X-ray fluorescence spectrometry to determine the alloy composition. Corrosion products and patinas from the 40 sculptures were also analysed. The results will be broadly applicable to other collections in terms of assessing the causes of corrosion and making conservation decisions.

The effect of simmering water on the chemical and mechanical properties of paper

The laboratory evaluation of simmering water as a technique for the treatment of iron gall ink corroded



paper was completed, confirming that simmering water does not cause any measurable harm to paper and is an effective way of treating iron gall ink corrosion.

User-friendly risk assessment

As part of an ongoing project to develop a risk assessment software that will calculate risks to collections and their

priorities, CCI engaged an internationally recognized Canadian expert in risk-based decision-making to undertake an independent evaluation of risk assessment models for use in heritage institutions. This review will enable us to focus more precisely on the requirements for a user-friendly risk assessment tool, and to begin to tackle issues that are difficult to assess, such as complex values. One result of the review is the decision to adopt the Australia-New Zealand Standard for Risk Management (AS/NZ 4360:2004).

Comparison of polyethylene glycol (PEG) and glycerol for the treatment of archaeological leather

A comparative evaluation of the conservation treatment of archaeological leather with PEG and with glycerol was undertaken to determine the most satisfactory technique. To resolve the issue, thermal analysis was used to measure the shrinkage temperatures and energies required to cause denaturation. These two parameters were measured using scanning differential calorimetry. Lower shrinkage temperature and lower denaturation energy indicate greater degradation. Both PEG and glycerol treated materials showed less degradation than an untreated control. However, it was difficult to discriminate between the two treatments, both of which are beneficial.

Awards

Stefan Michalski received the 2005 Harley J. McKee Award from the Association for Preservation Technology International in recognition of his contributions to the field of preservation technology over time.

Marie-Claude Corbeil was given a medal as honorary graduate during the graduation ceremony of the Faculty of Arts and Sciences of the Université de Montréal. This medal is awarded to some graduates "who have distinguished themselves through their professional activities."

Season Tse and **Sherry Guild** received a Deputy Minister's Award during Public Service Week 2005 for their work on the preservation of documents containing iron gall ink, which included an international workshop *The History and Treatment of Works on Paper Containing Iron Gall Ink*. The project was delivered in partnership with Library and Archives Canada, the Council of Archives of New Brunswick, and the Canadian Museum of Nature.

Expert Services for Clients



CCI provides services to heritage institutions, archives, and art galleries, as well as to government departments and others who have collections accessible to the public. Our services are based on the knowledge gleaned from our research and development as well as through client interaction in training and development activities.

SCIENTIFIC EXAMINATION AND ANALYSIS

CCI's scientific documentation and analysis of works of art and museum objects and the determination of fraud is unique in Canada. The Institute provides expertise related to the analysis of materials and structure of artifacts and works of art, including

materials that may contribute to the degradation of objects. Scientific examination is carried out both in CCI's laboratories and in the field. In 2005–2006, 85 projects were completed for national, international, and provincial institutions, municipal and community organizations, and private individuals.

A sampling of scientific examinations and analyses:

- Analysis of **samples from a tabernacle (1766–1767) attributed to François-Noël Levasseur** to determine the wood species, the layer sequences, and the composition of specific layers. The tabernacle, part of the collection of the National Gallery of Canada, was originally gilded, then painted, and then re-gilded. The analysis provided information about original and non-original materials that will guide decisions regarding their removal.
- Analysis of the **materials of *La Sainte famille à Nazareth*, attributed to Aubin Vouet (1595–1641)**. Analysis showed that the artist used a rich palette and that there are lead soap aggregates in the red lead-containing ground. The formation of soaps in paint films is a phenomenon that is being actively investigated by several institutions, including CCI. This painting belongs to the Parish of Saint-Henri de Lévis, Quebec.
- Analysis of **samples from a painting by Jean McEwen (1923–1999)**, from the collection of Musée d'art contemporain de Montréal. Sample analysis showed a lack of cohesion in a layer in which zinc soaps were found. Flaking of layers located above this layer was observed, which may be related to the presence of soaps. Other McEwen paintings presenting the same problem will be investigated.

Many thanks for the report on the analysis of the samples taken from Jean McEwen's 1956 painting Rouge sur blanc from the collection of the MACM. The pictures are very impressive and show much about lack of adherence. [Adapted from French.] Marie-Noël Challan Belval, Musée d'art contemporain de Montréal.

- Analysis of a **variety of materials and coatings for use in the display of fossils**. When the Canadian Museum of Nature (CMN) sought to have fixtures produced for holding and displaying fossils in the newly constructed galleries, a number of different types made with a variety of materials and coatings

were proposed. CMN conservators were concerned about the safety or appropriateness of these materials when used in contact with the fossils. CCI analysed these products to determine their chemical composition, and from this analysis was able to recommend some products and proscribe others.

I am very impressed with the information that CCI continues to provide — it certainly adds the missing links in my own understanding of these polymers!
Ron Seguin, Creative Nature Studio

- Analysis of **140 objects from the Royal British Columbia Museum Public Programs Collection** conducted on-site using handheld X-ray fluorescence spectrometry to detect the presence of inorganic pesticides. These objects are used in hands-on children's programs and must be free of inorganic pesticides to be safe for visitors and staff.
- Evaluation of the condition and conservation requirements of the **nine state portraits of British monarchs and their consorts** that are on display in both the Foyer and on the second level of the Senate of Canada, Centre Block, Parliament Hill. The oldest of these paintings — portraits of King George III and Queen Charlotte — are from the studio of Sir Joshua Reynolds (1779). Analysis and cross-sections provided information about varnishes and other materials. A comprehensive report outlining the condition of each portrait and frame, along with conservation treatment recommendations, was provided to Public Works and Government Services Canada.
- Analysis of the **surface condition of fibres** from the decorative stage curtain by Micheline Beauchemin

that hangs in the National Arts Centre's Southam Hall, and the textile sculpture *Lyra* by Aiko Suzuki that belongs to the Toronto Public Library, to assist with the development of conservation treatments for these textile works of art. Further details on this project can be found in the "Textiles" section (p. 11).

- Evaluation of the **impact of high flux X-rays on the stability of collagen in parchment** using thermal microscopy. This work was carried out for the Archimedes palimpsest team at the Walters Art Gallery in Baltimore, MD, which has been using the Stanford Synchrotron (high flux X-rays) to reveal original iron gall ink inscriptions on the palimpsest. The results of this evaluation indicated that the effect, though measurable, was not sufficient to create concern about the use of the Synchrotron.
- Thermal analysis to evaluate the **effect of common fumigants on proteinaceous materials**, which can be found in natural history collections. Conducted in collaboration with the National Research Institute for Cultural Properties in Tokyo, the project examined the possible impacts on the DNA of such samples. The thermal technique has shown great sensitivity to minute changes.
- Scientific examination, for Veterans Affairs Canada, of a remarkably well-preserved **March 11, 1917 edition of Toronto Sunday World** found in the Vimy Ridge tunnels. The newspaper was photographed under various lighting conditions with a low-power microscope to capture surface accretions. Colour reflectance readings were taken to record the present colour of the paper and provide a baseline for future comparisons. Paper acidity was measured and compared to the pH of other newspapers of the time. An examination was done to characterize the paper morphology and surface residues. Results showed that the paper was still alkaline, the buildup of acids normally found in newsprint even a few years old probably having been neutralized by the adsorption of calcium carbonate leaching from the limestone in the damp tunnels where the newspaper was found. The alkalinity of the paper obviated the need to de-acidify it as part of its conservation treatment, and confirmed the validity of previously determined standards for paper permanence.



CONSERVATION TREATMENT

CCI provides a multi-disciplinary approach to the assessment, treatment, and provision of guidelines for the continued care of objects that represent Canada's national identity and many diverse cultures. Expertise is available in textiles, fine arts, works on paper, decorative arts and furniture, archaeological objects, ethnographic objects, and industrial collections.

A sampling of conservation treatment projects:

- **Canada's first maple leaf flag** was cleaned and documented for its official return to Parliament Hill on Flag Day, February 15, 2006. CCI also assisted the Canadian Museum of Civilization in preparing a display case for the flag, providing feedback on its design and materials. Prior to this treatment, CCI conservators and scientists had been instrumental in sorting out the identity and confusion among the contenders for the first flag status in the lead up to this flag being declared the original by the Prime Minister of Canada.



- Conservation treatment of the **Ferryland Cross**, discovered during excavation at the site of the 17th-century Colony of Avalon in Ferryland, Newfoundland, was complicated by the salts that impregnated the cross. The only way to preserve the cross effectively was to construct a sealed display enclosure that would absorb both oxygen and water. The cross was sealed in a bag of Escal, an impermeable transparent membrane, to which was added RP System A-type, an oxygen and water vapour absorber designed to preserve metals. With the bag enclosed within a display case, the cross was made visible to the museum public, yet still preserved from deterioration. As anoxic cases are traditionally expensive and technically complex, the type of design developed during this project will be particularly beneficial for many smaller museums with limited budgets.
- Treatment of **four gouache works on paper** from the Archives de la Compagnie de Jésus in Saint-Jérôme, Quebec, consisted of surface cleaning non-image areas, consolidating cracked and flaking areas, in-painting areas of loss, and humidifying and flattening the works. The pages are from a six-volume set of illustrated journals created by Jesuit missionary Nicholas Point during 1841–1855. The text and illustrations in the journals depict the life of the First Nations peoples of the Rocky Mountains and the area around Manitoulin Island. Father Nicolas was one of the few Europeans to witness and record the Christianization of North American Aboriginal people, making his 300 or more miniatures of significant historical interest.
- Cleaning tests and sampling for later analysis was carried out on **three painted canvas altar fronts** housed in the Canadian Museum of Civilization (CMC). These formed part of the original architectural decoration in the Église Saint-Pierre-de-l'Île-d'Orléans, one of the oldest churches in Quebec, and are some of CMC's very first artifacts. Condition reports and treatment recommendations were prepared for each painting, and some fragile areas were stabilized. The findings and recommendations will serve as the basis for the restoration of these artifacts to a stable state for exhibition.

- Cleaning and repair or replacement of damaged or missing elements of **marble sculptures, including one of Queen Victoria and its pedestal stones**, from the Library of Parliament was contracted out and supervised by CCI and National Gallery of Canada technical advisors. The sculptures were brought to a uniform appearance through the removal of thin layers of soot and dirt, and missing elements and visible surface damages were restored to a stable and aesthetically acceptable finish. Analysis and examination revealed or confirmed a number of technical details such as the ghostings of gold-painted highlights on Queen Victoria's robes, sceptre, and crown. Because Ottawa is in an earthquake zone, seismic stabilization was also carried out to ensure the safety of the users of the Library. This involved carefully drilling into the Queen and the plinth bases and inserting a stabilizing threaded titanium rod to connect and secure the sculpture and its base plinths to the Library floor.
- A **sofa table by John Nisbet** from the New Brunswick Heritage Collection was treated to correct structural, veneer, and finish problems that had resulted from fluctuations in relative humidity. Nisbet was a Saint John cabinetmaker, an émigré from Scotland, who worked in the city until 1848. He was one of Canada's finest cabinetmakers and one of the few to use labels to identify his work. Characteristic details in his work included rope twist carving, acanthus leaves, ebonized turnings, and various carving and moulding details. CCI's conservation treatment will allow this historically significant piece of furniture to be displayed in Old Government House, the official residence of the Lieutenant Governor of New Brunswick.

FIELD WORK

CCI professionals also work extensively outside the Institute at sites across Canada. These visits range from surveys of collections to conservation and treatment at archaeological sites.

A sampling of field projects:

Archaeology

Red Bay National Historic Site, Labrador — CCI worked with underwater archaeologists from Parks Canada's Ontario Service Centre on the survey, excavation, and reburial of a 16th-century Basque whaling ship located in Red Bay harbour.

Trent-Severn Waterway National Historic Site, ON — CCI worked with underwater archaeologists from Parks Canada's Ontario Service Centre on a search for historic and prehistoric submerged cultural resource sites



(fish weirs, shipwrecks, artifacts, etc.) at locations including Lovesick Lake and Sturgeon Lake.

Collections care

Niagara Historical Society and Museum, Niagara-on-the-Lake, ON — CCI carried out a collection survey, exploring methods that will assist in the development of a database tool for condition surveys of Canadian heritage collections.

Halifax, NS — CCI met with members of the Mi'kmaq Cultural Network, Parks Canada, Aboriginal Business Canada, Indian and Northern Affairs Canada, and the Atlantic Canada Opportunities Agency to discuss the development of a comprehensive province-wide market analysis project that will help direct investments to assist in the effective design and sustainability of Aboriginal cultural heritage centres in Nova Scotia. The insight gained will be of benefit to all such projects across Canada.

Kitigan Zibi Cultural and Education Centre, Maniwaki, QC — CCI provided advice on lighting, humidity, and general environmental issues in the building and display cases, and inspected a cross section of artifacts that will eventually be put on display. The staff also provided suggestions for handling and display of the artifacts, and freezing of artifacts made of fur and skins.

Library of Parliament, Ottawa, ON — CCI completed a 4-year project with the successful reinstallation of the statue of Queen Victoria and the portrait busts. As technical advisor to the private sector joint venture for the rehabilitation of the Library of Parliament, CCI was on call to provide technical assistance to the construction team for the conservation and reinstatement of movable collections and heritage building elements under the direction of the Parliamentary Precinct Directorate, Public Works and Government Services Canada.

Prince of Wales Northern Heritage Centre (PWNHC), Yellowknife, NT — CCI worked with the conservator at the PWNHC to prepare a Web-based version of the *Conservation Manual for Northern Archaeologists* (pwnhc.learnnet.nt.ca/programs/conserv.htm), and assisted in treating artifacts from an archaeological site in the Mackenzie Delta.

Textiles

National Arts Centre (NAC), Ottawa, ON — Cleaning tests were conducted on the decorative stage curtain in Southam Hall using information from a previous CCI study that had focussed on small samples. This project concentrated on testing cleaning methods and equipment on a large scale, an important step in determining a practical approach to cleaning due to the curtain's enormous size (approximately 11.6 by 24.4 m) and complicated structure (multiple overlapping layers of nylon net). Microfibre cloths and HEPA vacuums with customized brush attachments were found effective in removing the accumulation of dust and dirt from the curtain. The results were evaluated and discussed with representatives of the NAC and with the artist, Micheline Beauchemin, and then compiled in a report.

Library and Archives Canada, Preservation Centre, Gatineau, QC — CCI examined stuffed fabric caricature sculptures of four former Prime Ministers of Canada that were made in the 1970s by Heather Danylewich and provided advice concerning their display and storage.

Invitation: the Quilt of Belonging Project Office, Williamstown, ON — CCI examined this unique national textile and provided advice regarding its care.

Fine arts

Complexe Guy-Favreau, 200 René-Levesque Boulevard West, Montreal, QC — CCI examined a damaged contemporary sculpture (untitled) by artist Ulysse Comtois, and prepared a follow-up report regarding the sculpture's treatment needs along with a referral to the private sector for treatment.

Heritage interiors

Bank of Montreal building, Sparks Street, Ottawa, ON — CCI dismantled a small section of the woodwork installed behind the stone tellers' counters to reveal how the stonework was assembled and determine if it could be dismantled with minimal damage and reassembled in a different location in the room. CCI advised the project team regarding the interior audit of heritage elements through its Senior Collections Preservation Advisor for the Parliamentary Precinct.

Senate of Canada, Ottawa, ON / Gatineau, QC — CCI carried out a risk assessment of Senate archives stored in the Government Printing Bureau in Gatineau and in vaults on Parliament Hill for France Belisle, the Senate Archivist.

Supreme Court of Canada, Ottawa, ON — CCI accompanied private furniture conservators as they examined various judges' offices and associated rooms within the court, and discussed the scope of treatment work envisaged for the walnut-panelled walls during the summer recess of 2005.



West Memorial Building, Parliamentary Precinct, Ottawa, ON — CCI inspected lacquered brass plates on elevators and provided advice on care and preservation.

Heritage objects

Brockville Museum, Brockville, ON — CCI examined a very large Barnum circus board and provided advice on lighting, mounting, and treatment options.

Bytown Museum, Ottawa, ON — CCI visited the Bytown Museum's storage facility at the Diefenbunker Museum in Carp, ON, to discuss the condition and conservation needs of a chair that had been used by Ottawa's mayors between 1876 and 1903. Another visit was also made to discuss the conservation needs of a cast plaster sculpture of Sir John A. MacDonald by artist Louis-Philippe Hébert in preparation for its inclusion in an exhibition *The Life and Times of*

Darcy McGee opening in April 2006. The sculpture was subsequently transported to Parks Canada's regional conservation facility in Ottawa where it was treated by CCI staff.

Redpath Hall, McGill University, Montreal, QC — CCI inspected the storage and display facilities for housing the Kenneth Gilbert Collection of historic keyboard instruments, and initiated a program of environmental monitoring.

Saint-Joseph's Oratory of Mount Royal, Montreal, QC — CCI provided advice regarding the condition and conservation needs of a marble altar table.

Scientific analyses

Canadian Museum of Nature, Ottawa, ON — CCI provided on-site X-ray fluorescence analysis of natural history specimens to determine whether or not inorganic pesticide residues, such as arsenic, mercury, and lead, were present in the dioramas.

Centre de conservation du Québec, Québec, QC — CCI provided analyses for eight conservation projects.

Dundurn National Historic Site, Hamilton, ON — CCI investigated the historic paint in three rooms in Dundurn Castle, and provided a detailed report.

TECHNICAL ASSESSMENTS OF HERITAGE FACILITIES AND ADVICE ON PLANNING AND UPGRADING

CCI provides technical assessments of heritage facilities for the Movable Cultural Property Program and the Canada Travelling Exhibitions Indemnification Program. To better serve client needs, the Institute added two members to its review team. To help simplify the application and review process, three separate forms were replaced with a consolidated form that addresses environmental, security, and fire protection issues.

In an effort to maximize the effectiveness of CCI service to Atlantic Region clients, the Department of Canadian Heritage regional office invited CCI specialists to deliver a 3-day training event to its staff. The sessions focussed on the facility planning and construction processes. Regional staff can now call on CCI expertise at the appropriate phases of projects.

A sampling of heritage facility projects:

- CCI and the **Edmonton Art Gallery** signed a Memorandum of Understanding under which CCI has agreed to provide expert technical advice throughout the renovation of the gallery.

- As part of the **Honekwe project in Thompson, Manitoba**, CCI delivered a facility planning workshop to a group of communities in central and northern Manitoba. The Honekwe project is the development of an oral history centre that, when completed, will preserve a vital cultural link between present and future generations of the Hudson Bay lowlands.
- CCI assessed the **Sudbury Art Gallery's** storage areas for its permanent collection (in three different buildings in Sudbury) and made recommendations that will help the gallery make informed decisions on safeguarding its collection.

I just wanted to write a quick note to tell you how helpful your staff has been to the Conservation Section at the CMN (Canadian Museum of Nature) over the last month or so.

We have drawn upon the expertise of a wide range of your staff as we go through the final construction and exhibit development phase of the West Wing of the renewed CMN. ... As the people on the front line who are just trying to "keep the balls in the air" we are truly grateful for the depth of expertise we have been able to draw upon at CCI. Thanks to your staff, many things are going to be "done right". Carolyn Leckie, Conservator, Canadian Museum of Nature.

TRANSPORTING HERITAGE

CCI's Exhibit Transportation Services (ETS) safely transported 123 exhibitions for 147 heritage institutions across Canada, as well as individual loans, acquisitions, and donations. ETS handled and transported more than 8000 pieces consisting of crates, boxes, and soft-wrapped and non-wrapped objects, and stored 39 exhibitions/collections in its vault.



SITE VISITS FOR FACILITIES ASSESSMENTS ACROSS CANADA

The map shows the following callouts:

- Yukon Territory:** Prince of Wales Northern Heritage Centre, Yellowknife
- Northwest Territories:** Campbell Region Interpretive Centre, Faro
- Nunavut:** White Pass and Yukon Route Mining Railway Centre, Whitehorse
- Yukon Territory:** Nelson & District Museum, Art Gallery and Archives, Nelson; Whistler Museum & Archives; Nanaimo District Museum, Nanaimo
- British Columbia:** CFB Esquimalt Naval and Military Museum, Victoria; Alberni Valley Museum, Port Alberni; Quesnel District Museum and Heritage Commission, Quesnel; Royal British Columbia Museum and Art Gallery of Greater Victoria, Victoria
- Alberta:** Museum of the Regiments, Calgary; University of Lethbridge Art Gallery, Lethbridge; University of Alberta, The Art Gallery of Alberta, and Royal Alberta Museum, Edmonton; South Peace Centennial Museum, Beaverlodge
- Saskatchewan:** Saskatchewan Indian Cultural Centre, Saskatoon
- Manitoba:** Northern Plains Museum, Brandon; National Residential School Museum, Portage la Prairie; Mennonite Historical Village, Steinbach; Canadian Fossil Discovery Centre, Morden; Métis Interpretation Centre, Saint Laurent; Boissevain & Morton Regional Library/Moncur Gallery, Boissevain
- Ontario:** Plum Coulee Heritage and Recreation Development Corporation, Plum Coulee; Honekwe (House of Stories), Thompson; Manitoba Agricultural Museum, Austin; Métis Culture & Heritage Resource Centre Inc., Transportation Heritage and Technology Centre, Western Canada Aviation Museum, Winnipeg Art Gallery, Ukrainian Cultural and Education Centre and Centro Caboto Centre, Winnipeg
- Quebec:** Canadian Museum of Civilization and Library and Archives Canada, Preservation Centre, Gatineau; Concordia University, Redpath Hall, McGill University, Complexe Guy-Favreau and Saint-Joseph's Oratory of Mount Royal, Montreal; Eglise Notre-Dame de la Présentation, Schawinigan; Musée du Bas-Saint-Laurent, Rivière-du-Loup; Ministère des Ursulines de Québec, Monastère des Augustines de l'Hôtel-Dieu de Québec and Centre de conservation du Québec, Québec; Kitigan Zibi Cultural and Education Centre, Maniwaki
- New Brunswick:** Kings Landing Historical Settlement, Kings Landing
- Newfoundland and Labrador:** Red Bay National Historic Site
- P.E.I.:** St. Catharines Museum, St. Catharines; Queen's University, Kingston; Art Gallery of Ontario, Toronto; Georgina Arts Centre and Gallery, Sutton; Cornwall Community Museum in the Wood House, Cornwall; Art Gallery of Sudbury, Sudbury; Brockville Museum, Brockville; *Quilt of Belonging* Project Office, Williamstown; Trent-Severn Waterway National Historic Site
- Nova Scotia:** Bank of Montreal building, West Memorial Building, Centre Block, Parliament Hill, National Arts Centre, Supreme Court of Canada, National Gallery of Canada, Senate of Canada, The Ottawa Art Gallery, Canadian Museum of Nature and Bytown Museum, Ottawa; Dundurn National Historic Site, Hamilton
- Other:** Membertou Heritage Centre, Membertou; Mir'kmaq Cultural Network, Millbrook; University College of Cape Breton, Sydney; Shearwater Aviation Museum, Shearwater; Sobeay Art Foundation, New Glasgow; Greenwood Military Aviation Museum, Greenwood; Maritime Command Museum, Mir'kmaq Cultural Network, and Africville Genealogical Society, Halifax; Old Sydney Society and Membertou Heritage Centre, Sydney

Knowledge Dissemination



INTERNATIONAL SYMPOSIA

CCI hosts international symposia on topics of interest to the heritage community every few years. Planning for *Symposium 2007 - Preserving Aboriginal Heritage: Technical and Traditional Approaches* proceeded throughout the year. Scheduled to take place in Ottawa on September 24–28, 2007, at Library and Archives Canada, Symposium 2007 will provide an opportunity for Aboriginal people and conservation specialists to learn from one another — in an atmosphere of mutual respect — about traditional, technical, ethical, and intangible aspects of the conservation of Aboriginal material culture. To ensure the symposium meets

the needs of the Aboriginal communities in Canada, it is being organized with input and guidance from an Advisory Committee comprising members of First Nations, Inuit, and Metis communities across the country.

TRAINING HERITAGE PROFESSIONALS

CCI offers a variety of workshops for heritage professionals, staff, and volunteers. These workshops provide a forum for sharing the results of CCI's current research and conservation practices with the heritage community while simultaneously learning about the needs and concerns of those who work in heritage institutions.

Under the existing Memorandum of Understanding with the Centre de conservation du Québec to collaborate on conservation workshops in that province, CCI co-presented the workshop *L'emballage et le transport des œuvres et des objets de musée* ("Transportation of Works of Art") and co-developed the workshop *Oeuvres d'art sur papier* ("Works of Art on Paper").

A new CCI workshop, *Preservation Housekeeping in Historic House Museums*, was presented for the first time in a New Brunswick historic house. This workshop was developed by a team of CCI staff that included an objects conservator, two furniture conservators, a preservation advisor, and CCI's training officer. It centres on the care and cleaning of interior surfaces, applied decorations, fixtures, fittings, furnishings, and collections.

Two workshops were also given to heritage professionals working on Parliament Hill:

- One course was for managers of the collection, including the artisan cabinetmakers and upholsterer, who maintain and build reproductions of the furniture. This workshop provided an introduction to the concept of furniture conservation and offered specific information about the materials, particularly the original finishes.
- The second course was for the managers and employees of the Installation Services group who move the furniture, which is vulnerable to damage. This workshop included information on how museums care for valuable heritage furniture and provided guidance on cleaning and care, as well as lifting and moving the desks, tables, and chairs.

CCI collaborated with the University of Victoria to create the online course *Caring for Collections*, contributing CCI Notes, images, and a narrated PowerPoint presentation on Emergency and Disaster Preparedness.

Thank you so much from all of us here at UVic (University of Victoria) for the help you've given us — you've been an invaluable resource to putting this course together for the museums community! Brenda Weatherston, Program Coordinator, Cultural Management Programs, University of Victoria.



CCI also presented an international course on preventive conservation in collaboration with the International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM). This 3-week workshop *Preventive Conservation: Reducing Risks to Collections* was CCI's second collaborative course with ICCROM. It took place in Rome, and focussed on risk assessment and risk management of collections. The planning and teaching team comprised staff members from CCI, ICCROM, the Canadian Museum of Nature, and the Netherlands Institute for Cultural Heritage.

I feel I really need to thank you for this wonderful opportunity that you have given me. Attending this course and visiting Rome for three weeks has been a life changing experience for me. Words can never express my gratitude. My life has truly been enriched.

Overall, I feel that the course was hard work but a great success. Thank you for all the hard work in preparing the course....I am presenting a workshop in October, which will be my opportunity to share what I have learned in Rome with my colleagues here in South Africa....As you know this was my first trip outside South Africa. I felt honored and privileged to be amongst presenters and participants who were all experts in their field. It was also wonderful to have been encouraged to share my limited experience.

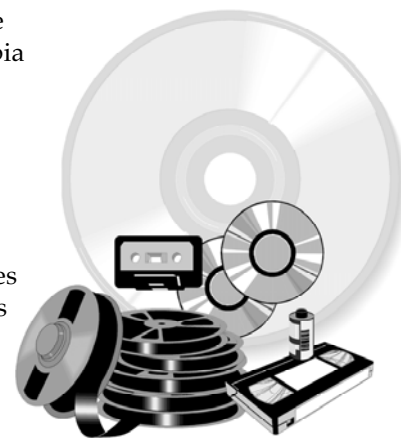
Thank you for selecting me, and thank you once again for this wonderful opportunity. Neela Dullabh, Museum Officer, Old Court House Museum, Durban, South Africa.

Workshops delivered in Canada include:

- *Aboriginal and Archaeological Collections Management* was presented for the Kitikmeot Heritage Society in Cambridge Bay, NU.
- *Care of Textiles* was presented for the Eastern Ontario Museums Group in Brockville, ON.
- *Construction of Mannequins for Historic Costumes* was presented for the Yukon Tourism Heritage Branch

at the Yukon Beringia Interpretive Centre in Whitehorse, YT.

- *Heritage Facility Planning* was presented for the Department of Canadian Heritage in Summerside, PE.
- *Industrial Objects and Public Art* was presented for the Prince of Wales Northern Heritage Centre in Yellowknife, NT, and for the British Columbia Museums Association at Exploration Place in Prince George, BC.
- *Modern Information Carriers* was presented for the Royal British Columbia Museum and British Columbia Archives at the Royal British Columbia Museum in Victoria, BC, and for the Council of Nova Scotian Archives at the Public Archives of Nova Scotia in Halifax, NS.
- *Mount-making* was presented for the Ontario Museum Association at the Elgin Military Museum in St. Thomas, ON.
- *Musical Instruments* was presented for the Museum Association of Newfoundland and Labrador at the Provincial Museum Conservation Laboratory in St. John's, NL.
- *Ceuvres d'art sur papier* ("Works of Art on Paper") was developed collaboratively with the Centre de conservation du Québec (CCQ), and presented by CCQ for the Société des musées québécois in Montreal, QC.
- *Permanence of Artists' Materials: Paintings and Works of Art on Paper* was presented for the Canadian Artists' Representation Ontario in Ottawa, ON.
- *Photodocumentation* was presented at Library and Archives Canada, Gatineau, QC.



- *Preservation Housekeeping in Historic House Museums* was presented at the New Brunswick Museum in Saint John, NB.
- *Preservation Management for Seasonal Museums* was presented for the Mecklenburgh District Heritage Cooperative at Fairfield Homestead in Amherstville, ON and Fairfield Gutzeit House in Bath, ON; and for the Yukon First Nations Heritage Group/ Teslin Tlingit Council at the Teslin Tlingit Heritage Centre in Teslin, YT.
- *L'emballage et le transport des œuvres et des objets de musée* ("Transportation of Works of Art"), a joint workshop with the Centre de conservation du Québec, was co-presented for the Société des musées québécois in Montreal, QC.

Workshops delivered internationally include:

- *Adhesives for Conservation* (an American Institute for Conservation of Historic and Artistic Works workshop) was co-presented at the National Conservation Training Center, Shepherdstown, WV.
- *Preventive Conservation: Reducing Risks to Collections* was co-presented with ICCROM in Rome.
- *Risk Assessment: A Paradigm Shift for Preventative Conservation and a Software Tool to Facilitate the Transition* was co-presented with staff members from ICCROM and the Canadian Museum of Nature, at the 14th Triennial Meeting of ICOM - Committee for Conservation in The Hague.

In addition to workshops, CCI staff gave lectures at the following educational institutions:

- "Metals and Corrosion" and "Mould in Heritage Collections" were presented to the students in the Collections Conservation and Management Program at Sir Sandford Fleming College (SSFC), Peterborough, ON.



- "Accelerated Aging", "Conservation Work on Parliament Hill", and "Collections Preservation and Strategic Planning in the Parliamentary Precinct of Canada" were presented to the students in the Master of Art Conservation program at Queen's University, Kingston, ON.
- "Plastics in Museums" was presented to students from Queen's University and Sir Sandford Fleming College.
- "Archaeological Conservation" was presented to first year students in an Introduction to Archaeology course, University of Ottawa, Ottawa, ON.
- "La science au service de l'art et du patrimoine" was presented for the Département de chimie, Cégep de l'Outaouais, Gatineau, QC.

CCI continued its collaboration with Queen's University, and chaired the advisory committee for the Collections Conservation and Management and the Curatorship programs at Sir Sandford Fleming College.



THE CCI LIBRARY

The CCI Library added 354 new titles and 11 new journal subscriptions to its collection.

Service transactions for external clients increased: 687 books and photocopies of articles were delivered to external clients.

The Library continued to support the dissemination of information to conservation and museum professionals through the contribution of 1821 new records to the bibliographic database of the Conservation Information Network BCIN (www.bcin.gc.ca) and the Museology Bibliography BMUSE (www.chin.gc.ca under "Reference Library"). Assisted by CCI librarians, the Institute's Director General remains the Chair of the board for BCIN, which welcomed a new European partner this year, the Instituut Collectie Nederland.

The new Library catalogue was launched on the CCI Web site. With a more user-friendly interface, the new system makes it easy for clients anywhere in the world to search the Library's collection of conservation and museology resources.

REACHING OUT ON THE WEB

The main CCI Web site (www.cci-icc.gc.ca) received 551 025 visits, an increase of 81% over the previous year. "Preserving my Heritage" (www.preservation.gc.ca) had 331 326 visits, an increase of 48%. A total of 2 713 773 documents was accessed through the two sites.

Our main Web site underwent a comprehensive redesign to renew online appeal and update the architecture for greater ease of use. Modifications to the site were based on feedback from an online client survey that indicated user needs, accessibility, and satisfaction with the information accessed. Upgrades included a new site map and index, a Contact section, and an improved search engine that allows clients to search the Web site, the Bookstore, and the Conservation Information database from a single source. In 2007, CCI will launch an e-Services portal that will allow clients to make service requests online and provide Canadian clients with a free online version of CCI Notes.

CLIENT SERVICES

Client Services responded to 1119 requests for information and services: 78% originated from Canadian institutions or individuals; and 22% were from foreign countries, an increase over 2004–2005.

Client satisfaction questionnaires indicated that the overall client satisfaction index was 95.2%.

PUBLICATIONS AND SPECIAL PRODUCTS

CCI filled 1220 orders for publications: 24% from Canadian clients, 48% from American clients, and 28% from clients in other countries.

The most popular publications were:

- CCI Notes (more than 30 000 copies)
- *Metals and Corrosion: A Handbook for the Conservation Professional*
- *Mould Prevention and Collection Recovery: Guidelines for Heritage Collections* (Technical Bulletin 26)
- *Mount-making for Museum Objects*, second edition
- *Preservation of Electronic Records: New Knowledge and Decision-making – Postprints*
- *Disaster Recovery of Modern Information Carriers: Compact Discs, Magnetic Tapes and Magnetic Disks* (Technical Bulletin 25)
- *Airborne Pollutants in Museums, Galleries, and Archives: Risk Assessment, Control Strategies, and Preservation Management*

One new publication, *Remedies for Deteriorated or Damaged Modern Information Carriers* (Technical Bulletin 27),

was released. This Technical Bulletin discusses the myriad types of damage that can occur to modern information carriers (optical discs [CDs and DVDs] and magnetic media such as tapes [audio, video, computer] and disks) due to age deterioration, poor storage conditions, or poor handling practices, and presents various remedies to restore these carriers to a playable condition.



Many CCI staff published results of their work in scholarly publications. See p. 19 for a list of Canadian publications and pp. 20–21 for international publications.

Additional publications under development include:

- *A Manual for Collections Preservation Management*, a comprehensive handbook that will contain about 50 chapters on a wide range of conservation and preservation issues pertaining to all heritage institutions
- Technical Bulletins focussing on facilities planning and development, and measuring and interpreting the pH of diverse media
- CCI Notes review and update

Corporate Initiatives



CCI BUILDING RENOVATIONS

The renovation to CCI's main facility continued, with the completion of offices spaces and the reconfiguration of laboratory spaces. The final stage, to be completed in 2006–2007, is the installation and commissioning of new air handling systems.

HUMAN RESOURCES

As are many heritage institutions, CCI is facing the retirement of some professional staff over the next 5 years. To ensure there is leadership continuity and no loss in capacity to fulfill its mandate, the Institute is participating in a pilot project on succession planning in collaboration with the Human Resources and Workplace Management Branch of the Department of Canadian Heritage. As a first step, staff were surveyed on their career interests, retirement plans, and preferred mechanisms for knowledge transfer. The results were encouraging: several individuals eligible to retire within the next 5 years indicated their intention to postpone their departure. This will allow CCI to continue to benefit from their knowledge and expertise, and provide the necessary time to implement knowledge transfer strategies.

FINANCIAL AND PROCUREMENT MANAGEMENT

An audit of CCI's financial and procurement management was conducted to assure that "the processes and controls in place ensure that financial resources are managed economically and efficiently, and the operations are carried out in compliance with the relevant authorities and policies governing the organization."

The audit identified several positive practices, and noted that sound processes are in place to manage the budget, revenues, expenses, and assets to meet the needs of CCI. Some areas were identified as needing strengthened management practices and compliance. Recommendations were made to develop a new charter and framework for the Institute, increase documentation of processes and procedures, and clarify the selection procedures for projects and the fee structure.

Most of these recommendations were implemented. More detailed information on the audit can be found on the Department of Canadian Heritage Web site (www.pch.gc.ca).

MARKETING

CCI undertakes marketing to ensure that the Canadian heritage community is aware of our services, research, products, and expertise.

Annual promotional initiatives include attendance at trade shows and conferences, placement of CCI messages in various heritage/conservation publications, and direct mailings.

CCI messages generally fall into five main service categories:

- "Preserving my Heritage" Web site
- Exhibit Transportation Services
- general information about CCI and the variety of services and products available
- scientific examination and analysis
- the CCI Library

During the past year we participated in trade shows at the following conferences:

- Association of American Museums in Indianapolis, IN
- Canadian Association for Conservation in Jasper, AB (book table only)
- Canadian Museums Association in Saskatoon, SK
- Association of Canadian Archivists in Saskatoon, SK
- American Institute for Conservation in Minneapolis, MN
- International Council of Museums - Conservation Committee in The Hague, Netherlands
- Cultural Property Protection Conference in Ottawa, ON

CCI responds to specific needs within the heritage community in Canada and shares its knowledge by participating in the conferences and meetings of professional groups and associations, presenting lectures and workshops, and conducting field work at historical institutions and sites across the country.

Conferences/Meetings

- Archaeological Institute of America (AIA) 107th Annual Meeting and 6th Annual Digging into Archaeology: A Hands-On Family Fair, Montreal, QC
- *Archives and You!* Conference, Canadian Council of Archives, Ottawa, ON
- Association of Canadian Archivists Annual Conference, Saskatoon, SK
- Association for Preservation Technology International (APT) meeting of the Ottawa chapter, Ottawa, ON
- AV Preservation Trust Board Meeting, Toronto, ON
- Canadian Archaeological Association 38th Annual Conference, Nanaimo, BC
- Canadian Association for Conservation of Cultural Property (CAC), Jasper, AB
- Canadian Museums Association 58th Annual Conference, Saskatoon, SK
- Canadian Museums Association Research Summit, Ottawa, ON
- Cultural Property Protection Conference, Canadian Museums Association, Ottawa, ON
- Cultural Spaces Canada Semi-annual Meeting of the Advisory Body from the Regional Offices, Toronto, ON
- Health and Safety Canada 2005, Industrial Accident Prevention Association (IAPA) Conference and Trade Show, *Effective Results through Learning and Sharing*, Toronto, ON
- Manitoba Library Association Conference, Winnipeg, MB
- Ontario Museum Association Annual Conference, Niagara Falls, ON

Lectures

- "Treatment of the Davenport Journal" was presented at the Perth Museum in Perth, ON, to an audience that included members of the Perth Historical Society as well as the general public.

Canadian publications

(CCI staff members are designated in bold)

Barclay, Robert. "A Decision-making Protocol for the Use of Historic Musical Instruments." *Journal of the Canadian Association for Conservation* 29 (2004), pp. 3–7.

Helwig, Kate, and Marie-Chantal Poisson. "A Study of Painting Materials from the Studio of Yves Gaucher." *Journal of the Canadian Association for Conservation* 29 (2004), pp. 42–51.

Iraci, Joe. "The Relative Stability of Optical Disc Formats." *Restaurator* 26 (2005), pp. 134–150.

Mathias, Cathy, **Elizabeth Moffatt,** and Alison Murray. "Technical Analysis of Textile Remains from a 17th-Century English Plantation at Ferryland, Newfoundland and Labrador, Canada." *Journal of the Canadian Association for Conservation* 29 (2004), pp. 26–41.

Selwyn, Lyndsie. "Health and Safety Concerns Relating to Lead and Lead Compounds in Conservation." *Journal of the Canadian Association for Conservation* 30 (2005), pp. 18–37.

National professional contributions

Many CCI staff are active in the national heritage community, serving on the editorial boards of scholarly publications, contributing to heritage organizations, etc.:

- James Hay is on the Board of Directors for the Canadian Association for Conservation (CAC)
- Kate Helwig, Charlotte Newton, and Janet Wagner are responsible for the production and publication of the *CAC Bulletin*, and Scott Williams does the layout
- Wendy Baker and Carole Dignard are the Editors of the *Journal of the Canadian Association for Conservation (JCAC)*
- Kate Helwig and Clifford Cook are Associate Editors for the *JCAC* and Jane Down was a guest Associate Editor
- Jan Vuori is Vice-President of the Canadian Association of Professional Conservators (CAPC)
- Robert Arnold is Treasurer of CAPC
- Jane Down is Editor of the *CAPC News*
- David Grattan is a member of the Board of the International Council of Museums (ICOM) Canada

On the international stage, CCI shares its knowledge of the materials and techniques of conservation, actively seeks information in order to benefit from conservation work done in other countries, and contributes to an increased understanding of the principles of conservation. Staff members participate in international conferences as delegates, presenters, and organizers; present workshops; contribute papers to international publications; and serve on the boards of international heritage organizations.

Conferences/Meetings

- Architectural Paint Research in Building Conservation, National Museum of Denmark, Copenhagen, Denmark
- American Association of Museums Annual Meeting, Indianapolis, IN
- American Institute for Conservation of Historic and Artistic Works (AIC), Minneapolis, MN
- AIC pre-course training session for instructors of the workshop *Adhesives for Conservation*, Gerald Ford Conservation Center, Omaha, NB
- Boston Museum of Fine Arts Meeting on Radio Frequency Identification Tags (RFIDs), Boston, MA
- *Conservation of Archaeological Materials: Current Trends and Future Directions*, Archaeological Discussion Group of AIC and the Department of Conservation at the Colonial Williamsburg Foundation, Williamsburg, VA
- Eastern Analytical Symposium and Exposition, Somerset, NJ
- European Materials Research Society 2005 Spring Meeting, Strasbourg, France
- Infrared and Raman Users Group Seventh Biennial Meeting (IRUG7), The Museum of Modern Art, New York, NY
- International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM) meetings in Paris and Rome
- International Council of Museums - Committee for Conservation (ICOM-CC) 14th Triennial Conference, The Hague, The Netherlands
- ICOM-CC Directory Board Meeting, New Delhi, India
- Imaging Science and Technology Archiving Conference 2005, Washington, DC.
- *Save Paper! Paper Deacidification: Today's Experiences — Tomorrow's Perspectives*, Berne, Switzerland
- *Studies of the Sculptural Arts of Asia using Scientific Methods*, the third Forbes symposium, Freer Gallery of Art, Washington, DC.
- *Teamwork for Integrated Emergency Management*, an initiative within ICOM's Museums Emergency Programme, Bangkok, Thailand
- *The Future of the 20th Century: Collecting, Interpreting and Conserving Modern Materials*, the second annual conference of the Arts & Humanities Research Council Research Centre for Textile Conservation and Textile Studies, University of Southampton, Winchester, UK
- *The Preservation of Religious Textiles*, Textielcommissie Nederland (The Dutch Textile Committee), The Hague, The Netherlands.
- *This Will Stick Forever: Attaching and Releasing* conference, Budapest, Hungary (hosted by the International Association of Book and Paper Conservators and by the Technical Association of Paper and Printing Industry)
- Transition Metals in Paper (MIP) Final Conference and 2nd Iron Gall Ink Meeting, Northumbria University, Newcastle upon Tyne, UK

External international publications

(CCI staff members are designated in bold)

Antomarchi, Catherine, Agnes Brokerhof, **Stefan Michalski**, Isabelle Verger, and Robert Waller. "Teaching Risk Management Of Collections Internationally." *Collections: A Journal for Museum and Archives Professionals* 2 (November 2005), pp. 117–140.

Corbeil, Marie-Claude. "On Miniaturized Equipment and Microsamples: XRF and XRD at CCI." pp. 19–25 in *The 28th International Symposium on the Conservation and Restoration of Cultural Property, Non-destructive Examination of Cultural Objects — Recent Advances in X-ray Analysis*, Tokyo, 1–3 December 2004. Tokyo: National Research Institute for Cultural Properties, 2006.

Down, Jane L., R. Scott Williams, Season Tse, and Sherry Guild. "The CCI Tapes and Heat-set Tissues Project." *PapierRestaurierung* 7 (March 2006), pp. 13–17.

Karsten, Irene F., and **Jane L. Down**. "The Effect of Adhesive Concentration, Reactivation Time, and Pressure on the Peel Strength of Heat and Solvent-reactivated Lascaux 360/498 Bonds to Silk." pp. 927–935 in *ICOM Committee for Conservation 14th Triennial Meeting, The Hague, 12–16 September 2005. Preprints. Volume 2* (edited by Isabelle Verger). London, UK: James & James/Earthscan, 2005.

Perron-Croteau, Lise, David Grattan, and Charles Costain. "The Development of Competencies at the Canadian Conservation Institute." pp. 63–68 in *ICOM Committee for Conservation 14th Triennial Meeting, The Hague, 12–16 September 2005. Preprints. Volume 1* (edited by Isabelle Verger). London, UK: James & James/Earthscan, 2005.

Tse, Season, Heather Hendry, Paul Bégin, P. Jane Sirois, and Maria Trojan-Bedynski. "The Effect of Simmering on the Chemical and Mechanical Properties of Paper." *Restaurator* 26 (2005), pp. 14–35.

Vuori, Jan, and Season Tse. "A Preliminary Study of the Use of Bathophenanthroline Iron Test Strips on Textiles." pp. 989–995 in *ICOM Committee for Conservation 14th Triennial Meeting, The Hague, 12–16 September 2005. Preprints. Volume 2* (edited by Isabelle Verger). London, UK: James & James/Earthscan, 2005.

Vuori, Jan, and Season Tse. "Preliminary Study of a Micro Extraction Method for Measuring the pH of Textiles." pp. 63–73 in *The Textile Specialty Group Postprints (2005)* (edited by Kathleen MacKay, Beth Szuhay, and Joel Thompson). Washington, DC: American Institute for Conservation of Historic and Artistic Works, 2005.

Waller, Robert, and **Stefan Michalski**. "A Paradigm Shift for Preventive Conservation, and a Software Tool to Facilitate the Transition." pp. 733–738 in *ICOM Committee for Conservation 14th Triennial Meeting, The Hague, 12–16 September 2005. Preprints. Volume 2* (edited by Isabelle Verger). London, UK: James & James/Earthscan, 2005.

INTERNATIONAL PROFESSIONAL CONTRIBUTIONS

Many CCI staff serve on the boards of international heritage organizations, often in leadership roles:

- Marie-Claude Corbeil is Vice-chair of the Directory Board of the International Council of Museums - Committee for Conservation (ICOM-CC) for the 2005–2008 triennium; is one of six editors of *Studies in Conservation*, the peer-reviewed journal of the International Institute for Conservation of Historic and Artistic Works; and is a Field Editor for AATA Online in the area of Methods of Examination, Analysis, and Documentation
- Carole Dignard is Chair of the ICOM-CC Working Group on Ethnographic Collections
- Kate Helwig is a spectral reviewer for the database of the Infrared and Raman Users' Group (IRUG), an international group of professionals using vibrational spectroscopy for the study of works of art, architecture, and archaeological materials
- Charles Costain completed his second term as Chair of the International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM) Council, during which he oversaw the selection of the new Director of ICCROM